

**GENERAL CATALOG
WESTERN WASHINGTON UNIVERSITY BULLETIN / 1989 - 1991**

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. For information, call the University at (206) 676-3000.



WESTERN WASHINGTON UNIVERSITY BULLETIN
(ISSN 679-900)

Vol. 85

July, 1989

No. 1

Published in July, August, October, November, January, February and May by Western Washington University, 516 High Street, Bellingham, Washington 98225, and entered as second-class matter at the post office at Bellingham, Washington, and additional offices.

Postmaster: Send address changes to Western Washington University, Mail Services, Bellingham, Washington 98225.

Contents

4	INTRODUCTION TO WESTERN WASHINGTON UNIVERSITY	
7	UNIVERSITY CALENDARS	
10	UNDERGRADUATE ADMISSIONS	
16	REGISTRATION	
17	TUITION AND FEES	
21	STUDENT FINANCIAL RESOURCES	
25	UNIVERSITY RESIDENCES AND FOOD SERVICES	
27	STUDENT AFFAIRS	
36	UNIVERSITY ACADEMIC POLICIES	
46	UNIVERSITY GRADUATION REQUIREMENTS	
55	ALL-UNIVERSITY PROGRAMS	
66	GRADUATE SCHOOL	
110	COLLEGE OF ARTS AND SCIENCES Anthropology; Biology; Chemistry; Communication; 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 Pathology and Audiology; Technology; Interdisciplinary.	
306	COLLEGE OF BUSINESS AND ECONOMICS Accounting; Economics; Finance, Marketing and Decision Sciences; Management; Master of Business Administration.	
337	SCHOOL OF EDUCATION Educational Administration and Foundations; Human Services; Library Science; Educational Curriculum and Instruction; Interdisciplinary.	
377	FAIRHAVEN COLLEGE	
390	COLLEGE OF FINE AND PERFORMING ARTS Art; Music; Theatre/Dance.	
424	HUXLEY COLLEGE OF ENVIRONMENTAL STUDIES	
444	URBAN CENTER	
446	UNIVERSITY PERSONNEL	
458	APPENDICES	
476	CAMPUS MAP	

Western Washington University emphasizes excellence in undergraduate education and in selected graduate programs. 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, and the 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 Ibsen Nelson. 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 engage in 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 48,000 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
- 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, Canadian Embassy, Readers' Digest, National Endowment for the Humanities, USDA Forest Service, National Wildlife Federation, National Geographic Society, CIBA Geigy, American Cyanamid, Chrysler Motors Corporation, Weyerhaeuser Company Foundation, American Chemical Society, 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 77 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 550,000 volumes of books and periodicals, more than 1,000,000 units of microforms, and large collections of government documents, curriculum materials, pamphlets, sound recordings and videotapes. There are subscriptions to 4,000 current periodicals and newspapers. Wilson Library provides open stacks for its collections together with reading and study areas, carrels and group study rooms.

The Music Library in the Performing Arts Center provides a large collection of scores and recordings as well as books and journals about music. The Libraries offer reference service, instruction in library use, on-line information retrieval and interlibrary loan service.

Computing Facilities

The primary instruction and research computer facilities are Digital Equipment Corporation and VAX 8650 VMS and VAX 780 Unix interactive timesharing computers, an IBM 4341 batch system, and approximately 150 terminals and 250 microcomputers in public clusters. There are approximately 100 terminals and 300 microcomputers in academic department laboratories and offices.

The University also operates four administrative timesharing computers supporting roughly 200 terminals and 300 microcomputers in administrative offices. Most microcomputers are Apple and IBM-compatible.

There is no charge to students for most computer services. Word-processing facilities are available at cost.

Western Gallery and Outdoor Sculpture Collection

Western Washington University is committed to the concept of art in the living environment. The widely known Outdoor Sculpture Collection includes over 20 works by international, national and regional artists. Students and visitors can view large-scale works by such artists as Richard Serra, Alice Aycock, Anthony Caro, Mark di Suvero, Lloyd Hamroff, Nancy Holt, Donald Judd, Robert Morris, Isamu Noguchi, Beverly Pepper, Robert Maki and George Trakis. Public and private tours are provided, and plans for the future include recorded tours and a major publication.

The Western Gallery, in a wing of the Fine Arts Complex near the center of the campus, has 4,500 square feet of exhibition space with sophisticated climate control. Additional preparation, work and storage areas occupy over 2,000 square feet. Normally, the Western Gallery presents two major exhibitions per quarter. Public tours and special lectures are arranged for each exhibition, and faculty members also use each exhibition as a focal point for special seminars and exercises in written analysis and criticism.

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

The University

and for faculty to conduct research. Students and faculty from Western and from academic institutions from around the country make use of Marine Center facilities. Facilities include 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, and Skagit Valley, Everett and Edmonds community colleges.



1989-90 ACADEMIC YEAR

Fall Quarter 1989

- September 25-27
Registration
- September 28 (Thursday), 8:00 a.m.
Classes begin
- November 22, Noon — November 26,
8:00 a.m.
Thanksgiving recess
- December 11-15
Final examination week

Winter Quarter 1990

- January 8 (Monday)
Registration
- January 9 (Tuesday) 8:00 a.m.
Classes begin
- January 15 (Monday)
Martin Luther King, Jr., Day
- February 19 (Monday)
Presidents' Day Holiday
- March 19-23
Final examination week

Spring Quarter 1990

- April 2 (Monday)
Registration
- April 3 (Tuesday) 8:00 a.m.
Classes begin
- May 28 (Monday)
Memorial Day Holiday
- June 11-15
Final examination week
- June 16 (Saturday)
Commencement

Summer Quarter 1990

- June 25 — August 3
Six-Week Session
- June 25 — August 24
Nine-Week Session
- June 25 (Monday)
Registration
- June 26 (Tuesday)
Classes begin
- July 4 (Wednesday)
Independence Day Holiday

* These calendars are subject to change.
Dates appearing in Admissions or Regis-
tration or employee instructions take

1990-91 ACADEMIC YEAR

Fall Quarter 1990

- September 24-26
Registration
- September 27 (Thursday), 8:00 a.m.
Classes begin
- November 21, Noon — November 26,
8:00 a.m.
Thanksgiving recess
- December 10-14
Final examination week

Winter Quarter 1991

- January 7 (Monday)
Registration
- January 8 (Tuesday), 8:00 a.m.
Classes begin
- January 21 (Monday)
Martin Luther King, Jr., Day
- February 18 (Monday)
Presidents' Day Holiday
- March 18-22
Final examination week

Spring Quarter 1991

- April 1 (Monday)
Registration
- April 2 (Tuesday), 8:00 a.m.
Classes begin
- May 27 (Monday)
Memorial Day Holiday
- June 10-14
Final examination week
- June 15 (Saturday)
Commencement

Summer Quarter 1991

- June 24 — August 2
Six-Week Session
- June 24 — August 23
Nine-Week Session
- June 24 (Monday)
Registration
- June 25 (Tuesday)
Classes begin
- July 4 (Thursday)
Independence Day Holiday

precedence over those in the University
catalog.

1989

SEPTEMBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

MARCH

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
					31	

OCTOBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

APRIL

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

NOVEMBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

MAY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

DECEMBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

JUNE

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

1990

JANUARY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

JULY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

FEBRUARY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			

AUGUST

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

1990

SEPTEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

MARCH

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

OCTOBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

APRIL

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

NOVEMBER

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

MAY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

DECEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

JUNE

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

1991

JANUARY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

JULY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

FEBRUARY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

AUGUST

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Undergraduate Admission

Old Main 200, (206) 676-3440

GENERAL POLICY

Western Washington University's commitment to excellence recognizes the value of a student population reflecting academic achievement, cultural diversity and special talent. The University's admissions policy, therefore, permits the individual consideration of each applicant. Candidates are accepted on the basis of criteria described below. Should the number of qualified applicants exceed the number of spaces available, the University may defer an admissions decision or select the most highly qualified candidates.

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 to consider additional factors that may indicate college potential. A limited number of students may be admitted on condition that they agree to follow a prescribed course of study and advising.

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 Washing-

ton 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.)

Admission Priority and Application Closing Dates

High school applicants may apply after December 1 of their senior year. Transfer applicants may apply up to two quarters in advance of entry. To ensure full consideration, applications and official transcripts must be received in the Office of Admissions before the following **Priority Dates**. If space remains after the priority date, additional applications may be considered until the following **Closing Dates**. Early application is urged.

Fall Quarter

Freshman:

Priority Date - March 1

Closing Date - August 1

Transfer and Returning Students:

Priority Date - April 1

Closing Date - August 1

Winter Quarter

Priority Date - October 15

Closing Date - December 1

Spring Quarter

Priority Date - January 15

Closing Date - March 1

Summer-Fall

Priority Date - same as Fall above

Closing Date - June 1

Required Credentials

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.

Test Scores

Freshman applicants and transfers with fewer than 40 credits must submit scores for the ACT, SAT or WPCT. The scores are used in combination with the high school grade average to determine eligibility for admission.

Note: All entering students, except those who have taken a college calculus course, are required to complete a mathematics placement test before enrolling in a mathematics course at Western.

Accepting the Offer of Admission

Each admitted student must confirm his or her intention to enroll by sub-

mitting a \$50 non-refundable, non-transferable payment on tuition and fees by the deadline indicated with the admission notice. This payment should not be made until requested by the University when the student is notified of his or her admission.

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:

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

Undergraduate Admissions

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, 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.

SPECIAL NOTE: Beginning with the entering class of fall, 1992, a revision of the above Pre-University High School Program is anticipated. Freshman applicants for fall quarter, 1992, and later should write or call the Office of Admissions for additional information.

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 Index

Freshman applicants who have completed the above course pattern are ranked by means of an index combining the high school grade average with a standardized test score (the ACT, the SAT or the WPCT.) In general, students with a cumulative grade average of at least 2.50 and average test scores are eligible for consideration. Limited space may require higher qualifications for selection.

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 eligible for consideration if they have attained a cumulative grade point average of 2.00 (C) in college-level study. 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.) Limited enrollment space may require that the minimum grade average for selection be elevated and that priority be assigned according to the number of transfer credits and intended program of study. The grade average used for determining admission is calculated by counting grades earned in all courses transferable to Western.

TRANSFER POLICIES AND PROCEDURES

Western Washington University endorses the Higher Education Coordinating Board's *Policy on Inter-College Transfer and Articulation among Washington Public Colleges and Universities*. 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.)



Undergraduate Admissions

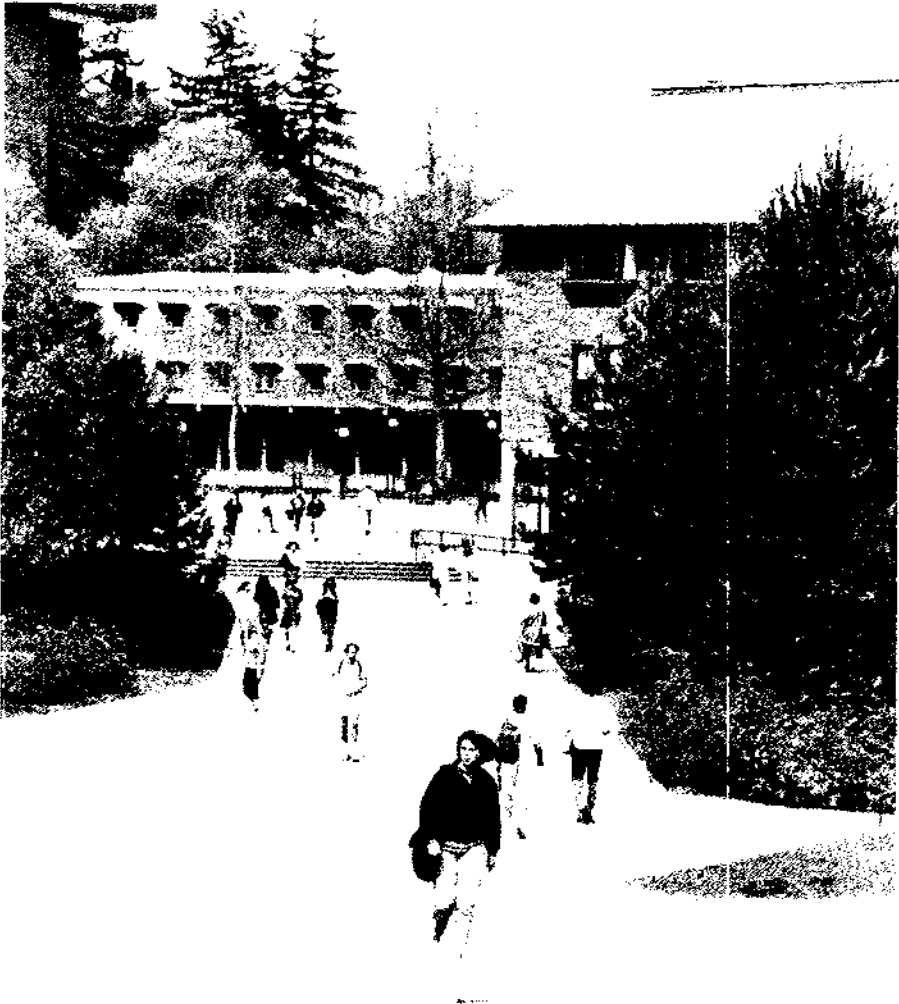
Certain credits earned at previous institutions may not transfer regardless of that institution's accreditation. For example, technical and vocational courses in two-year institutions, sectarian religious courses, and credit for experiential learning, military service, or the general examinations of 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 Educational 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 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 enroll-



ment. To be accepted in lieu of Western's General University Requirements, the associate 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.

Postbaccalaureate Students

Students holding baccalaureate degrees from accredited colleges and universities may pursue additional undergraduate study leading to a second degree or a teaching certificate. The number of postbaccalaureate students admitted is subject to space availability. When space is limited, selection for admission may be based on grade average as well as intended curriculum.

READMISSION OF FORMER STUDENTS IN GOOD STANDING

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 in good standing who have interrupted their studies by no more than two quarters (excluding summer) and who file their applications before the admission priority date will receive the highest priority for enrollment.

SPECIAL STUDENTS AND AUDITORS

Permission to enroll as a special student 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. 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.

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.

Summerstart, 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

Student Fiscal Services
(206) 676-2865

At Western the various expenses of a student who is single and a resident of the State of Washington are about \$2,318 each quarter.

Approximate Quarterly Expenses, 1989-90

Tuition and Fees	\$ 506
Room and Board	1,076
Books and Supplies	167
Personal Expenses	575

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 — Ten or more credits

See "University Academic Policies" section of this catalog for an explanation of full-time status for such purposes as financial aid, athletic eligibility and veterans benefits.

1989/90

Student Classification	Quarterly Total
Southeast Asian Veteran*	\$ 153
Resident ¹ , General	506
Non-Resident, General	1,775
Resident ¹ , Graduate	
Degree	819
Non-Resident, Graduate	
Degree	2,480

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

Student Classification	Quarterly Total
Resident ¹ , General	\$ 42
Non-Resident, General	169
Resident ¹ , Graduate	
Degree	74
Non-Resident, Graduate	
Degree	240

1990/91

Student Classification	Quarterly Total
Southeast Asian Veteran*	\$ 153
Resident ¹ , General	537
Non-Resident, General	1,883
Resident ¹ , Graduate	
Degree	868
Non-Resident, Graduate	
Degree	2,633

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

*For Washington residents only.

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 com-

menement 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.

Tuition & Fees

Student Classification

	Quarterly Total
Resident ¹ , General	\$ 45
Non-Resident, General	180
Resident ¹ , Graduate	
Degree	78
Non-Resident, Graduate	
Degree	255

Quarterly Tuition and Fees — Nine or fewer credits

1989/90

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

Southeast Asian Veteran*	\$ 15
Resident ¹ , General	51
Non-Resident, General	178
Resident ¹ , Graduate	82
Non-Resident, Graduate	248

1990/91

Southeast Asian Veteran*	\$ 15
Resident ¹ , General	54
Non-Resident, General	188
Resident ¹ , Graduate	87
Non-Resident, Graduate	263

Auditors

Full fee-paying 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 Continuing Education and the Center for Regional Services vary in accordance with the nature of the course. The Continuing Education Bulletin describes charges in detail.

DESCRIPTION OF TUITION AND FEES

Tuition and fees are due at the time a student registers for classes. Due dates are published in the annual Timetable of Classes.

1989/90

	Tuition	Service & Activities Fee	Operations Fee
Res., Gen.	\$25.50	\$83.50	\$397.00
Non-Res., Gen.	98.50	83.50	1593.00
Res., Grad	25.50	83.50	710.00
Non-Res., Grad	98.50	83.50	2298.00
SE Asia Vet *	25.00	54.00	74.00

1990/91

	Tuition	Service & Activities Fee	Operations Fee
Res., Gen.	\$25.50	\$87.50	\$424.00
Non-Res., Gen.	98.50	87.50	1697.00
Res., Grad.	25.50	87.50	755.00
Non-Res., Grad	98.50	87.50	2447.00
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 mandatory fee is charged per quarter to each student who registers for 6 or more credits of on-campus courses. The fee amount was not determined at time of printing.

Parking

(For parking and traffic regulations, see Appendix I)

	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 deadline listed in the Timetable of Classes.

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
Initial Teacher 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 formally 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, excepting course 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

Tuition & Fees

balance between fees already paid and the full-time fee. A full fee-paying 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 Perkins 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 Continuing Education Bulletin and the Summer Session Catalog for the refund policy for Continuing Education 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. Scholarships are available to student majors through University departments and colleges; in addition, the University recognizes exceptional minority students with a Minority Achievement Program scholarship. 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 Perkins Loan, the Stafford Student Loan, 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 types of incentives encourage employers to provide employment opportunities which otherwise might not be available to students. The University places a strong emphasis on providing quality work experiences for its students. On campus, 40 percent of the student employment opportunities are paraprofessional positions. 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, 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.

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 the "financial need" for assistance as determined by the College Scholarship Service and Western Washington University.*
- Are admitted to a degree or certificate-granting 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 the minimum credit hours required:
 - 12 credit hours for full-time undergraduates. 10 credit hours for full-time master's degree candidates.
 - 6 credit hours for half-time undergraduates.
 - 5 credit hours for half-time master's degree candidates.
- Maintain satisfactory academic progress and have not already exhausted your eligibility under the maximum time frame component of Western Washington University's Satisfactory Academic Progress Policy. Please refer to Appendix J for additional information regarding satisfactory academic progress.

**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.*

SUMMER FINANCIAL AID

Applicants for financial aid during summer quarter 1990, 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, Stafford 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, 1990, should contact Student Financial Resources regarding 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 Stafford 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 Stafford 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.

WESTERN REPAYMENT POLICY

Overpayment occurs when a student has received more aid than is warranted. The most common reason for an overpayment is withdrawal of the student after financial aid has been received. When a student withdraws, the following procedure is followed:

- All aid is canceled for a student who withdraws prior to aid disbursement. The student is not held to satisfactory progress requirements for the quarter.
- A student who withdraws after aid is disbursed may be required to repay a portion of the aid disbursed. The Satisfactory Aca-

Financial Aid

demographic Progress policy is enforced.

- The amount of aid required to be repaid is the total aid* disbursed directly to the student minus educational costs incurred up to the time of withdrawal. Educational costs are calculated as a prorated amount based on the percent of the quarter the student has attended. The following percentages are to be used to calculate the amount of the repayment expected from the student if withdrawal occurs during:

- Week 1 = 90%
- Week 2 = 75%
- Week 3 = 60%
- Week 4 = 45%
- Week 5 = 30%
- Week 6 = 15%
- Weeks 7-11 = 0%

- The calculated repayment shall be used to repay the financial aid programs in the following order of priority:
 1. Perkins/National Direct Student Loan
 2. Supplemental Educational Opportunity Grant
 3. Pell Grant
 4. Institutional Scholarship
 5. State Need Grant
 6. Private Donor Scholarship, if instructed by donor

Funds may not be repaid to a program from which the student did not receive aid, and the amount paid to any program may not be greater than the amount the student received from that program.

**College work-study earnings and Stafford Loans/Supplemental Loan to Student/Parents Loan for Undergraduate Students are ignored for the purpose of determining the amount to be repaid.*

NOTE: A tuition waiver does not reflect cash exchanged but an amount for which the student is never charged. Tuition and fee waivers are not factored in as an aid type in the repayment formula.

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. All residence halls are co-educational. 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. Space is limited, so apply immediately for highest priority in assignment.

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. The security deposit will be retained by the Uni-

versity 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, cancellation 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 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.

COSTS

The Trustees of Western Washington University set room-and-board rates and apartment rents. The room-and-board rate for a double room with 21 meals per week will be \$3,100 for the 1989-90 academic year. Apartment rates vary depending on the size of apartment. Residence hall rates include room, food and utilities. Apartment rates do not include the cost for food service. If students choose to have phone service in their room or apartment they contract for that with the local phone provider at their own expense.

Housing rates increase each year. For the actual annual and quarterly rental rate for University residence, 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 for 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, tutoring, financial aid, student activities, counseling, intramurals, career planning and placement, health services and intramural athletics. 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.

ETHNIC MINORITY SERVICES

The Division of Student Affairs and the University are committed to the development and implementation of programs to enhance the academic,

cultural and social support of minority students. The Minority Achievement Program (MAP) ensures the Division's support for the orientation, advising, faculty and peer mentor programs, leadership training, and other activities for minority students. Under the leadership of the assistant vice president for student affairs/diversity, the Division works with the Provost's Office to ensure a comprehensive University-wide approach to recruitment and retention of minority students.

ORIENTATION

The university experience offers a variety of learning opportunities—both in and out of the classroom. Orientation activities assist new students in their transition to the University and Bellingham community. In addition, the Orientation program offers formal and informal activities for new students to interact with faculty, staff and other students.

Orientation programs provide students the opportunity:

- To begin the academic advising process and register for courses.
- To become familiar with Western's services and facilities.
- To meet faculty, staff, returning and new students.
- 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 is a place where students can get help with their questions about academic policies and curricular choices. Peer advisers and professional staff clarify academic requirements and regulations, assist students with course selection and scheduling, and help students to use effectively the academic and supporting resources of the University.

One of the emphases of the Center 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 services of the Center include:

- 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 professional transfer programs, e.g., pre-engineering, pre-medicine, nursing
- 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 weekdays for drop-in questions. Appointments can be made by calling (206) 676-3850.

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 with emphasis placed on developing independent learning styles. 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 tutoring and workshops such as time management, textbook comprehension, test preparation, note taking and memory improvement
- 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 weekdays. Appointments can be made by calling 676-3855.

CAREER PLANNING AND PLACEMENT CENTER

The Career Planning and Placement Center offers a range of services fo-

cluding 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 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 Resource 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 CHOICES, the Center's computer-assisted self assessment/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 are eligible to participate in on-campus interviews and receive weekly job listings. In addition, a placement file service is available to assist students in providing appropriate documentation for their job search. Students should register with the Center 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.

Alumni may obtain placement services if they update and re-activate their registration and (as appropriate) placement file. 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 their 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 pro-

**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.*

Student Affairs

gram. The Center maintains an open-door recruitment policy and operates under federal and state non-discrimination statutes.

COUNSELING CENTER

Miller Hall 262, (206) 676-3164

The Counseling Center offers professional counseling to meet a wide range of student needs including personal, relationship and educational counseling. Support groups (adult children of alcoholics and women's issues, for example) and training, such as stress management and biofeedback, are also available.

Personal counseling may be helpful in gaining self-understanding, increasing social and personal effectiveness, and learning to manage stress associated with being a university student. An individual may also encounter difficulties in adjusting to the various pressures that students experience and can seek assistance in dealing with depression, anxiety and relationship problems, for example. Relationship counseling can be helpful in developing the skills that are necessary to have successful intimate and friendship relationships. Educational counseling may be helpful in assessing interests, abilities and aptitudes, selecting an appropriate major, overcoming learning difficulties, managing exam anxieties, developing effective study skills and exploring long-range educational and professional goals.

The Center has a Resource Room which contains books, pamphlets and audiotapes that may be used independently by students or in connection with individual or group counseling. In cooperation with the Career Planning and Placement Center, the Resource Room also houses a personal computer-based career exploration program that may be used by students following training that is provided. The Resource Room also cooperates with the Health Center to provide videotape materials that may be viewed privately or in

groups in the Health Center. Each quarter the Counseling Center arranges groups that 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* (the student newspaper) and on bulletin boards around campus. Counselors are also available for consultation with students, parents, 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 only released to appropriate professionals when the student gives consent. Counselors at the Center are professionally trained and experienced in counseling/clinical psychology or social work.

DISABLED STUDENT SERVICES

Students with disabilities are integrated into University life to maximize their independence. Services include counseling and advising about suitable accommodations and such opportunities as priority registration.

HEALTH CENTER

High Street Hall 25, (206) 676-3400

Good health is 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, health counseling, and general medical and health education. All information gathered during the course of health care or counseling is strictly confidential and released to other

health providers only with the student's consent.

Health services are available *without charge* (except for fees for some tests and supplies) to all students *currently enrolled for six or more credits*. It is **not necessary to be a member of any health care or health insurance plan to use this service.**

The Health Center is staffed by physicians, a nurse practitioner, registered nurses, medical assistants and office support personnel. The Health Center is open weekdays from 8 to 5 when classes are in session. **Students are seen from 8:30 to 11:30 a.m. and from 1 to 4 p.m.** Any student requiring non-emergency medical care should go directly to the Health Center. Appointments to see the physician or nurse practitioner may be made by telephone.

A Resource Room is located in the Health Center. It contains books, pamphlets and videotapes that may be used independently by students or in conjunction with medical care or health counseling. The Resource Room also cooperates with the Counseling Center to provide a wider range of books, pamphlets and audiotapes.

Care provided at the Health Center is directed at those problems generally treated in a physician's office. Students with more specialized conditions are evaluated and referred to appropriate specialists in Bellingham or in the student's home community. Services offered on campus include medical evaluation, treatment, medication and prescription as indicated; referral for laboratory X-ray and consultation as necessary; preventive medicine or wellness clinics and workshops; antigen injections; diet/weight/nutrition appointments; and sexually transmitted disease screening and treatment, pregnancy testing, women's health care and family planning services. The Center also provides an anonymous and confidential AIDS testing program in cooperation with the Counseling Center. The pro-

gram includes pre- and post-testing counseling.

When the Health Center is closed, students are advised to seek services from available after-hour medical facilities in the Bellingham area. **Note: The University assumes no financial responsibility for care dispensed at other health care facilities.** Students who engage other health facilities must plan to use private funds or their health insurance policy to cover resulting charges.

The Health Center coordinates the provision of a student insurance policy through Whatcom Medical Bureau at a reasonable cost to the student. This emergency/illness (i.e., life threatening) and accident insurance policy is designed for students who do not already have health insurance coverage and is available for all students currently enrolled for six or more credits. 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. The Health Center strongly recommends that all students have some form of health insurance to defray the substantial costs associated with serious accidents and illnesses.

All new students, including graduate students, must submit a signed health history form. This form must be on file at the Health Center before the student receives registration privileges. While it is *not* mandatory, the Health Center encourages a complete physical examination before enrollment in classes. This confidential physical examination **is required of all entering international students.** The Health Center highly recommends that students have an immunization update prior to enrollment. This is especially true for measles vaccination, as recent experience in college health centers has shown that college students have a particular risk for contracting this disease.

RESIDENCE LIFE

The primary purpose of the Office of Residence Life, a department within University Residences, is to facilitate a living/learning community which promotes the academic, personal, social, and cultural growth and development of Western's resident students. The Residence Life staff provides a wide variety of educational and social programs designed to complement the classroom experience for on-campus residents.

Living in a residence hall or on-campus apartment is a unique experience which provides an opportunity to meet new people and explore new ideas and ways of relating to others. It is an important part of the educational process in which students are encouraged to be involved in activities and programs and to assume individual and group responsibility.

Professional and student staff members provide supervision, personal counseling, conflict management and crisis intervention. They also assist residents in developing a sense of community in which students can feel "at home" while in residence at Western.

Numerous student leadership opportunities are available through the Office of Residence Life, including volunteer positions in hall government and committees and paid positions such as computer room coordinator and resident adviser. Western strongly encourages students to be active, involved citizens in the residential communities, since this enhances both the community and their own individual growth and development.

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 Information, Legal Information and Sexual Awareness Centers; the Environmental Center; the Veterans' Outreach Center; STRATA (older returning students); the A.S. 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.

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.

FM Radio

Operated by the Associated Students, KUGS broadcasts in stereo at 89.3 on the FM dial. A student staff assists the general manager in all facets of station operation and coordinates the efforts of 100 volunteers. 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, canoeing, 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, concerts, noted speakers, coffee houses, dances, symposiums, festivals, and cultural events are regularly provided by the A.S. Productions.

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 Associated Students including groups such as the Black Student Network, Political Science Association, Anti-Apartheid Action Coalition, Safe Waste Management NOW, International Club, Science Fiction and Fantasy Club, Society of Automotive Engineers, Computer Club, SCUBA Club, MECHA, Native American Student Council 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, bicycle repair facility, several food service areas, an information center/smoke-shop, a cash machine, a delicatessen, Plaza Pizza, art gallery, games room, typing room, KUGS-FM, 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.

DEPARTMENT RELATED ACTIVITIES

Department 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, tennis, and track and field; women's sports include basketball, cross-country, tennis, track and field, crew and volleyball. The University Athletic Program is a member of, and governed by, the National Association of 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 varsity athletics. The level of competition ranges from local to national, depending on the

sport. The current program includes teams in: men's volleyball, men's ice hockey, skiing, swimming, men's and women's lacrosse, women's rugby, women's fastpitch softball, fencing, sailing, baseball, swimming and judo. Women's and men's tennis currently operates as a club sport on the varsity level.

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 Department of Communication, College Hall 101.

Intramurals

A comprehensive intramural sports program offers students an opportunity to participate in structured and unstructured activities on campus. League play is organized for men, women, and co-recreational teams in volleyball, basketball, softball, soccer, team handball, and flickerball. Tournaments for such sports as racquetball, handball, wrestling, pickleball, 3-on-3 and hot shot basketball, 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 (e.g., aerobics and water aerobics).



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 Communication, Journalism and Technology.

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

<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)
Chemistry	Chemistry	Chemistry 121, 122 (10 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)
	European History	History 113 (5 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)
Physics	Physics	Physics 241 (5 credits)
Political Science	American Government and Politics	Political Science 250 (5 credits)
	Comparative Government and Politics	Political Science 291 (5 credits)

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:

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 For-

Academic Policies

sign Study Office, OM 530, 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 Independent 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 Continuing Education 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 continuing Education 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 during 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 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.

For most purposes, it is necessary for an undergraduate to be enrolled for 12 credits or more in order to be considered full-time (e.g., eligible for financial assistance, full-time veterans' benefits, participation in inter-collegiate athletics). Graduate students, officially admitted to the Graduate School, are considered full-time for financial aid purposes at 10 credits and for veterans' benefit

purposes at 8 credits. ***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.	

*Includes credits transferred to Western.

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.

FINALS PREPARATION WEEK

The week immediately preceding Final Examination Week is known as Finals Preparation Week, and provides the following protections which enable students to complete their studies without undue hardships:

- Final examinations must be administered at the date and time specified in the Final Examination Schedule, with the exception of laboratory-section final exams.
- During Finals Preparation Week, no examinations shall be administered. Exceptions may be made if there is agreement of the instructor, the appropriate department chair and/or dean, and the entire class membership.
- No graded assignments shall be introduced during Finals Preparation Week.
 - a. Students may consent, on an individual basis, to accept new graded assignments for purposes of extra credit and/or makeup for previous assignments.
 - b. Instructors must have notified students in writing, by the end of the course's fifth week, of any graded assignments whose *due dates* fall during Finals Preparation Week.

The term "graded assignments" refers to written or oral presentations which are a required component of class performance and which are utilized in determining students' letter grades or evaluations for the quarter. Examples include essays, papers, research projects and class presentations or quizzes.

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 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. The minimum level of performance required to receive a grade of "P" varies from course to course and is determined by each instructor. Students should not assume that performance equal to a grade of "D" or higher will result in a passing mark. Often performance at the level of "C" or higher is required. Regulations pertaining to Pass/Fail grading are as follows:

1. Courses required for the major and minor, supporting courses, professional education requirements, writing proficiency 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 Continuing Certification 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 aca-

ademic 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 and all grades earned prior to approval of a "fresh start" grade average.

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 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. Students 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 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.). 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-proficiency courses offered throughout the University.

Students whose college admission 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.

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 208

Graduation Requirements

or Fairhaven 301 and 208.

All students must pass a writing proficiency course before graduation. Before taking the writing proficiency course, students must take the junior writing exam (JWE), which evaluates language and writing skills. The JWE must be taken at the end of the sophomore year or no later than the first quarter of the junior year. This exam is given several times each quarter by the Testing Center. Students who pass the JWE may enroll directly in a writing proficiency course, usually but not necessarily in their majors. Students who do not pass the JWE should not register for a writing proficiency course until they improve their writing skills by enrolling in an additional composition course or by attending tutorial sessions at the Writing Center.

Writing proficiency courses are listed in the Timetable of Classes.

GENERAL UNIVERSITY REQUIREMENTS

The General University Requirements embody Western's belief that liberal education—education in breadth—is as important for informed and effective participation in contemporary life as specialized education. Accordingly, Western graduates not only complete a formal major in an academic or professional field, but they also devote a significant part of their study to courses in communication, humanities, social science, natural science, mathematics, and non-western and minority cultural studies. The General University Requirements are Western's way of ensuring that students have an opportunity to encounter language, literature, philosophy, history and art; to become acquainted with the methods and subject matter of natural and social sciences; to think about the values of their own and other civilizations; to consider relationships among fields of knowledge; and to develop college-level skills in critical

reading, effective communication and mathematics. Western believes that liberal education enables people to lead more interesting lives, to perceive and to understand more of the world around and within themselves, and to participate more intelligently, sensitively and deliberately in shaping that world.

General University Requirements apply to all students in the College of Arts and Sciences, College of Business and Economics, College of Fine and Performing 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).

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.

Twelve-Credit Limit Per Department

Twelve (12) credits from one department 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.

Components of the General University Requirements

In issues that they address and in methods that they represent, the components of the General University Requirements intersect at many points. Together, they mark the dimensions of a liberal education.

COMMUNICATIONS

The Communications requirement provides opportunity to develop the skills and techniques of articulate verbal expression. It comprises courses that are primarily concerned with rhetoric, logic and style in written and spoken communication. Words are crucial tools of thought. Ability to use them to formulate and to express ideas clearly, coherently

and persuasively is fundamental to a college education.

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)*.

COMMUNICATION 101, Fundamentals of Communication (3); 205, Exposition and Argumentation (4).

HUMANITIES

The Humanities requirement provides an introduction to the subject matter, methods of inquiry and forms of expression of academic fields that treat language, literature, fine arts, history, philosophy and religion in the Western cultural tradition. The humanities study principal themes, issues and images concerning human beings and their place in the

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

Graduation Requirements

universe, as these have been shaped and expressed since ancient times, in thought, imagination and action.

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 (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 European 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).

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).

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); 350, Political Philosophy (3) (Philosophy 350 and Political Science 360 may not both be taken for GUR credit).

POLITICAL SCIENCE 360, Introduction to Political Theory (5) (Political Science 360 and Philosophy 350 may not both be taken for GUR credit).

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

SOCIAL SCIENCES

The Social Sciences requirement provides an introduction to the content, methods and applications of academic fields that treat psychological, social, political and economic behavior, development and variation

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

of human culture, and uses of geographical space. Though differing in subject and approach, the social sciences insist in common on empirical investigation and seek to discover coherent patterns in human activity.

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 102, Introduction to Human Origins (5); 201, Introduction to Cultural Anthropology (5); 210, Introduction to Archaeology (5).

CANADIAN-AMERICAN STUDIES 200, Introduction to Canadian Studies (5).

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

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

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

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).

JOURNALISM 340, The Press and Society (3).

LIBERAL STUDIES 105, Behavioral Science (5).

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 section of the GUR provides an introduction to civilizations of Asia, Africa, the Middle East and Latin America, to minority experience in North America, and to cross-cultural and women studies. Acquaintance with the values and viewpoints of other cultures and societal roles helps overcome provincialism, aids self-understanding and is an important element in an educated outlook on the contemporary world.

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 Cul-

Graduation Requirements

tures 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).

FOREIGN LANGUAGES. Any non-European foreign language course numbered 200 and above and involving actual instruction in the foreign language. (Advanced placement credit may not be applied.)

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).

MUSIC 205, Survey of Non-Western Musical Cultures (3).

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 211, Introduction to Women Studies (4).

MATHEMATICS

The Mathematics requirement provides a college-level foundation in quantitative thinking in the form of college algebra, computer science or symbolic logic. Mathematics is the fundamental tool of social and natural sciences and of technology, and is employed in a wide range of academic and professional fields. Knowledge of mathematical technique is an important part of a contemporary education.

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.* (Stu-

dents 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

The Natural Sciences requirement provides an introduction to the content and methods of the physical and biological sciences. These fields investigate natural phenomena, rang-

**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.*



Graduation Requirements

ing from the origin of the universe to development of life forms to the structure of the atom. Their methods include direct and indirect observation, experimentation, and construction of theoretical models of natural systems.

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:

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).

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).

ENVIRONMENTAL STUDIES 110, Environmental Studies: A Scientific Approach (3); 204, The Oceans: An Introduction to the Marine Environment (3).

GEOGRAPHY 203, Physical Geography (5).

GEOLOGY 102, Plate Tectonics and Continental Drift (4); 212, Historical Geology (4); 214, Applied Earth Science (3); 215, Minerals, Energy, and Society (4); 252, The Earth and Its Weather (4).

HOME ECONOMICS 250, Human Nutrition (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.

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:

- Continuing Education
- Conference Services
- Field Experience
- Foreign Study
- Honors Program
- Professional Transfer Programs

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

CONTINUING EDUCATION/ CONFERENCE SERVICES

The Continuing Education/Conference Services department at Western Washington University offers educational opportunities for groups and individuals who wish to continue their personal and/or educational goals outside the regular curriculum schedule.

Continuing education classes may be credit or non-credit, in the evening or on weekends, on or off campus. *After Hours*, the continuing education bulletin, is published quarterly and lists a variety of classes.

Conference Services coordinates workshops, meetings and seminars

for public and private organizations. It provides an opportunity for working professionals and special interest groups to update and expand their knowledge.

Independent study offers a variety of educational alternatives. Study by correspondence, contract study and telecourses provide the flexibility needed by many persons who are unable to attend regular classes.

For further information, or to receive the quarterly listing of courses, contact Continuing Education/Conference Services, Western Washington University, Bellingham, WA 98225, phone (206) 676-3320.

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 90 universities in 30 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 530b, 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. 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 530b, (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**

**Honors students must satisfy the mathematics requirement as described in this catalog.*

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 may 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 may substitute a comprehensive examination 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.

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

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.

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.

All University Programs

- 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 professional transfer adviser as soon as possible for curriculum planning, test requirements and information on application procedures. 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.

Minority and women students are actively sought by professional schools.

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. Robert Raudebaugh,
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 Washington University followed by two or more years of study 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 most engineering schools specify a minimum number of credits completed and a competitive grade point average for admission to a given engineering program.

Pre-Engineering Program

While at Western students may complete two years of courses in physics,

All University Programs

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 90 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, 204, 331
- Physics 241, 242, 271, 272, 341, 342, 351 and 352 (the entire sequence 241, 242, 341 and 342 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. Earrett (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, 123, 212
- Chemistry 121, 122, 123
- English 101, 301 or 302
- Mathematics 124
- 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, forest resource science, 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.

Program Adviser: Dr. Hubertus Kohn, 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. Admission is selective based primarily on GPA,

LSAT scores and letters of recommendation. 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.

Recommended curriculum for students considering transfer to University of Washington:

- Biology 121, 123

All University Programs

- Chemistry 121, 122, 123
- English 101, 301 or 302
- Mathematics 124
- General University Requirements

There are 12 other medical technology programs in the Northwest. The prerequisites for these programs vary considerably from institution to institution. Contact the program adviser for specific information.

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.

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 medical schools in the past several years have been biology majors.

Admission to a medical school is highly competitive. Early consultation with the program adviser at Western 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 are urged to contact the pre-professional advisement office (Old Main 270) during the first quarter of their premedical program.

Typical freshman year curriculum:

- Biology 121, 123
- Chemistry 121, 122, 123
- English 101
- Mathematics 124
- General University Requirements

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

Information regarding osteopathic, podiatric and all other fields of medical practice is also available from the program adviser.

Program Adviser: Contact Dr. Jerry Kraft, chief premedical adviser.

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.

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.

Students at Western who wish to enroll in a bachelor's degree in nursing program have the option of transferring to the University of Washington, or the Intercollegiate Center for Nursing Education in Spokane (joint agreement between Eastern Washington University, Washington State University and Whitworth College).

Curriculum requirements for transfer to the University of Washington nursing program include:

- English 101
- Chemistry 115, 251
- Biology 345
- Math 105 (need 5 credits of pre-calculus math)
- Sociology 202
- Psychology 201
- Two high school years, or two college quarters of one foreign language
- Recommended electives: Home Econ 250, Biology 348, 349

At least 45 quarter hours of credit must be completed prior to admission.

Curriculum requirements for transfer to the Washington State University include:

- English 101
- Biology 101, 345, 348, 349
- Chemistry 115, 251, 371
- Home Econ 250
- 32 quarter hours in social sciences and humanities with at least nine from each to include: Psychology 201 or 220, Sociology 202 or 251
- Two high school years, or two college quarters of one foreign language

Students enter at the junior level (90 quarter hours completed).

For transfer to Eastern Washington University:

- English 101, 301
- Chemistry 115, 251, 371
- Biology 101, 345, 348, 349
- Speech 204
- 32 quarter hours of credits in social sciences and humanities with at least nine from each to include: Psychology 201, 316, Sociology 202 or 251.

Students enter at the junior level (90 quarter hours completed).

Contact the pre-nursing adviser for any assistance in program planning.

Program Adviser: Yolanda Graham, Academic Advising Center

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
- Communication 204
- Educational Curriculum and Instruction 361, 465

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

Optometry

Most pre-optometry course requirements (usually about 90 credits) may be satisfied during the student's first two years at Western. As specific requirements may vary somewhat, students should obtain detailed information from the school they plan to attend.

Recommended curriculum:

- Biology 101, 345, 348, 349
- Chemistry 121, 122, 123, 351, 354
- English 101, 301
- Mathematics 124, 240
- Physics 131, 132, 133
- Psychology 201

All University Programs

All optometry schools require that candidates take the Optometry Admission Test (OAT). It is suggested that this be done well in advance of intended optometry school enrollment.

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: 10 credits, Eng 101 and 301; Eng 302 recommended
- Mathematics: 10 credits, Math 155, 156; Math 240 recommended
- General University Requirements: 6 credits from the Humanities (art history, English literature, foreign languages, music) and 3 credits from the Social Sciences (anthropology, economics, interpersonal communications, psychology, sociology)

The University of Washington School of Pharmacy recommends elective coursework in bioscientific vocabulary, business, computer science, first aid and nutrition. Typing skills and computer application skills are invaluable.

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 program at the junior, senior or post-baccalaureate level. The percentage of students admitted to a certificate program without an undergraduate degree is very low. Also, many physical therapy programs are now only offered at the master's degree level and require the completion of a baccalaureate degree. Students may complete degrees in any subject area.

Admission requirements for entry into a physical therapy program include the completion of a required prerequisite set of courses, three letters of recommendation and the completion of an internship under the direction of a physical therapist. Students also may be required to submit scores from the Allied Health Professions Test or the Graduate Record Exam (master's only). These tests should be taken in the fall quarter of the application year.

Western's curriculum includes courses which prepare students for transfer into physical therapy programs at the University of Washington, Eastern Washington University and the University of Puget Sound. Students are advised to contact the program head at the institution of interest to obtain specific entrance requirements since these vary slightly between institutions.

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:

- Chemistry 123
- Biology 340 or Math 240
- Physical Education 301, 302, 303, 485



Psychology 314, 316

Program Adviser: Dr. Kathleen Knutzen, Department of Physical Education

Veterinary Medicine

The College of Veterinary Medicine at Washington State University requires at least seven years of university-level 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 one should decide not

to go to a veterinary school. Admission is competitive and students are strongly encouraged to consult early with the program adviser and to review admissions requirements.

Recommended freshman year curriculum:

- Biology 121, 123
- Chemistry 121, 122, 123
- English 101, 301 or 302
- Mathematics 105

Other Western courses which are required for admission include Biology 321, Chemistry 351, 352, 354, 355, and 371, and Physics 131, 132, 133.

Program Adviser: Dr. Jerry Kraft, Department of Biology

The Graduate School

Dr. Maurice L. Schwartz, 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 19 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. WWU is on a quarter calendar system.

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. A full-time assistantship does not allow for additional salary or employment from the University. 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 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) in the last 90-quarter or 60-semester hours of study. (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 must be received by the Graduate School prior to an admission decision. MBA applicants must provide the GMAT score with their application (but not the GRE). Since registration for the GRE/GMAT must be made in advance, and it takes at least six weeks for resulting scores to reach the Graduate Office, applicants are advised to start planning for the GRE/GMAT at an early date, four to six months prior to the start of the quarter they wish to begin their program.
- 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 \$12,500. 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

Graduate School

can be granted provisional admission. 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. It is further recommended that no more than 10 credits of independent study be applied toward the degree.

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 and the M.Ed. offered at The Evergreen State College), 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 from another institution 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.

Most departments require that a student be advanced to candidacy prior to registration for thesis or field project. A card listing the thesis/field project committee and the topic under investigation should also be on file in the Graduate Office.

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

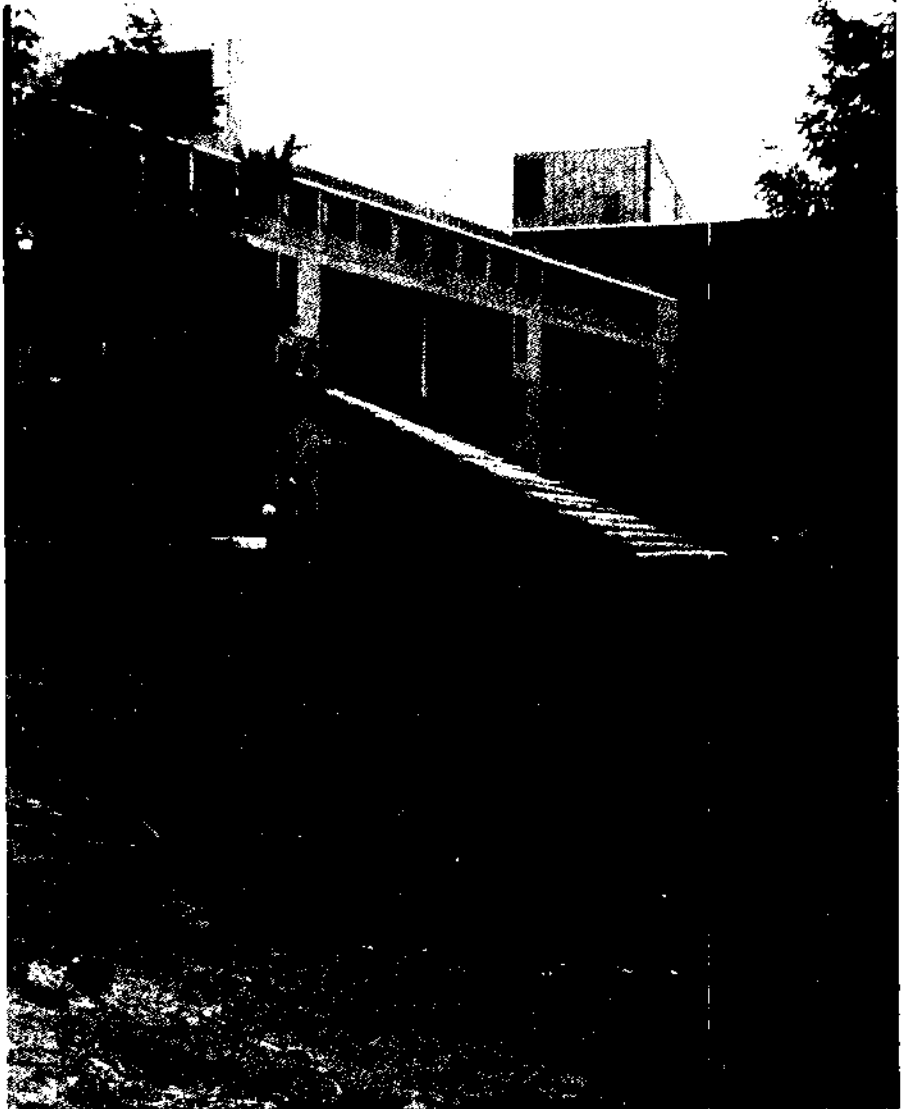
Graduate School

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

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 Project 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."

thesis chairperson. Application for the degree must be made no later 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. Robert Meier
- 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 — Dr. Paul Ford
Learning Resources — Dr. Les Blackwell
Student Personnel — Dr. John Utendale
- Education (Curriculum and Instruction) (M.Ed.)
Elementary — Dr. Roberta Bouverat
Exceptional Childrer — Dr. Sheila Fox
Secondary — Dr. Alcen Nickelson
Reading — Dr. H. O. Beldin
- English (M.A.) — Dr. John Mason
- Environmental Science (M.S.)
— Huxley College
Chair, Graduate Program Committee
- Geography (M.S.)
Dr. Debnath Mookherjee
- Geology (M.S.)
Dr. James Talbot
- History (M.A.)
Dr. James Rhoads
- Marine and Estuarine Science
Dr. Stephen Sulkin
- Mathematics (M.S.)
Dr. John Reay
- Music (M.Mus.)
Dr. Ed Rutschman
- Physical Education (M.Ed.)
Dr. Kathleen Knutzen
- Political Science (M.A.)
Dr. Donald Alper
- Psychology (M.S.)
Dr. Fred Grote
- School Counselor (M.Ed.)
Dr. Arleen Lewis
- Science Education (M.Ed.)
Dr. John Miller
- Sociology (M.A.)
Dr. James Inverarity
- Speech Pathology and Audiology (M.A.)
Dr. Sam Polen
- Theatre (M.A.)
Dr. William Gregory

Anthropology

College of Arts and Sciences

GRADUATE FACULTY

Boxberger, Daniel L., PhD, ethnohistory, maritime anthropology, economic development and social change, North American Indians, Northwest coast.

Campbell, Sarah, PhD, New and Old World archaeology, Pacific Northwest Coast, theory and methods.

Hammond, Joyce D., PhD, gender studies, visual anthropology, expressive culture, Pacific.

Kimball, Linda A., PhD, Southeast and Island Asia, anthropological linguistics, Pacific.

Marshall, Robert C., PhD, political anthropology, economic anthropology, symbolism, Marxism and anthropology, East Asia, Japan.

Stevenson, Joan, PhD, anthropological genetics, human osteology, medical anthropology.

Taylor, Herbert C., Jr., PhD, New World ethnohistory, prehistory of 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, or in theory and methods, will be expected to take undergraduate courses as deemed necessary by the Anthropology Graduate Committee.

Basic Requirements

Anth 503 [5]

Anth 504 [5]

Anth 532 [3]

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

Anth 690 [3-12]

NOTE: Three credits of 690 are required. Not more than 12 credits of 690 will apply toward the 45-credit requirement for the degree.

Specific Entrance and Test Requirements

A 500 to 3,000 word essay stating reasons for wanting to do graduate work in anthropology, and indicating major interests within anthropology. The General Test of the Graduate Record Examination. Both the essay and the GRE are required for admission.

Electives in Specialization

Courses selected under advisement from 400- or 500-level courses in anthropology, at least 35 credits must be from courses open only to graduate students. (Only 10 credit hours are allowed from 400-level courses.)

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. [0-15]

Special Skills Competency

Competency in a special skill must be acquired through one of the following options:

1. Reading or speaking knowledge of a foreign language, demonstrated by: (a) successful completion of a second-year university language course sequence, or (b) completing an accepted course designed to provide a reading knowledge of the language, or (c) passing a foreign language competency test. *Note: Foreign students whose native language is not English are considered to have already fulfilled the foreign language special skills competency.*
2. A series of courses in linguistics in addition to Anth 540.
3. Computer science/statistics competency, preferably two courses from one of the following sequences: Soc 505, 510, 515, or Soc 310, 316.
4. In special cases where unique skills are needed, a coherent series of courses may be taken which lead to a specific skill. This

Graduate School

option requires written permission from both the student's adviser and from the Anthropology Graduate Committee.

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) Special Skills Competency
- (f) 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

Gleeson, Madge, MFA, MAT, graphic design
Hanson, Lawrence, MFA, sculpture
Jensen, Robert A., MFA, drawing and painting
Johnston, Thomas A., MFA, printmaking
Marsh, David F., MS, drawing and painting
McCormick, Patrick F., MFA, ceramics
McIntyre, Mary A., MFA, fabric and fibers
Schlotterback, Thomas, PhD, art history
Smeins, Linda E., MA, art history
Templeton, David E., PhD, art education
Urso, Robert, MA, computer graphics
Vike, Gene, MS, drawing and painting
Weiner, Homer, MFA, drawing and painting

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

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.

Flora, Charles J., EdD, marine invertebrate zoology.
 Fonda, Richard W., PhD, plant ecology.
 Kohn, Hubertus, PhD, plant physiology.
 Kraft, Gerald F., PhD, aquatic entomology.
 Lacher, Thomas E., PhD, terrestrial ecology, behavioral ecology
 Mason, David T., PhD, limnology.
 Matthews, Robin, PhD, stream ecology, watershed management
 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.
 Sulkin, Stephen D., Ph.D., invertebrate larval biology.
 Summers, William C., PhD, marine ecology
 Taylor, Ronald J., PhD, systematic botany.
 Webber, Herben 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

Graduate School

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) [12 cr]
Graduate courses in biology, selected under advisement and approved by Advisory Committee [11 cr]

Electives

Courses selected under advisement and approved by Advisory Committee from 400- and 500-level courses in biology and supporting disciplines. No more than 10 credits may come from 400-level courses. [22 cr]

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.

M.S. — BIOLOGY: MARINE AND ESTUARINE SCIENCE OPTION, THESIS ONLY

Program Coordinator:

Dr. Stephen D. Sulkin
Shannon Point Marine Center

Prerequisites

Students matriculated through the Biology Department must meet the prerequisite for admission described in the Biology, Thesis Only option.

For further information, write or consult Dr. Stephen Sulkin, Director,

Shannon Point Marine Center, Anacortes, WA 98221.

The Marine and Estuarine Science option is a joint offering of the Department of Biology, Huxley College and the Shannon Point Marine Center. The curriculum is designed to provide focus on local coastal marine environments and biota. It requires a minimum of 45 credits of course work, including 12 credits of thesis research, and the completion of a thesis based on original research in an area of specialization relevant to the marine sciences. Students are expected to show proficiency in two topics before advancement to candidacy: (1) an understanding of regional marine and estuarine environments, biota, and topical management issues, and (2) an understanding of fundamental biological and chemical oceanographic processes.

Business & Economics

College of Business and Economics

GRADUATE FACULTY

- Benson, Earl D., PhD, finance.
Bryce, Wendy J., PhD, marketing.
Fewings, David R., PhD, finance.
Garcia, Joseph E., PhD, organizational behavior.
Hagen, Daniel A., PhD, international economics, macroeconomics.
Hansen, Julia L., PhD, urban/labor economics.
Harder, K. Peter, PhD, international trade.
Haug, Peter, PhD, 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.
Meier, Robert C., PhD, decision sciences.
Merrifield, David E., PhD, microeconomics, managerial economics.
Moore, John, PhD, business policy.
Murphy, Dennis R., PhD, managerial economics/international finance.
Nelson, David M., PhD, macroeconomic theory, money markets.

Olney, Thomas J., PhD, marketing.
 Owens, Eugene, PhD, behavioral science.
 Peterson, Lois, EdD, business education.
 Plumlee, E. Leroy, PhD, business environment.
 Price, Diana N., ABD, macroeconomics, international economics.
 Reck, 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.
 Scott, Bert G., PhD, financial accounting.
 Senge, Stephen V., DBA/CMA, cost/managerial accounting.
 Singleton, Ron, PhD/CPA, taxation.
 Sieeman, Allan G., PhD, quantitative methods.
 Springer, Mark, PhD, operations management.
 Thoreson, Hubert N., EdD, business education.
 Wonder, Bruce D., PhD, personnel administration.

MASTER OF BUSINESS ADMINISTRATION, NON-THESIS

Program Director:

Dr. Robert C. Meier

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.

Chemistry

College of Arts and Sciences

GRADUATE FACULTY

Crook, Joseph R., PhD, inorganic chemistry.
 Gerhold, George A., PhD, physical chemistry.
 Jones, Robert K., 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/nuclear 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 departmental approval. Applicants are expected to have completed the following courses (or their equivalent) with a grade of B or better: Chem 333, Chem 434, Chem 351-3, Chem 461-3, and Chem 441 or Chem 471-3. A student with lower than B may be required to repeat that course as determined under advisement with the graduate program adviser.

Specific Test Requirements

Graduate Record Examination, General and Subject in Chemistry.

Graduate School

Requirements in Specialization

- Thesis option: Chem 595 (2 credits), 690 (12 credits).
- Non-thesis option: Chem 595 (2 credits), 694 (6-12 credits) or 696 (9-12 credits), 501 (6 credits).
- Courses selected under advisement and approved by the Chemistry Graduate Committee from chemistry and supporting disciplines, 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.

HUXLEY-CHEMISTRY DEPARTMENT COOPERATIVE PROGRAM

The Huxley-Chemistry Department Cooperative Program is a joint program specializing in environmental chemistry. It is administered by both units and leads to an M.S. in Chemistry (Environmental Chemistry) or an M.S. in Environmental Science (Environmental Chemistry). Applicants must indicate which option they wish to be based in. The program emphasis is on the application of chemical principles, methods, and concepts to the understanding and potential solution of certain environmental problems. Students are admitted to the cooperative program through acceptance by the Graduate School and by the environmental chemistry cooperative program coordinators (the chair of the Huxley College Graduate Program Committee and the graduate program adviser of the Chemistry Department). See Huxley College description of the M.S.-Environmental Science (Environmental Chemistry) program.

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.

Computer Science

College of Arts and Sciences

GRADUATE FACULTY

Eerkes, Gary L., PhD.
Hearne, James W., PhD.
Ives, Fred M., PhD.
Johnson, James Lee, PhD.
Jusak, Debra S., PhD.
Matthews, Geoffrey B., PhD.
Menninga, Larry D., PhD.
Nelson, Philip A., PhD.
Osborne, Martin L., PhD.
Ural, Saim, PhD.
Van Den Bosch, Peter N., PhD.

M.S. — 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

Graduate School

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 programs 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 department 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 to 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 depart-

ment and upon the advice of departmental 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.

At the time of printing, a Masters in Teaching degree program was under consideration. Post-baccalaureate candidates interested in combining teacher certification and master's degree study should contact the Educational Curriculum and Instruction office or the Graduate Office.

Educational Administration & Foundations

School of Education

GRADUATE FACULTY

Billings, Thomas, PhD.
Blackwell, Leslie, EdD.
Fennimore, Flora, EdD.
Feringer, Richard F., EdD.
Ford, Paul, EdD.
Grover, Burton L., PhD.
Jongejan, Anthony, MS.
Kasprisin, Lorraine, PhD.
Kelly, Samuel P., PhD.
Kim, Robert H., EdD.
Marrs, Lawrence W., PhD.
Schwartz, Sy, EdD.
Trimble, Joseph E., PhD.
Utendale, John F., EdD.
VanderVelde, Philip B., PhD.
Zurfluh, Linda, EdD.

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 prepares students for either entry-level or advanced-level competence for work in any institution which sponsors educational programs for adults. In general, these include continuing education departments of colleges and universities, YM/YWCAs, libraries, museums, churches and other voluntary agencies, government agencies, and business and industry.

Students may choose between two areas of study: administration/planning or learning problems of adults.

The curriculum is designed to examine theory as applied to problems in the field. Program design allows for part-time study. All students must complete two field experiences. For working adults, however, their jobs may provide opportunities for these experiences.

Admission

Applications are accepted on the basis of fulfilling Graduate School admission requirements and establishing that the applicant's professional goals are consistent with the goals of the program.

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.

Basic Requirements

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

Program Requirements

EdAF 518a, 576, 578,
592h and/or j
and/or k [I and II: 11-21]

Electives

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

Graduate School

goals. Electives may be drawn from any relevant department on campus under advisement [I: 9-19; II: 19-29]

Graduation Requirements

Thesis/field project [I: 48]

Non-thesis/non-field project [II: 52]

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 thesis research project. Some flexibility for program completion exists.

Due to a review and revision process which may affect this program, the information contained in this section of the catalog is subject to change.

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.

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 — EdAF 559 (variable), EdAF 690a or b (6 credits)

Internship — EdAF 592f (14 credits)

Electives (credit varies) to be selected under advisement.

Elective 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:

Dr. Paul Ford, MH 204C

Dr. Richard Starbird, MH 206D

Program Manager:

Judy Gramm, MH 206E

Seattle Center: Dr. Linda Zurfluh
(206/464-6103)

Learning Resources:

Dr. Les Blackwell, MH 310A

Professor Tony Jorjegan, MH 304

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

(a) Course background appropriate to level of specialization.

- (b) Application for admission to Graduate School.
- (c) Letters of recommendation from sponsoring district.
- (d) Official transcript(s) showing all previous course work.
- (e) Writing sample.
- (f) 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, II and III. Option I is a minimum of 49 credits, including EdAF 690a (thesis) or 690b (field project). Option II is a minimum of 54 credits followed by comprehensive tests in the Foundations area and in the specialization. Option III is a minimum of 54 credits of course work, including six (6) credits of EdAF 542a,b,c,d and the comprehensive tests in Foundations.

Credit requirements in the three 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, II and III:12]

Requirements in Specialization

EdAF 541a, 543a,

544b, 544c [I, II and III:16]

EdAF 542a,b,c,d [III:6]

EdAF 690a or b [I:6]

Electives in Specialization

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

[I: 9-15; II: 20-26; III: 14-20]

Electives in Related Areas

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

[I, II and III:0-6]

Principal's Initial Certificate

Candidates for the Washington State Initial Principal's Certificate shall have completed at least two consecutive years of certificated teaching experience in one district on at least a half-time basis (the service must cover the entire school year), a valid Washington State teaching certificate, and a master's degree in school administration (program to include approved certification course work). A 12-credit internship is required in addition to the master's degree.

Individuals who have completed at least two consecutive years of certificated teaching experience in one district on at least a half-time basis (the service must cover the entire school year), 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 40 credits of required course work under advisement and a 12-credit internship. Candidates for the initial certificate must pass an exit examination as prescribed in WAC 180-78-193-194.

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 FACULTY

Atkinson, Charles M., EdD, special education.
Beldin, H. O., PhD, reading.
Bouverat, Roberta A., PhD, early childhood education.
Covington, Richard J. L., EdD, elementary education.
Dallas, Lee A., EdD, secondary education.
Eaton, Marie D., PhD, special education.
Evans, Howard M., EdD, secondary education.
Fennimore, Flora, EdD, elementary education, library science.
Fox, Sheila L., PhD, special education.
Howell, Kenneth W., PhD, special education.
Klein, Marvin L., PhD, elementary education, language arts.
Mork, Theodore A., PhD, elementary education, reading, children's literature.
Nickelson, Alden L., PhD, secondary education, science education.
Pinney, Robert H., EdD, secondary education.
Robinson, Susan, PhD, reading, elementary education.
Stentz, Kristine L., PhD, special education.
Towner, John C., PhD, reading, elementary education.
Walter, Eileen L., PhD, reading, language arts, elementary 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, followed 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, THESIS OR FIELD PROJECT ONLY

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 various specializations, such as general curriculum and instruction, early childhood education, consultant/supervisor, computer education, middle school education, library science, language arts, etc.

Graduate Program Adviser:
Dr. Roberta Bouverat

Prerequisites

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

Courses

Option II is not available in this program.

EdAF 501, 512, 513 [I:12]

EdCI 521, 533, 535 [I:12]

Electives under advisement [I:12-15]

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

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.

Note: Both tracks in the high school/middle school program are non-thesis, non-field project only.

High School/Middle School Track

EdAF 501, 512, 513 [I:12]
 EdCI 481 or 484, 500, 522a, 522b,
 523, 555, and 571 [II:25]
 Electives under advisement [II:11]

HS/MS with Certification Track

EdAF 501, 512, 513 [II:12]
 EdCI 481 or 484, 500, 522a, 522b,
 523, 555, 560 (or equivalent),
 571 and 596 [II:38]
 Certification courses: EdCI 320, 471,
 472, 490a, 495 and Psych 351
 (other required certification
 courses replaced by courses listed
 above) [II:30]

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 separate 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.

Note 3: Candidates in this program may be awarded certification prior to completion of all requirements for the M.Ed. degree. The M.Ed. degree, however, will be awarded *only* upon completion of all requirements for both certification and the M.Ed. degree.

Curriculum Consultant Track

Note: Curriculum Consultant Track is available with thesis or field project option only.

EdAF 501, 512, 513 [I:12]
 EdCI 522a, 522b, 523, and EdAF
 543a [I:15]
 EdCI 500 (to be used for research
 background) and electives under
 advisement, including content
 electives [I:9-12]
 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, and
 331, 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

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.

Graduate School

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, 586, 589

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, 567 and 598 [I and II:25]

Electives under advisement [I:0-2, II:11]

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

Consultative Teaching Specialization

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

EdCI 561, 562, 563, 564, 565, 565a, 566, 567, and 598 [I and II:32]

Electives under advisement

[II: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.

Cobb, Mary, PhD, English education and literature.

Donker, Marjorie, PhD, literature.

Inniss, Kenneth, PhD, literature and rhetoric.

Johnson, Ellwood, PhD, literature and criticism.

Keep, W. C., PhD, literature and creative writing.

Larsen, Golden, PhD, literature.

Mason, John B., PhD, English education and literature.

Muldrow, George M., PhD, literature.

Park, Douglas, PhD, literature and rhetoric.

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

The M.A. program in English offers two options of concentration: (1) English Studies and (2) Creative Writing.

Specific Test Requirements

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

1. English Studies (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. 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.

Credits

Courses are routinely 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 English Studies option must demonstrate reading competence in a foreign language acceptable to the department's Graduate Studies Committee. Normally this competence is demonstrated through a translation exam or through passing an advanced literature course with the literature in its original language. Students in Creative Writing may either fulfill the foreign language requirement or take five additional credits in literature, criticism or rhetoric. See the graduate director in English for details.

Comprehensive Examination

Students must pass a written comprehensive final examination in their concentration. For details, see the *Graduate Program Guidelines*, a copy of which may be obtained from the director of graduate studies in English.

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 examination 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)

The Department of Foreign Languages and Literatures is currently preparing and will seek approval of a master's degree oriented to foreign language/second language teaching. This degree is expected to be in effect prior to the summer of 1990. It is anticipated that the master's degree will include courses in the following areas:

1. Application of modern technology to teaching.
2. Methods of foreign language teaching.
3. Linguistics and second language acquisition.
4. Culture/literature through film and text.

The program, when implemented, can be completed in three summer sessions and is designed for teachers of French, German, Spanish, Chinese and Japanese. Segments of the program also will be useful to teachers of English as a Second Language.

Geography & Regional Planning

College of Arts and Sciences

GRADUATE FACULTY

Buckley, Patrick H., PhD, economic and development geography, quantitative methods.

Mahacek, Virginia L., ABD, physical geography, climatology, soils, mountain environments, quaternary environments.

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)

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. Debnath Mookherjee

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, govern-

ment, 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 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.

Engeretsen, D. C., PhD, tectonics, paleomagnetism.

Hansen, T.A., PhD, paleontology.

Kelsey, H. M., PhD, hydrology, geomorphology.
 Schwartz, M. L., PhD, coastal processes,
 science education.
 Suczek, C. A., PhD, stratigraphy, sedimentary
 petrology, tectonics.
 Talbot, J. L., PhD, structural geology, tectonics.
 Wodzicki, A., PhD, economic geology,
 geochemistry.

M.S. — GEOLOGY, THESIS ONLY

Program Adviser:
 Dr. James L. Talbot

Prerequisites

Students with a degree in geology, earth sciences or other discipline who meet the requirements of the Graduate School and who show evidence of superior scholarship are invited to apply for admission to the graduate program in geology. All entering students must have a thorough knowledge of physical geology and must have completed, or plan to complete, a recognized geological field camp. They must also have completed, or plan to complete, one year each of math (which may include computer science and statistics), physics and chemistry. Deficiencies must be made up early in the graduate program and before being advanced to candidacy.

Specific Test Requirements

Graduate Record Examination, General and Subject in Geology; Department Comprehensive Examinations are given in the first week of fall quarter to assess student's preparedness to take graduate courses in their proposed areas of specialization.

Basic Requirements of Specialization
 45 credits; 35 or more credits of 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 (3) and Geol 595 (total of 3).

Electives in Specialization

Geology and supporting courses are

selected under advisement through the program adviser and thesis committee chair. Students intending to study the specialties offered by the department also will be expected to be knowledgeable in the subjects under one of the speciality areas listed below:

Petrology, geochemistry, structure, or economic geology: Mineralogy, petrology and thin-section petrography, structural geology, and stratigraphy/sedimentation.

Geophysics: Mineralogy, petrology (without thin-section petrography), structural geology, stratigraphy and sedimentation, and have had at least one course in geophysics.

Hydrology or applied geology: Mineralogy, geomorphology, stratigraphy and sedimentation, and geophysics.

Stratigraphy/sedimentation: Historical geology, mineralogy, petrology, structural geology, stratigraphy and sedimentation, and paleontology.

Paleontology: Historical geology, paleontology, stratigraphy and sedimentation, and zoology.

Geomorphology: Mineralogy, petrology (without thin-section petrography), geomorphology, stratigraphy and sedimentation, and structural geology.

Specialization should be made as early as possible in the student's graduate career.

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, geo-

Graduate School

graphy, 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

- Christelow, Stephanie E., PhD, ancient and medieval history.
- 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.
- Gallay, Alan, PhD., colonial America.
- Helfgott, Leonard M., PhD, modern Middle East.
- 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.
- 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.
- 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 Resources Administration
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. James B. Rhoads

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):

Option A Thesis: Basic Requirements

Hist 501, 502 [I:8]
Hist 690a,b,c (thesis) [I:12]
Three reading seminars* [I:12]
Elective courses [I:13]

Note: The thesis option requires the writing of a comprehensive examination 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 [II: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 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).

**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.*

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 595	[I:6]
Hist 596 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.

Graduate School

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 RESOURCES ADMINISTRATION (NON-THESIS OPTION)

Program Director:

Dr. Harry D. Jackson

The Department of History offers a graduate level program leading to a specialization in historical resources administration. 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.
Clarke, David E., PhD, political science, environmental policy.
Lacher, Thomas E., PhD, terrestrial ecology, behavioral ecology.
Matthews, Robin, PhD, stream ecology, watershed management.

- Mayer, J. Richard, PhD, aquatic chemistry, ground water studies.
Robbins, Lynn A., PhD, social impact assessment.
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, biochemical toxicology.

M.S. — ENVIRONMENTAL SCIENCE, THESIS ONLY

Program Adviser:

Chair, Huxley College 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 (see description below).

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.

An application for admission into the M.S. program in environmental science must include a 1-2 page statement of purpose, explaining why the applicant wishes to pursue graduate studies in environmental science and what the applicant's future expectations are for the M.S. degree.

Specific Test Requirements
Graduate Record Examination — General Test

Program Requirements
Forty-five (45) credits minimum; 21 or more credits, including Envr 501, of Huxley graduate coursework; 12 or more credits of an approved distribution of graduate courses from other Colleges at WWU; 12 credits of Envr 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. — BIOLOGY (ENVIRONMENTAL BIOLOGY), 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), THESIS ONLY

Curriculum Coordinators:
Chair, Huxley College Graduate Committee; Dr. Richard W. Thompson, Psychology

The behavioral toxicology curriculum is a joint offering of Huxley College 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; Envr 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:

Envr 501, 538, 550, 556, 457/557, 690.
Suggested electives: Envr 500, 517; Biol 408, 577.

Psych 501-503, 511-513. Suggested electives: Psych 556 and 559.

M.S. — ENVIRONMENTAL SCIENCE (ENVIRONMENTAL CHEMISTRY), THESIS ONLY

Program Advisers: Chair, Huxley College Graduate Program Committee; Graduate Program Adviser, Chemistry Department

Huxley College of Environmental Studies and the Department of Chemistry administer a cooperative program leading to the M.S. in environmental science (environmental chemistry specialization) or the M.S.

Graduate School

in chemistry (environmental chemistry specialization). Emphasis is on application of chemical principles, methods and concepts to the understanding and potential solution of certain environmental problems. Applicants must indicate which department they wish to be based in.

Students pursuing a master's degree with a specialization in environmental chemistry will normally take course work distributed in the following manner: Huxley College, 12 credits; Chemistry Department, 21 credits; thesis research (Huxley and/or chemistry), 12 credits (total: 45).

Undergraduate and transfer course limitations are the same as those for the environmental science M.S. program.

Fulfillment of program requirements for specialization in environmental chemistry must include satisfactory completion of at least one course from the following: Envr 530, 531, 550, 551, 556.

In addition, certain chemistry background courses are required (see the Chemistry Department graduate program description).

M.A. — POLITICAL SCIENCE (ENVIRONMENTAL STUDIES), THESIS ONLY

Curriculum Coordinators:

Dr. David E. Clarke, Political Science
Dr. Lynn A. Robbins, Huxley College of Environmental Studies

The political science/environmental studies curriculum is a joint offering of the Political Science Department and Huxley College of Environmental Studies. The program is limited to five new admissions per year.

Prerequisites

Completion of a bachelor's degree. Admission subject to faculty approval acting on the recommendation of an enlarged Graduate Committee consisting of the Political Science

Graduate Committee and two members of the Huxley College faculty. Students who have insufficient background in environmental studies or political science will be required to take such preliminary course work as is deemed necessary.

Students must complete the following requirements for the M.A. in political science/environmental studies:

Pol Sci 501, 502, 503, 560b, 690
Envr 418, 464, 503, 534, 536.

M.S. — ENVIRONMENTAL SCIENCE (MARINE AND ESTUARINE SCIENCE), THESIS ONLY

Curriculum Coordinator:

Dr. Stephen D. Sulkin
Shannon Point Marine Center

The marine and estuarine science option is a joint offering of Huxley College, the Department of Biology and the Shannon Point Marine Center. The option is designed to provide focus on local coastal marine environments and biota. The curriculum requires a minimum of 45 credits of course work, including 12 credits of thesis research, and the completion of a thesis based on original research in an area of specialization relevant to the marine sciences. Students will be expected to show proficiency in two topics before advancement to candidacy: (1) an understanding of regional marine and estuarine environments, biota and topical management issues, and (2) an understanding of fundamental biological and chemical oceanographic processes.

Prerequisites

Students matriculated through Huxley College must meet the prerequisites for admission described in the environmental science M.S. option.

For further information, write to Dr. Stephen Sulkin, director, Shannon Point Marine Center, Anacortes, WA 98221.

Mathematics

College of Arts and Sciences

GRADUATE FACULTY

Chalice, Donald R., PhD, complex function spaces and associated measures.
 Curgus, Branko, PhD, differential equations, operator theory.
 Filliman, M. Paul, PhD, geometry.
 Hartsfield, Nora, PhD, graph theory.
 Jewett, Robert I., PhD, harmonic analysis.
 Johnson, Jerry L., PhD, mathematics education.
 Levin, Richard G., PhD, numerical analysis (numerical linear algebra).
 Lindquist, Norman F., PhD, coding theory, partition theory.
 Read, Thomas T., PhD, ordinary and partial differential equations.
 Reay, John R., PhD, combinatorial geometry and convexity.
 Shen, Yun-qiu, PhD, nonlinear differential equations numerical analysis.
 Watkins, Gavin G., PhD, optimization, control theory.
 Woll, John W., PhD, algebra and probability.
 Ypma, Tjalling J., DPhil, numerical analysis.

M.S. — MATHEMATICS, THESIS OR PROJECT

Program Adviser: Dr. John R. Reay

Specific Test Requirements

Graduate Record Examination, General Test.

GRADUATE DEGREE STATUS (DEPARTMENTAL REQUIREMENTS)

To be eligible for admission to the M.S. program in mathematics a student should have completed at least the following courses or the equivalent with grades of "B" or better: Math 224, 304, 312, 331, CS 210 and two courses at the 400 level.

A student who has not completed all of these courses but who can demonstrate strong promise of the ability to succeed in the program may be admitted with special stipulations. In this case, the graduate adviser will, in consultation with the student, specify

the conditions to be satisfied by the student in order to fully qualify for the program.

Requirements — Thesis or Project Options

The student's program must include at least 45 quarter hour credits and a thesis (thesis option) or 48 credits (project option) of approved course work. At most, 10 credits at the 400 level can be included in this total. The following mathematics courses are required for graduation: 523, 524, 525, and one course from each of the following four lists: (1) 502, 503, 505, 508, 564; (2) 518, 520, 539; (3) 535, 542; (4) 573, 574, 575, 576.

A student who has not completed a senior-level course in one or more of the following areas also will be required to include the indicated course or courses as part of his or her program: abstract algebra (401), second course in ordinary differential equation (432), complex analysis (538), probability or statistics (541).

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.

Project Option

A student who does not write a thesis

must complete a non-thesis project. Two credits toward the degree will be awarded upon successful completion of the project which will involve both an oral examination on the subject of the project and a colloquium presentation to the mathematical community. See the departmental graduate handbook for additional details.

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

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.
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.
Wallace, David, DMA, conducting, instrumental music, percussion, bands.
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) [12]
Music 503 [4]
Music 532 and 533 [6]
Music 690 Thesis [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 [12]
Electives [5]

History and Literature Concentration
Music 443 (select two) [6]
Music 441 [3]
Music 540 (for three quarters) [6]
Music 550 [3]

Performance Concentration
Elect one of the following courses in each of three quarters:
Music 474, 475, 478, 481, 483, 540 [6]
Music 511, 512, 513, 514 or 515 [9]
Electives [2]

Conducting Concentration (Choral Conducting, Orchestral Conducting, Band Conducting)

Conducting Studies [9-17]
 Music 501, 502 and approved 400-level and/or 500-level course(s)

Basic Musicianship [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 [0-9]
 Music 511-515 and/or approved 411-418 course(s)

Ensemble [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 [6-9]
 Music 501, 502, 525 or any approved 400-level course(s)

Basic Musicianship [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 [0-9]
 Music 511-515, or approved 411-418

Ensemble [0-9]
 Approved 400-level or 500-level ensemble course(s)

Guided Electives in Professional Education in Departments of Education or Psychology [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

GRADUATE FACULTY

- Barrett, W. Louis, PhD, physics.
 Christman, Robert A., PhD, geology.
 Dallas, Lee A., EdD, educational curriculum and instruction
 Flora, Charles J., EdD, biology.
 Miller, John A., PhD, chemistry.
 Nickelson, Alden L., PhD, educational curriculum and instruction.
 Parakh, Jal S., PhD, biology.
 Schwartz, Maurice L., PhD, geology, educational curriculum and instruction.
 Slesnick, Irwin L., PhD, biology
 Stewart, James E., PhD, physics.
 Whitmer, John C., PhD, chemistry.

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

Prerequisites

Students applying for admission to the natural science/science education M.Ed. program are normally expected to have a teaching certificate and have completed at least one year of teaching in the K-12 system prior to the quarter they will enter the program. Exceptions are made on a case-by-case basis for those applicants having other types of teaching experience or other specific positions for which this degree program would provide obvious benefits.

- 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 or Geology (earth science) for applicants selecting either of these options.

Specializations -- Secondary Programs

Biology, Thesis and Non-Thesis
 Requirements in specialization
 Biol 690 or Sci Ed 690 [I:6-9]
 Sci Ed 598 [II: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]
 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:6]
 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.

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.

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 [II:6]

Electives

Courses selected under advisement from science education, education, biology, chemistry, geology or physics and related fields [II:8-16]

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.

Clumpner, Roy, PhD, socio-cultural aspects of physical education, and pedagogy.

Knutzen, Kathleen, PhD, biomechanics/kinesiology.

Vernacchia, Ralph, PhD, sport psychology/socio-cultural aspects of physical education and sport.

Wenos, Jeanne, PED, adapted physical education/motor learning.

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).

Program Advisers: Dr. Chappelle Arnett, Dr. Lorraine Brilla, Dr. Roy Clumpner, Dr. Kathleen Knutzen, Dr. Ralph Vernacchia, Dr. Jeanne Wenos.

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 [47-53]

Exercise Science Option B [51-56]

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 (2-4 cred-

Graduate School

its); 592 (2-6 credits); 690a or b (6 credits); EdAF 501*, 512, 513

[37-43]

Electives in Option A — Select 10 credits under advisement, of which six must be from the following: PE 509, 531, 540, 541, 542, 543

Requirements in Option B — Exercise Science:

PE 506, 520, 540, 543, 690a (6-9 credits); EdAF 501*, 512, 513 [32-37]

Electives in Support Areas of Option B:

Select 19 credits under advisement from the following: PE 502, 507, 510, 511, 513, 533, 541, 542, 544, 592

*EdAF 501 must be taken within the first 15 hours of graduate study and before EdAF 512 and 513.

Political Science

College of Arts and Sciences

GRADUATE FACULTY

Alper, Donald K., PhD, American politics, political process, Canadian politics.

Clarke, David E., PhD, political theory, environmental politics.

Foisy, Maurice H., PhD, political theory, policy, methodology.

Hogan, Eugene J., PhD, public law

Hoover, Kenneth R., PhD, political theory, comparative public policy, ideology.

Johnson, Vernon D., PhD, comparative politics, development in the Third World.

Miner, Ralph E., PhD, public policy and administration, political economy, 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 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:

<i>Fields</i>	<i>Basic Courses</i>
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.

M.A. — POLITICAL SCIENCE (ENVIRONMENTAL STUDIES), THESIS ONLY

Curriculum Coordinators:

Dr. David E. Clarke, Political Science
Dr. Lynn A. Robbins, Huxley College of Environmental Studies

The political science/environmental studies curriculum is a joint offering of the Political Science Department and Huxley College of Environmental Studies. The program is limited to five new admissions per year.

Prerequisites

Completion of a bachelor's degree. Admission subject to faculty approval acting on the recommendation of an enlarged Graduate Committee consisting of the Political Science Graduate Committee and two members of the Huxley College faculty. Students who have insufficient background in environmental studies or political science will be required to take such preliminary course work as is deemed necessary.

Students must complete the following requirements for the M.A. in political science/environmental studies:

Pol Sci 501, 502, 503, 560b, 690
Envr 418, 464, 503, 534, 536

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.

Graduate School

- 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.
- Lewis, Arleen C., PhD, school counseling, educational psychology, clinical.
- 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 issues, sex therapy.
- Taylor, Christopher, PhD, industrial organizational, general experimental
- Taylor, Saundra 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

Program Adviser: Dr. Arleen Lewis

The M.Ed. school counseling program prepares professional counse-

lors for employment in educational settings and is designed for those students intending to apply for the state certificate in guidance and counseling at the elementary and secondary levels. Certification as a public school teacher is *not* required for admission to the program.

The program contains a thesis option for those students interested in pursuing a research project related to the degree program.

Maximum student enrollment in the program is limited and students are encouraged to send completed application materials by March 15. All prerequisites must be completed prior to fall quarter enrollment. Documentation of personal suitability of applicants for counseling is required through statements of personal commitment, letters of reference and interviews where possible.

Prerequisites

Courses in general psychology, research methods in psychology or education, and psychology of learning, or a background in professional education.

Specific Test Requirements

Graduate Record Examination, General; and Subject in either Psychology or Education.

Course Requirements

Psych 502, 504, 532, 551,
553, 554, 555, 557, 558,
561, 564 [I and II:42]
EdAF 501, 512, 513 [I and II:12]
Psych 570 (6-9), 670 (18-21)
[I and II:24-30]
Psych 690 (for those students taking
the thesis option) [I:1-6]

Written Examinations

All students are required to write an area comprehensive examination; for information, contact the program adviser. Students in the non-thesis option are also required to write a general education comprehensive exam; information is available in the Graduate School Office.

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.

Applicants to the M.S. clinical/counseling program are strongly encouraged to submit their application materials by March 25. The deadline for application to the general curriculum is June 1 (for fall quarter, dead-

line established by the Graduate School); however, any applicant who wishes to be considered for a graduate teaching assistantship should meet the March 25 deadline.

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,

Graduate School

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 course requirements for students in the general curriculum (Psych 501-503, 508, 511-513, 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

This 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, 510, 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 1989-91. For further information contact Dr. Marcia Lippman.

M.S. IN PSYCHOLOGY — BEHAVIORAL TOXICOLOGY OPTION

Curriculum Coordinators:
Dr. Richard W. Thompson,
Psychology
Chair, Huxley Graduate Program
Committee

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. James Inverarity, Graduate Program Adviser, Department of Sociology, Western Washington University, Bellingham, WA 98225 (206) 676-3006.

M.A. — SOCIOLOGY, THESIS ONLY

Program Adviser:

Dr. James Inverarity

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:

Graduate School

(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 Pathology & Audiology

College of Arts and Sciences

GRADUATE FACULTY

- McRandle, Carol C., PhD, audiology, aural rehabilitation.
- Polen, Samuel B., PhD, speech-language pathology, speech science.
- Seilo, Michael T., PhD, audiology, aural rehabilitation, experimental phonetics.
- Webb, Loren L., PhD, audiology, aural rehabilitation.
- Zeine, Lina, PhD, speech-language pathology.

M.A. — SPEECH — LANGUAGE PATHOLOGY AND AUDIOLOGY

Options: Thesis or Non-Thesis

Graduate Coordinator:

Dr. Samuel B. Polen

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 (General) must be completed satisfactorily.

Basic Requirements for all SPA graduate students

SPA 502	(4)
SPA 551	(3)
SPA 561	(3)
SPA 690 (Thesis)	(6-9)
or	
SPA 691 (Non-Thesis)	(3)

Requirements in Specialization

1. Speech-Language Pathology
 - 51 credits
 - a. *Requirements:* In addition to basic requirements, the student must complete SPA 550, 552, 553, 554, 555, 556, 558, 568a, 598a*, 599a*.
 - b. *Electives:* SPA 455, 465, 465a, 466, 506, 510, 559, 560, 563, 564, 567, 568b,c, 570, 571, 574, 575, 575a, 592, 596, 598b*, 599b* and other 400-, 500-, and 600-level courses selected under departmental advisement.
2. Audiology and Aural Rehabilitation
 - 51 credits
 - a. *Requirements:* In addition to basic requirements, the student

must complete: SPA 466, 558, 562, 563, 564, 565, 566, 568a,b,c, 571, 574, 598a* or 599a*

- b. *Electives*: SPA 455, 465, 465a, 506, 510, 553, 555, 559, 560, 567, 570, 572, 575, 575a, 577, 592, 596, 598b*, 599b*, and other 400-, 500-, and 600-level courses selected under departmental advisement.

**Although the internship courses (598a,b; 599a,b) are 8 credits each, only a total of 6 credits can apply toward the M.A. degree (3 credits of 598a and 3 credits of 598b or 3 credits of 599a and 3 credits of 599b). The student registers for 8 credits per course.*

Clinical Competence

In addition to meeting academic requirements, students specializing in speech-language pathology and audiology must demonstrate satisfactory competence in diagnostic and clinical practicums. Refer to course description for additional information.

Students are permitted to retake a clinical practicum only once. If a satisfactory grade 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 the student 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 Examination and Thesis/Non-thesis Oral Defense

A six-hour written comprehensive examination is required and covers the student's area of specialization(s) and graduate program up to the time of the examination. A minimum of 36 graduate credits must be completed before the comprehensive can 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. For details regarding the comprehensive examination and oral defense, the student should consult the graduate coordinator.

Professional Certification Requirements

All students seeking certification as a Communication Disorders Specialist (ESA-CDS) in the public schools in the State of Washington must successfully complete a minimum of two quarters of public school internship in order to satisfy the Professional Education Advisory Board's 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 Internship Program director, or the graduate adviser.

The American Speech-Language-Hearing Association (ASHA) requirements for Certification of Clinical Competence in Speech-Language Pathology or Audiology stipulate the completion of 300 clock hours of practicum, 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 *ASHA Membership and Certification Handbook* for details.

Theatre/Dance

College of Fine and Performing Arts

GRADUATE FACULTY

Catrell, Dennis E., MA.
Gregory, William A., PhD.
O'Reilly, Maureen, MFA.
Ward, Thomas, MFA.
Vander Yacht, Douglas R., PhD.

M.A. — THEATRE

Program Adviser:

Dr. William A. Gregory

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 specialties. The first course in each specialty (*italicized*) is called the "Key Course" in that specialty.

Acting

560, 561, 690 (I) or 691 (II) and 595 (II), and one Key Course outside specialty.

Creative Education

550, 551, 690 (I) or 691 (II) and 595 (II) and one Key Course outside specialty.

Design/Technical Theatre

511, 512, 690 (I) or 691 (II) and 595 (II), and one Key Course outside specialty.

Directing

571, 572, 690 (I) or 691 (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, 690 (I) or 691 (II) and 595 (II), and one Key Course outside specialty.

Playwriting

585, 586, 690 (I) or 691 (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 lan-

guage 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/Cellular & Molecular Biology	BS
Biology/Chemistry	BA/Ed
Biology/Mathematics	BS
Canadian-American Studies	BA
Chemistry	BA, BS, MS
Chemistry/Mathematics	BA/Ed
Chemistry/Physics	BA/Ed
Classical Studies	BA
Communication	BA, BA/Ed
Communication/English	BA/Ed
Community Health	BS
Computer Science	BA/Ed, 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/Theatre	BA/Ed
English: Writing Concentration	BA
Environmental Engineering Geology	BS
*Fashion Marketing	BA
Foreign Languages (French, German, Spanish)	BA
(French, German, Spanish)	BA/Ed
(French, German, 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
 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
Psychology	BA, BA/Ed, M/Ed, MS
Psychology-Industrial	BA
Recreation	BA
School Health Education	BA/Ed
Science Education	M/Ed
Social Studies	BA/Ed
Sociology	BA, BA/Ed, BS, MA
Speech Pathology & Audiology	BA, MA
Student-Faculty Designed Major	BA, BA/Ed, BS
Technology Education	BS
Terrestrial Ecology	BS
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.

**Upper division major available only in Seattle.*

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. Joyce Hammond	Anthropology
Dr. June R.P. Ross Tay or	Biology
Dr. Mark L. Wicholas	Chemistry
Dr. Larry S. Richardsor	Communication
Dr. Larry D. Menninga	Computer Science
Dr. Ken M. Symes	English
Dr. Rudolf Weiss ...	Foreign Languages & Literatures
Dr. Debnath Mookherjee	Geography & Regional Planning
Dr. James L. Talbot	Geology
Dr. Harry D. Jackson	History
Dr. Rosalie R. King ...	Home Economics
Lyle E. Harris	Journalism
Dr. William Stoeber	Liberal Studies
Dr. Thomas T. Read	Mathematics
Dr. Hugh Fleetwood	Philosophy
Dr. Ronald D. Riggins	P.E., Health/Recreation
Dr. Robert J. Quigley	Physics/ Astronomy
Dr. Kenneth R. Hoover	Political Science
Dr. Richard W. Thompson . .	Psychology
Dr. John G. Richardsor	Sociology
Dr. Loren L. Webb ...	Speech Pathology/ Audiology
Dr. Richard F. Vogel	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 Continuing Education 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 subdisciplines.

1. Archaeology attempts to reconstruct the past through a study of material remains of 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, the cultural anthropologist does cross-

cultural comparisons to test generalizations about human behavior.

Utilizing ethnographic, ethnological and ethnohistorical tools as well as information supplied by these subdisciplines, the anthropologist does comparative studies of 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

JOYCE HAMMOND, (1984) Chair.

Associate Professor. BA, MA, Brown University; PhD, University of Illinois.

DANIEL L. BOXBERGER (1983) Associate Professor. BA, The Evergreen State College; MA, Western Washington University; PhD, University of British Columbia.

- SARAH K. CAMPBELL (1988) Assistant Professor. BA, Indiana University; MA, PhD, University of Washington.
- LINDA AMY KIMBALL (1976) Associate Professor. BSEd, MA, PhD, Ohio State University.
- JAMES LOUCKY (1989) Assistant Professor. BA, Haverford College; MA, PhD, University of California, Los Angeles.
- ROBERT C. MARSHALL (1985) Associate Professor. BA, Youngstown State University; PhD, University of Pittsburgh.
- JOAN C. STEVENSON (1979) Associate Professor. BA, University of Washington; MA, PhD, University of Wisconsin-Milwaukee.

BACHELOR OF ARTS

Major — Anthropology

65 credits

- Anth 201
- At least one course each in physical anthropology, archaeology, and linguistics (Linguistics 201 may be substituted for an anthropological linguistics course)
- Anth 301
- Anth 335, or another basic statistics course under departmental advisement
- Anth 470 or 471 or 427 (where appropriate an internship, practicum, or archaeological methods course may be substituted under advisement)
- At least 5 credits from the following: Anth 330, 351, 353, 424, 429, 430, 481
- At least 5 credits from the following: Anth 361, 362, 364, 425, 462, 463, 464

Student selection of a complementary minor under advisement is strongly recommended.

Archaeology Concentration

77 credits

This concentration is intended for students who plan to do professional work or enroll in a graduate program in archaeology.

- Anthropology major requirements as noted under major requirements
- Anth 210, 308, 310
- Two from the following courses: Anth 406, 409, 410
- Anth 312, 420 and 428 strongly recommended
- Elective credits in anthropology to complete the 65-credit anthropology major requirement
- 12 credits of supporting courses in the sciences or mathematics selected under advisement. Strongly recommended courses include: Geol 310, 413; Geog 351, 352, 354, 356, 432, 456

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 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, 348, 351, 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

An anthropology major who wishes to graduate with honors must demonstrate a reading knowledge of a foreign language and submit a senior thesis. Students in the university honors program must also satisfy these departmental requirements.

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 37-38 of this catalog.

- 102 INTRODUCTION TO HUMAN ORIGINS (5)
Human origins drawn from the fossil and archaeological records. Problems of human physical diversity and prehistoric cultural diffusion explored.
- 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.
- 210 INTRODUCTION TO ARCHAEOLOGY (5)
The historical roots and current goals of archaeology. Principles of archaeological inference, including formation of the archaeological record, data collection and analysis, and interpretive frameworks.
- 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.
- 308 HUNTER-GATHERER SOCIETIES IN WORLD PREHISTORY (4)
Prereq: Anth 102, 201 or 210. The archaeological remains of hunting-gathering groups from early hominids to modern times interpreted in terms of evolution of adaptive strategies. Relationship to agriculture as an adaptive strategy will be emphasized. Contributions of studies of modern hunter-gatherer groups will be discussed.

- 310 **THE RISE OF CIVILIZATIONS (4)**
 Prereq: Anth 102, 201, 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.
- 312 **FIELD COURSE IN ARCHAEOLOGY (12)**
 Prereq: Anth 102, 201, or 210 or equivalent and permission of instructor. On-site training in methods and techniques of archaeological survey and excavation.
- 314 **ARCHAEOLOGY OF NORTH AMERICA (5)**
 Prereq: Anth 102, 201, or 210. 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.
- 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.
- 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.
- 396a,b,c **HONORS TUTORIAL (3-5 ea.)**
- 406 **ARCHAEOLOGICAL METHOD AND THEORY (5)**
 Prereq: Anth 210 or 301 and 5 additional credits in archaeology. History of theory and method in North American archaeology and the legacy of earlier goals. Current goals and the development of appropriate theory, method, and empirical applications.
- 409 **ARCHAEOLOGICAL FIELD METHODS: PLANNING AND DESIGN (3)**
 Prereq: Anth 210 and 312 or senior status. Design of archaeological data collection strategies including sampling, systematic regional survey, systematic surface collection, remote sensing and excavation. Field experience in non-destructive survey methods.
- 410 **ARCHAEOLOGICAL ANALYSIS AND INTERPRETATION (5)**
 Prereq: Anth 102, 201, or 210 and 10 credits in anthropology at the 300 level. Archaeological laboratory methods; artifact identification, classification, measurement; map reproduction, soil and feature profiles, use of photographs and other graphic methods.
- 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 ethnohistorical evidence.

Anthropology

- 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 102 or 215 and a 300-level course in anthropology, biology or geology. 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 (3)**
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
- 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.
- 428 CULTURAL RESOURCE MANAGEMENT (4)**
Prereq: at least 10 credits from the 300-level course offerings in anthropology, history and/or Huxley. Introduction to the field of cultural resource management including historic preservation, archaeological resource management, cultural resource management for subsistence and spiritual practices. Background on legislation and current practices, review of case studies and experience with actual projects.
- 429 POLITICAL ANTHROPOLOGY (3)**
Prereq: Anth 201. Political anthropology examines how collective action is possible in societies without centralized authority. It considers problems of order, action and representation in non-state societies, and the question of the origins and spread of state societies.
- 430 ECONOMIC ANTHROPOLOGY (3)**
Prereq: Anth 201. Comparative analysis of production, distribution and consumption in preindustrial and peasant societies. Emphasis on relations of economic sphere to other aspects of society and problems of development in the postcolonial 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 (4)**
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.
- 470 CURATORIAL METHODS IN ANTHROPOLOGY (5)**
Prereq: Anth 301 or 335 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.

471 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

481 CHILDHOOD AND CULTURE (3)

Prereq: 10 credits in anthropology. The process of socialization or enculturation viewed from a cross-cultural perspective.

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)

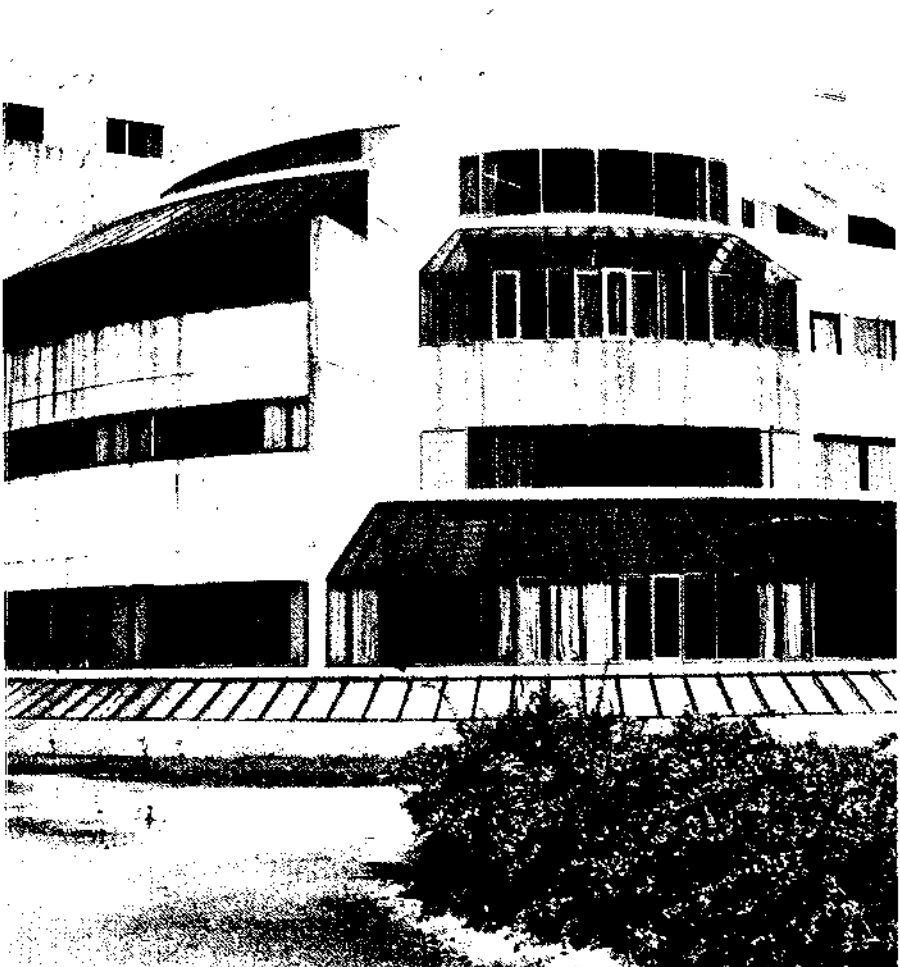
Graduate Courses

Courses numbered 500; 517; 545; 597 are described on page 37-38 of this catalog.

Admission to Graduate School or special permission required. See Graduate School section of this catalog.

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.



Anthropology

- 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.
- 506 **ARCHAEOLOGICAL METHOD AND THEORY (5)**
Prereq: graduate status and 10 credits in archaeology. History of theory and method in North American archaeology and the legacy of earlier interpretive frameworks. Current goals of the discipline and the development of appropriate theory, method and empirical applications.
- 520 **HUMAN OSTEOLOGY (5)**
Prereq: graduate status and permission of department. Advanced study of human osteology. The latest methods in reconstruction of the individual will be taught.
- 523 **SEMINAR: NEW WORLD PREHISTORY (3)**
Prereq: Anth 503, 504 and permission of instructor. 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.
- 525 **PRIMATE EVOLUTION (5)**
Prereq: graduate status and permission of the department. Advanced study of primate paleontology. Each student will be expected to become expert on some aspect of the fossil record.
- 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.
- 529 **POLITICAL ANTHROPOLOGY (3)**
Prereq: graduate status. Advanced cross-cultural examination of the principles on which order is legitimated to experience an analysis of circumstances under which it is not, to include societies with and without agencies monopolizing intrasocietal violence.
- 531 **ECONOMIC ANTHROPOLOGY (3)**
Prereq: graduate status. Advanced analysis of production, distribution and consumption in preindustrial and peasant societies. Emphasis on relations of economic sphere to other aspects of society and problems of development in post-colonial world.
- 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."
- 535 **PUBLIC ARCHAEOLOGY PRACTICUM (5)**
Prereq: graduate status. Practical experience in planning and executing cultural resources management projects including development of proposal, budget and logistical plans. Professional accountability and cooperation will be emphasized through teamwork, peer review, and interaction with governmental agencies and public groups.
- 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.
- 553 **SEMINAR IN WOMEN'S ROLES (4)**
Prereq: graduate status or permission of instructor. Advanced study of women's statuses/roles in selected cultures. Assessment of various explanatory models.
- 571 **FIELDWORK METHODS IN CULTURAL ANTHROPOLOGY (5)**
Prereq: graduate status or permission of instructor. The advanced study of ethnographic fieldwork methods through exercises in class and a major fieldwork project in the community. Discussion of topics including the anthropologist as fieldworker and the ethics of fieldwork. Students will make a special presentation to the class.
- 690 **THESIS (1-12)**
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

Biology

education, psychology, political 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 college 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

JUNE R. P. ROSS (1967) Chair. Professor. BSc, PhD, DSc, University of Sydney, Sydney, Australia.

- HERBERT A. BROWN (1967) Associate Professor. BA, University of California, Los Angeles; PhD, University of California, Riverside.
- 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) 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.
- 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.
- RONALD J. TAYLOR (1964) Professor. BS, Idaho State College; MS, University of Wyoming; PhD, Washington State University.
- CAROL TRENT (1989) Assistant Professor. BS, Indiana University; PhD, Massachusetts Institute of Technology.
- 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.
- Gayle I. Hansen
AB, University of Connecticut; MS, University of Vermont; PhD, University of North Carolina
- Frederick M. Rhoades
BA, Swarthmore; MS, Oregon State University; PhD, University of Oregon
- Carl L. Withner
AB, University of Illinois; MA, PhD, Yale University

Adjunct Professor

- Stephen. Sulkin
AB, Miami University; MS, PhD, Duke University

BACHELOR OF ARTS

Major — Biology

50 credits plus Supporting Courses

Basic biology emphasis

- Bio1 121, 123, 210, 211, 212,
 - Electives to total 50 credits in biology selected with approval of major adviser
 - Chem 115, 251 or equivalent
- (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

Biology

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.

Course Requirements at WWU:

- Biology courses: Biol 121, 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; Comm 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

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 325, 465, 469, and 485; Anth 420, 423, 424, any "Peoples" courses relevant to the student interests

(J. Stevenson, Anthropology, and Herbert Brown, Biology, advisers)

BACHELOR OF ARTS IN EDUCATION

Combined Major — Biology/ Chemistry

111-112 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, 123, 210, 211, 212, 321, 325, 490
- Biol 485 or Sci Ed 410
- Sci Ed 491 and 492
- Math 124, 125 (for Option a)
- Physics 131, 132, 133 (or 241, 242, 341, 351)

(I. Slesnick, adviser)

NOTE: This major meets the requirements for Washington state 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 — Biology 110 credits

- Biol 121, 123, 210, 211, 212, 321, 323 (or Chem 471, 472), 325, 340, 474, 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)

Interdisciplinary Major — Cellular and Molecular Biology/ Biochemistry

For biochemistry emphasis see Chemistry Department section of catalog for details.

*Cellular and molecular biology
emphasis* 110 credits

- Biol 121, 123, 211, 212, 321, 322, 340, 345, 470, 471, 472, 473, 474, 475
- Chem 121, 122, 123, 333, 351, 352, 353, 354
- Math 124, 125
- Physics 241, 242, 341, 351

This program is specifically designed for students who seek employment or graduate study in cellular biology, molecular biology, or biochemistry.

(D. Schwemmin, adviser)

Combined Major — Biology/ Mathematics 110 credits

- Biol 121, 123, 210, 211, 212, 321, 323, 325
- Biol 473 or 490
- Math 124, 125, 126, 204, 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, tak-

ing 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 — Marine Biology

110 credits

- Biol 121, 123, 210, 211, 212, 321, 325, 340, 403, 406 (or Envr 321a & b), 407 (or Envr 421a & b), 456, 461
- Chem 121, 122, 123, 251, 333 (or Envr 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, 461, 462, 490 Envr 430, 431, 446, 456

(J. Ross and D. Schneider, advisers)

Combined Major — Biology/ Huxley — Terrestrial Ecology 110 credits

- Biol 121, 123, 210, 211, 212, 321, 452, 490
- Biol 340
- Biol 403 or 479
- Ecology Core: Biol 325, 404; Envr 430, 431
- Chem 121, 122, 123, 251
- Chem 333 or Envr 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 Envr 321a,b are recommended for students

Biology

who wish to get a background in marine ecology

(R. Fonda, adviser)

Combined Major — Biology/ Huxley — 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
- Envr 361 or Chem 333
- Biol 402 or Envr 430
- Envr 432 or 434
- Geol 472
- Envr 433

Twenty credits of electives to be selected from one or more of the following topic areas:

- Watershed Processes
- Envr 438, 439, 446
- Geol 310, 473
- Geog 331, 431, 456
- Math 125

Environmental Chemistry

- Envr 456, 458, 462
- Geol 460, 461
- Math 125

Ecology

- Envr 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 13 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 37-38 of this catalog.

101 PRINCIPLES OF GENERAL BIOLOGY (4)

Prereq: Math 102; or math placement test. 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)

Prereq: Math 102; or math placement test. Evolutionary trends and processes; organismal variation exemplifying evolutionary lineages.

122 BIOLOGY OF ORGANISMS (4)

Prereq: Biol 101 or 121. 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)

Prereq: Biol 121; prior coursework in chemistry recommended. The structure of biological molecules and macromolecules; cell structure and organization; energy production and utilization; the synthesis of DNA and proteins.

201 MUSHROOMS, MOLDS AND MOSSES (3)

Prereq: Biol 101. Recognition, life history, ecological relationships and distribution, and evolutionary trends of representative organisms.

- 202 FLOWERING PLANTS, CONIFERS AND FERNS (3)
Prereq: Biol 101. Recognition, life history, ecological relationships and distribution, and evolutionary trends of representative organisms.
- 205 MARINE BIOLOGY (3)
Prereq: Biol 101. Recognition, life history, ecological relationships and distribution, and evolutionary trends of representative organisms.
- 210 THE BIOLOGY OF LOWER ORGANISMS (5)
Prereq: Biol 121 and 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 CORAL REEF BIOLOGY (5)
Prereq: Biol 205 or equivalent. A field study of the systematics and ecology of tropical coral reef organisms.
- 308 BIOLOGICAL ILLUSTRATION AND PHOTOGRAPHY (3)
Prereq: 10 biology credits or permission of instructor. To acquaint the biology student with principles and techniques of illustration used in publication and display, using the media of pencil, ink, watercolor and photography. Intended for, but not restricted to, students without previous instruction in illustration.
- 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 (3)
Prereq: Biol 121 and 123, plus 10 credits taken from Biol 210, 211, 212 or permission of instructor; Chem 251 or 351 and 352. 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 Biol 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 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 Envr 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 or Biol 121 and 123. Basic principles of heredity, human genetic problems; radiation and mutation, chromosomal errors, eugenics.

Biology

- 384 **BIOLOGY AND SOCIETY (4)**
Prereq: Biol 101 or 121 and junior status. 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.
- 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; Biol 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.
- 409 **TRANSMISSION ELECTRON MICROSCOPY (3)**
Prereq: 30 biology credits and permission of instructor. Preparation, examination and interpretation of biological materials, using the transmission electron microscope.
- 411 **PROFESSIONAL WORK EXPERIENCE IN BIOLOGY (3-6)**
Prereq: senior status 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.
- 424 **ENTOMOLOGY (5)**
Prereq: Biol 212. Insects: their morphology, physiology, metamorphoses, classification and economic importance.
- 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.
- 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.

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.

Biology

- 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.
- 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 BIOLOGY AND BIOCHEMISTRY (3)**
Prereq: Biol 123; Chem 123, 353 or concurrent. A consideration of the structure and function of biological macromolecules; intermediary metabolism; membrane structure and function; bioenergetics. Same as Chem 471.
- 472 **MOLECULAR BIOLOGY AND BIOCHEMISTRY (3)**
Prereq: Biol 471. A consideration of the structure and function of biological macromolecules; intermediary metabolism; membrane structure and function; bioenergetics. Same as Chem 472.
- 473 **MOLECULAR GENETICS (3)**
Prereq: Biol 321, 345; Biol 323 or Chem 472. A study of the structure, replication, expression and control of genetic information.
- 474 **MOLECULAR BIOLOGY AND BIOCHEMISTRY LABORATORY (3)**
Prereq: Chem 123, 354 (or Chem 251), Biol 323 or Chem 472 (Chem 472 may be taken concurrently). Modern methods of isolation and analysis of cellular macromolecules and organelles. Same as Chem 474.
- 475 **MOLECULAR BIOLOGY AND BIOCHEMISTRY LABORATORY (3)**
Prereq: Biol 321, 345, Biol 473 or concurrent or Chem 473 or concurrent; Biol 474 or Chem 474. Molecular genetics of bacteria and viruses including nucleic acid manipulation, radiolabeling and sequencing. Same as Chem 475.
- 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.
- 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 37-38 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. 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.
- 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.
- 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 **ENZYMOLGY 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 graduates 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 many research areas including organometallic chemistry, organic synthesis and reaction mechanisms, photochemistry, protein and nucleic acid biochemistry, molecular biology of viruses, electrochemistry, molecular spectroscopy, reaction kinetics, atmospheric and environmental chemistry, 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 and computer-assisted instructional materials 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.
- 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.
- ROBERT K. JONES (1988) Assistant Professor, BS, Xavier University; PhD, Indiana University.
- 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.
- GERRY A. PRODY (1984) Associate 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 a B.S. program in chemistry and, with the Biology Department, a B.S. program in biochemistry/cell and molecular biology. 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

Chemistry

have a distinct advantage in seeking such positions. Detailed descriptions of each of these degree programs and course descriptions are given below.

BACHELOR OF ARTS

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 124, 125, 126
- 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

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 in Physics

This major meets the requirements for Washington state teaching endorsements in both chemistry and mathematics.

- 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
- Math 204, 305, 350, 483
- CS 210, Math-CS 207, 208
- Sci Ed 491, 492
- Supporting courses: one year college physics. (Recommended sequence is Physics 241, 242, 341, 351.)
- Math 320 recommended as writing proficiency course

Combined Major —

Chemistry/Physics —

Secondary 78-80 credits
plus Supporting Courses

This major meets the requirements for Washington state teaching endorsements in both chemistry and physics.

- 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

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)

**Students not prepared for calculus should begin with Math 103 or 105.*

*Interdisciplinary Major —
Biochemistry/Cellular and
Molecular Biology* 110 credits

Biochemistry Emphasis

(For cellular and molecular biology emphasis, see Biology Department section of catalog for details.)

- Biol 121, 123, 211 or 212, 321, 345
- Chem 121, 122, 123, 333, 351, 352, 353, 354, 461, 462, 466, 471, 472, 473, 474, 475
- Math 124, 125, 126
- Physics 241, 242, 341, 351

This program is specifically designed for students who seek graduate study or employment in biochemistry or molecular biology.

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.

GRADUATE STUDY

For concentrations leading to the Master of Education or the Master of Science degrees, see Graduate section of catalog.

**Student not prepared for calculus should begin with Math 103 or 105.*

COURSES IN CHEMISTRY

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 37-38 of this catalog.

- 101 CHEMICAL CONCEPTS (4)
Prereq: Math 102. 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)
Prereq: Math 103 or the equivalent score on the intermediate algebra mathematics placement test. 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 103 or the equivalent score on the intermediate algebra mathematics placement test. 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 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.
- 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.
- 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 and a written report is expected. S/U grading.
- 425 ADVANCED TOPICS IN CHEMISTRY (3)
Prereq: permission of instructor 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, 463 or concurrent.
- 425d Group Theory and Spectroscopy I
Prereq: Chem 463.
- 425e Group Theory and Spectroscopy II
Prereq: Chem 425d.
- 425f Advanced Physical Chemistry
Prereq: Chem 463.
- 425h Enzyme Chemistry
Prereq: Chem 463 or 466, 471.
- 425i Immunology
Prereq: Chem 473.
- 425j Physical Biochemistry
Prereq: Chem 462, 471.
- 425m Organometallic Chemistry
Prereq: Chem 441
- 434 INSTRUMENTAL ANALYSIS (4)
Prereq: Chem 333; Chem 462 or concurrent. Theory and experimental techniques of optical, electrical and other physical measurements applied to chemical analysis.
- 441 ADVANCED INORGANIC CHEMISTRY (5)
Prereq: Chem 462 or concurrent. 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 BIOCHEMISTRY AND MOLECULAR BIOLOGY (3 ea)
Prereq: Chem 123, 353 (or concurrent), and Biol 123; each course prerequisite to the next. A consideration of the structure and function of biological macromolecules; intermediary metabolism; membrane structure and function; bioenergetics; molecular biology. Chem 471, 472 also listed at Biol 471, 472.
- 474, 475 BIOCHEMISTRY AND MOLECULAR BIOLOGY LABORATORY (3 ea)
Prereq: Chem 123, 354 (or 251), 472 or concurrent (or Biol 323); Chem 473 (or concurrent) and 474 prerequisite to Chem 475. Modern methods of isolation and analysis of cellular macromolecules and organelles. Molecular genetics of bacteria and viruses including nucleic acid manipulation, radiolabeling and sequencing. Also listed as Biol 474, 475.
- 482 NUCLEAR CHEMISTRY (3)
Prereq: Chem 123, Physics 133 or equivalent, and Math 125. Theoretical and applied nuclear and radiochemistry.
- 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 37-38 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.

Chemistry

- 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.
- 534 INSTRUMENTAL ANALYSIS (4)
Prereq: Chem 333, 462 or concurrent, permission of instructor. Principles of chromatographic, spectrochemical and electrochemical methods of analysis.
- 540 ORGANOMETALLIC CHEMISTRY (3)
Prereq: Chem 441. Classes of organometallic compounds; structure, bonding, general patterns of reactivity; reactions; industrial homogeneous catalysis.
- 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.
- 561 ADVANCED PHYSICAL CHEMISTRY (3)
Prereq: Chem 463. Selected topics in advanced physical chemistry.
- 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.
- 575 IMMUNOLOGY (3)
Prereq: Chem 473 and permission of instructor. Biochemistry of the immune response, antibody structure and function, origin of antibody diversity, cell-mediated immunity.
- 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.

Communication

The Department of Communication provides the focus for a strong liberal arts education and professional preparation. Students develop additional depth from other academic departments, such as journalism.

The department offers degree programs in communication and communication 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 through graduate studies beyond the B.A. level. The Bachelor of Education degree gives certification for elementary or secondary school teaching.

COMMUNICATION

Students in communication qualify for a wide variety of employment and career opportunities. The entire communication field is growing rapidly, and increased diversification of employment opportunities is expected.

Specialization is provided through a choice of three areas of emphasis - communication theory, rhetorical studies and broadcast media studies.

Students in communication theory and/or rhetorical studies find opportunity in such professions as law, the ministry, business, government and communication. Scholarship, teaching and organizational or skills training provide additional outlets for good students.

Students in broadcast media studies face a growing range of media-oriented employment possibilities including television and radio sta-

tions, commercial media production facilities, and industrial and governmental in-house electronic media applications.

The strong attention to writing and research skills in all three areas of emphasis provides students with skills needed for entry-level employment in public relations and other communication-related positions.

Undergraduates are offered a wide variety of activities sponsored by the department. These include a nationally active program in debate and forensics; news production on KUGS, a student-managed and operated campus FM radio station; two ongoing television activities which present news and public affairs programs over the local cable outlet; and opportunity to develop teaching skills through the Personalized System of Instruction (PSI) Fundamentals of Speech program. These activities provide opportunity to practice and develop skills in realistic settings outside the classroom.

The departmental internship program provides a culminating experience for seniors approaching the job market. A wide variety of internships in the private and public sectors is available for qualified students.

COMMUNICATION EDUCATION

Graduates with the Bachelor of Arts in Education at the secondary level find that the most common assignment is one involving not only Communication but English as well. An interdisciplinary major in Communication/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 communication program to accompany

Communication

an elementary major or minor.

The Department of Communication offers broad opportunities for learning, both theoretical and practical. Further information and guidance may be obtained by contacting the department chair or one of the area of emphasis advisers.

COMMUNICATION FACULTY

- LARRY S. RICHARDSON (1970) Chair.
Associate Professor. BA, Western Washington College of Education; MEd, Central Washington State College; MA, PhD, Washington State University (Rhetorical Studies, Debate/Forensics).
- ANNA EBLEN (1986) Assistant Professor. BA, Duke University; MA, University of West Florida; PhD, University of Oregon (Communication Theory).
- WILLIAM KEITH (1987) Assistant Professor. BA, MA, Bowling Green State University; PhD, University of Texas (Communication Theory, Rhetorical Studies).
- MARVIN L. OLMSTEAD (1969) Associate Professor. BS in Ed, Black Hills Teachers College; MA, Washington State University; PhD, University of Washington (Rhetorical Studies, Communication Theory).
- ALDEN C. SMITH (1966) Associate Professor. BS, Florida Southern College; MS, Syracuse University; PhD, University of Illinois (Broadcast Media Studies).

DECLARATION OF MAJOR

- Maintain a GPA of 2.50 for all college work
- Complete the following pre-major courses with a grade of B or better:
 - Comm 101 and Lib Sci 125
 - Comm 220, 230, 240. This core sequence is normally completed during the sophomore year and before enrolling in upper-division course work
- File an approved program of study with a departmental adviser, obtain major approval card, and deliver it to the Registrar

BACHELOR OF ARTS

Major — Communication

80 credits

Students contemplating a major in communication are encouraged to register as communication pre-majors at the earliest possible opportunity.

- Satisfy departmental course requirements for declaration of major
- Complete the following: Comm 398, 498
- Complete one of the following areas of emphasis:

Communication Theory

- 21 credits of electives from: Comm 224, 327, 416, 420, 424, 427, 428. Note: A total of 6 credits from the following may be substituted for electives: Comm 459; Comm 236, 436, 450, 451; Comm 300, 400
- 6 credits in rhetorical studies
- 3 credits in broadcast media studies
- Complete supporting coursework: A group of courses comprised of 25 credits selected from a departmental list and approved at the time of declaration constitutes the supporting coursework. See adviser for appropriate list of coursework. (An official minor will satisfy this requirement.)

Rhetorical Studies

- 21 credits of electives from: Comm 235, 331, 416, 430, 431, 435, 436. Note: A total of 6 credits from the following may be substituted for electives: Comm 459; Comm 236, 436, 450, 451; Comm 300, 400
- 6 credits in communication theory
- 3 credits in broadcast media studies
- Complete supporting coursework: A group of courses com-

prised of 25 credits selected from a departmental list and approved at the time of declaration constitutes the supporting coursework. See adviser for appropriate list of coursework. (An official minor will satisfy this requirement.)

Broadcast Media Studies

- Comm 241, 242
- 9 credits from Comm 243, 340, 343, 440, 448
- A total of 6 credits of practicum selected under departmental advisement from: Comm 245, 345, 442
- Comm 416, Journ 104, 350 and 12 credits of additional supporting courses taken outside of the department under departmental advisement (see broadcast media studies adviser for list of recommended courses)
- 12 credits of Comm 449 (up to 6 credits of Comm 300 or 400 may be substituted under advisement)

Minor — Communication

25 credits

- Comm 101, 220, 230, 240
- 3 courses, one from each of the following areas of emphasis:
 - *Communication Theory*: Comm 224, 427
 - *Rhetorical Studies*: Comm 235, 331
 - *Broadcast Media Studies*: Comm 241, 242

BACHELOR OF ARTS IN EDUCATION

Declaration of Major

- Maintain a GPA of 2.75 for all college work

Major — Communication — Elementary Education

45 credits

This major meets the requirements for a supporting endorsement in speech for Washington state certification.

- Comm 101 or 312, Th/D 265
- Comm 224, 327
- SPA 351 or 354
- Th/D 101, 350, or 351
- Comm 454, 498
- Electives chosen from the following: Comm 212, 220, 235, 236, 240, 318, 424, 427, 436; Th/D 212, 216, 350, 351, 452; Lib Sci 309; SPA 351 or 354

Major — Communication — Secondary Education

70 credits

This sequence meets minimum requirements for Washington state certification, primary endorsement in speech.

- Comm 101 or 312, 331
- Comm 224
- Comm 235, 236 (3 credits)
- Comm 327, 427
- Comm 220, 240, 318, 498
- Comm 455
- Th/D 101, 160, 265
- Electives in Communication
- Choose one of the following emphases:
 - *Theatre*: Th/D 212, 215, 216
 - *Forensics*: Comm 436, 456, and one course, under advisement, relevant to this emphasis

Minor — Communication Education

32-33 credits

This sequence provides a supporting endorsement in speech for Washington state teacher certification.

- Comm 101 or 312, 331
- Comm 224
- Comm 235, 236 (3 credits)
- Comm 327

Communication

- 12 credits in communication courses selected under departmental advisement

Interdisciplinary Major Concentration — Communication/English

93-94 credits

This sequence results in primary endorsements for Washington state teaching certification in both speech and English. (Communication 44-45 credits, and English 49 credits.)

Communication 44-45 credits

- Comm 101 or 312, 331
- Comm 224
- Comm 235, 236 (3 credits)
- Comm 327, 427
- Comm 220, 240
- Comm 455, 498
- 5 or more credits selected from the following:
 - Comm 230, 236, 241, 424, 427, 435, 436
 - Comm 318, 420, 456, 456s
 - Th/D 265

English 49 credits

(See English section of catalog)

COURSES IN COMMUNICATION

Courses numbered X37; X97; 300, 400; 417, 445 are described on page 37-38 of this catalog.

101 FUNDAMENTALS OF SPEECH (4)

Functional approach to effective communication, application of principles to practical problems in speech. Teacher education sophomores (or above) are advised to take Comm 312 unless Comm 101 is needed to satisfy their GUR requirements.

212 PARLIAMENTARY PROCEDURES (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.

220 HUMAN COMMUNICATION I (4)

Survey of human communication by levels: intrapersonal, interpersonal, small groups, public and intercultural.

224 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.

230 SURVEY OF RHETORIC (4)

Survey of major rhetorical theories from ancient Greece to the 20th Century.

235 EXPOSITION AND ARGUMENTATION (4)

Theory and practice of principles of reasoned discourse as applied to public discussion of controversial issues.

236 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.

240 INTRODUCTION TO MASS COMMUNICATION MEDIA (4)

Introduction to the structure and history of the mass media, as well as to the political, social and cultural effects of mass communication. Credit not allowed for both Journ 190 and Comm 240.

241 INTRODUCTION TO BROADCASTING (3)

Prereq: Comm 240. History and development of radio and television. Theory and technique of basic broadcast procedures; practice in developing fundamental broadcast communication skills.

242 BROADCAST WRITING (3)

Prereq: Comm 241; Journ 104. The preparation of news, advertising and public affairs copy for radio and television.

243 BROADCAST COMMUNICATION I (3)

Prereq: Comm 242. Laboratory practice in applying communication skills to broadcast media: gathering, preparation and delivery of radio news.

245 RADIO NEWS STAFF I (2)

Prereq: Comm 243; written permission of instructor. Participation on the news staff of the University radio station, KUGS. Practicum in reporting, writing, producing and announcing. Repeatable to a maximum of 4 credits.

- 312 **SPEECH FOR THE TEACHER (3)**
 Prereq: junior status; 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.
- 318 **PROFESSIONAL COMMUNICATION (3)**
 Prereq: junior status; open to non-communication majors. Theory and practice in job interview, small group problem-solving discussion, public discussion and public speaking
- 327 **INTERPERSONAL COMMUNICATION I (3)**
 Prereq: junior status. Theory and practice of communication in dyad and small groups. Focus on competencies identified by interpersonal communication research: competencies include listening, conflict and negotiation, non-verbal behavior and relationship development.
- 331 **ADVANCED PUBLIC SPEAKING (3)**
 Prereq: Comm 101 or Comm 312. Theory and practice in the art of public discourse.
- 340 **TV PRODUCTION I (3)**
 Prereq: Comm 240; written permission of instructor. Theory and technique of basic television production. Laboratory practice utilizing media services television facilities
- 343 **BROADCAST COMMUNICATION II (3)**
 Prereq: Comm 243. Laboratory practice in production of radio news and public affairs programs.
- 345 **RADIO NEWS STAFF II (2)**
 Prereq: Comm 245; written permission of instructor. Participation on the news staff of the University radio station, KUGS. Advanced practicum in the working supervision of reporting, writing, producing and announcing. Repeatable to a maximum of 4 credits.
- 398 **RESEARCH METHODS (4)**
 Prereq: Comm 220, 230, 240, junior status, departmental majors only. Survey of the types of research methods, qualitative and quantitative, used in various communication disciplines. Focus will be on the rationale for, and the application of, particular methods.
- 416 **TOPICS IN COMMUNICATION (3-4)**
 Prereq: senior status; departmental majors only. In-depth coverage of special topics in communication, rhetoric and mass media. The subject of each individual course and its prerequisite will be announced in the Timetable of Classes. Repeatable to 12 credits.
- 420 **HUMAN COMMUNICATION II (4)**
 Prereq: junior status; departmental majors only. Special topics in human communication including systems theory, information theory, theories of signs, and theories of meaning and thinking.
- 424 **SMALL GROUP LEADERSHIP (4)**
 Prereq: Comm 224; departmental majors only. Exploration of concepts of leadership of small groups in both formal and informal settings. Development of leadership skills.
- 427 **INTERPERSONAL COMMUNICATION II (4)**
 Prereq: junior status, departmental majors only. In-depth examination of theory and practice in interpersonal communication.
- 428 **ORGANIZATIONAL COMMUNICATION (3)**
 Prereq: one of the following: Comm 220, 327, 420; departmental majors only. 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.
- 430 **RHETORICAL CRITICISM (4)**
 Prereq: senior status; departmental majors only. Survey of major theorists and theories of rhetorical criticism and applications to the understanding of contemporary public discourse.
- 431 **SPEECH WRITING (3)**
 Prereq: Comm 331; departmental majors only; written permission of instructor. Theory and application of speech writing. Extensive work in creating, revising and criticizing speech manuscripts.
- 435 **PERSUASION (4)**
 Prereq: Comm 235; departmental majors only. Study of principles that influence attitudes and opinions in persuasive situations.

Communication

- 436 **ADVANCED FORENSICS AND DEBATE (1-3)**
Prereq: 6 credits in Comm 235 and/or 236. Emphasis on intercollegiate debate with opportunity for experience in extemporaneous, impromptu and persuasive speaking. A maximum of 6 credits may be earned in Comm 436; a combined total of 6 credits from Comm 236 and Comm 436 may be applied to the major.
- 440 **TV PRODUCTION II (3)**
Prereq: Comm 340; written permission of instructor. Advanced theory and technique of television production. Laboratory experience utilizing media services television facilities.
- 442 **TELEVISION NEWS PRODUCTION (2)**
Prereq: Comm 242, 340; written permission of instructor. Participation on staff of University television news programs. Practicum in the gathering, preparation and presentation of televised news. Repeatable to a maximum of 4 credits. (Concurrent enrollment in Journ 431, 432 or 433, or Tech 442 recommended.)
- 448 **PRODUCING AND DIRECTING THE BROADCAST PROGRAM (4)**
Prereq: Comm 243, 340; departmental majors only. Production and direction for radio and television; preparation and execution of public affairs and documentary programs. Normally offered alternate years.
- 449 **FIELD INTERNSHIP IN MASS COMMUNICATION (6-12)**
Prereq: senior status; written permission of adviser; departmental majors only. Supervised work in mass communication for a broadcast station, media production house, government agency or other appropriate business. Regular meetings, written reports and a paper on an approved topic related to the internship are required. (All other academic requirements must be completed prior to the internship.) S/U grading.
- 450 **COMMUNICATION PEDAGOGY I (3)**
Prereq: recommendation; written permission of instructor. Serve as undergraduate tutor for students taking communication courses. Learn instructional methods and gain further mastery of course content. Conduct supervised tutoring and feedback for students enrolled in communication courses. S/U grading.
- 451 **COMMUNICATION PEDAGOGY II (3)**
Prereq: Comm 450; recommendation; written permission of instructor. Help supervise teams of undergraduate tutors. Develop leadership, organizational and pedagogical skills. S/U grading.
- 454 **SPEECH FOR THE ELEMENTARY TEACHER (3)**
Prereq: junior status. Methods of utilization of the speech arts in the elementary classroom. Normally offered alternate years.
- 455 **TEACHING SPEECH IN THE SENIOR HIGH SCHOOL (3)**
Prereq: 15 credits in Communication. Exploration and critique of methods and materials used in teaching public address, interpersonal and small group communication and extracurricular speech activities. Normally offered alternate years.
- 456 **DIRECTING THE FORENSICS PROGRAM (4)**
Prereq: Comm 235 or 236 (taken for 4 credits). Conducting tournaments, critiquing debates and individual events, budgeting. Normally offered alternate years.
- 456s **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.
- 459 **FIELD INTERNSHIP IN COMMUNICATION (3-12)**
Prereq: senior status; written permission of adviser; departmental majors only. Supervised work in communication with an educational institution, public agency or private enterprise. A paper on an approved topic related to the internship is required; other work may be required as determined by the supervising faculty member. S/U grading.
- 498 **COMMUNICATION: ISSUES AND RESPONSIBILITIES (4)**
Prereq: senior status; written permission of adviser; departmental majors only. Examines in detail the ethical concerns and responsibilities related to various aspects of the Communication field and the practice of communication. Topics include: deception, the ethics of persuasion and social responsibilities of communicators.

Computer Science

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 representation and organization of information, algorithms to guide the processing of information, the technology and architectures of hardware used in these activities, and the analysis of appropriate tools, such as compilers and operating systems. These areas of study involve both a theoretical basis and the implementation of practical applications.

The computer science program at Western is accredited by the Computing Sciences Accreditation Board, which has been established by the Association for Computing Machinery and the Institute of Electrical and Electronic Engineers Computer Society.

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, C, Lisp, Modula 2, and COBOL. More advanced topics include algorithm analysis, computer architectures, artificial intelligence, computability, historical and social aspects of computing, 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 11/780, an Intel iPSC/1 Hypercube, 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 Motorola 68000 VME-BUS based systems.

MAJOR PROGRAMS

The Department of Computer Science offers an undergraduate major that leads to the Bachelor of Science degree and a major in computer science education that offers a Bachelor of Arts in Education degree. In addition, joint majors are offered with the departments of Mathematics, Physics, Business and Accounting. Minors are also available in both computer science and computer science education. Graduate study, culminating in a Master of Science degree, is also offered by the department.

The goals of the computer science major are a broad conceptual base as well as considerable experience with applications. The intent is to give the student a suitable foundation from which to pursue a graduate education or keep up with the changes and advances in computing technology.

ACADEMIC PLACEMENT

Requirements for Admission to the Major

The department has established a policy for admission to the computer science and the computer science

education majors, and for admission to the various joint majors with mathematics, physics, business and accounting. Students who are majors are given priority in registering for some of the 300-level classes. Registration for 400-level computer science classes is normally restricted to students who have been accepted as majors. The complete statement of the procedures can be obtained in Bond Hall 302 or by writing to the Department of Computer Science.

After being admitted to the major, a student is normally assigned to an adviser. Students who have not yet been accepted as majors are encouraged to seek advice in the departmental office, Bond Hall 302.

Advice to Freshmen

Freshmen intending to major in computer science or computer science education should note that the first computer science course designed for majors is CS 210, with 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 a pre-calculus course, depending upon previous preparation. Information on the placement examination is available through the Mathematics Department which will determine the proper first mathematics course.

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

A person interested in the study of computer science is welcome to write, phone, or visit the Department of Computer Science, Western Washington University, Bellingham, Washington 98225, Phone: (206) 676-3805.

COMPUTER SCIENCE FACULTY

- LARRY D. MENNINGA (1970) Chair
Associate Professor. BA, University of Iowa; MA, MS, PhD, University of Washington.
- 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.
- JAMES L. JOHNSON (1981) Associate Professor. BS, University of Louisville; MS, PhD, University of Minnesota.
- DEBRA S. JUSAK (1988) Assistant Professor.
BA, State University of New York at Potsdam; MS, University of Connecticut; PhD, University of California, Irvine.
- GEOFFREY B. MATTHEWS (1985) Associate Professor. BA, University of California; MA, PhD, Indiana University.

PHILIP A. NELSON (1987) Assistant Professor. BS, Pacific Union College; MS, University of California, Davis; PhD, University of Washington.

MARTIN L. OSBORNE (1977) Associate Professor. BA, Hamilton College; MA, University of Oregon; PhD, Oregon State University.

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, 402, 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 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

BACHELOR OF ARTS IN EDUCATION

The Bachelor of Arts in Education major can be completed with a concentration which prepares the graduate for teaching computer science on the secondary level. Those who intend to pursue this concentration must complete courses in structured programming in a variety of computer languages, assembly language, data structures, algorithm analysis, computer software and computers in society/education. Successful completion of these courses provides a good part of the training necessary for technical expertise in the classroom. Majors learn the methods of teaching computer science in CS 444.

Recommendation for teaching endorsement requires the completion of the major with a minimum grade point average of 2.50 in 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 and consult with an adviser in instructional technology. Because of anticipated low demand, it is strongly recommended that this program be taken in conjunction with another endorsable one. It is essential that the interested student consult the Department of Educational Curriculum and Instruction portion of this catalog for further information.

Major — Computer Science Education 65 credits

- Math 124, 204
- Math/CS 207, 208
- CS 210, 310, 320, 331, 332, 405, 425, 444
- EdAF 444, 452, 453
- Two courses chosen from: CS 401, 410, 420, 430, 450, 460, 480

Minor — Computer Science Education 32 credits

- CS 210, 310, 331, 332, 410, 444
- EdAF 444, 452, 453

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 information regarding a 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, X37, 300, 400, 417, 445 are described on page 37-38 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.
- 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.
- 115 COMPUTER APPLICATIONS (1-4)
Prereq: Math 102 or equivalent; CS 101 or equivalent. Software tools and their applications. Topics and credits will vary (see the Timetable of Classes). Possible topics include database systems, expert systems, desktop publishing, applications of spreadsheets. Repeatable with various topics
- 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, programming in a high-level language, experience using a computer system. 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

- 280 **COMPUTER GRAPHICS ON PERSONAL COMPUTERS (4)**
 Prereq: CS 110 or 210 or equivalent. Microcomputer interactive graphics systems, standards, hardware and software; graphics fundamentals; design and implementation of graphics programs in Turbo Pascal; development of graphical user interfaces; icons; windows; pull-down menus; computer generation of simple images; graphics algorithms; paint and presentation systems.
- 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.
- 401 **COMPUTABILITY AND AUTOMATA (4)**
 Prereq: CS 332, Math-CS 208. Computability, recursive functions, grammars and their accepting automata.
- 402 **ARTIFICIAL INTELLIGENCE (4)**
 Prereq: CS 331 or permission of instructor. Introduction to knowledge representation and search. Possible application areas include natural language, perception, learning and expert systems.
- 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.
- 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.

Computer Science

444 TEACHING COMPUTER SCIENCE IN THE SECONDARY SCHOOL (3)

Prereq: admission to secondary teaching program, EdAF 444 and at least two upper-division computer science courses. Study of literature, curriculum, planning and strategies in the teaching of computer science.

450 COMPILER THEORY AND DESIGN (4)

Prereq: CS 332, Math-CS 208, CS 410 (or concurrent). 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.

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 37-38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

501 COMPLEXITY THEORY (4)

Prereq: CS 401 or equivalent. Measure of the efficiency of computation; the time-space hierarchy; non-determinism; P vs. NP.

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.

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, interactive 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.

560 ADVANCED TOPICS IN OPERATING SYSTEMS (4)

Prereq: CS 460 or equivalent. Communicating sequential processes; algebraic theory of communicating processes; distributed operating systems.

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.

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; PhD, Cornell University.
- BONNIE J. BARTHOLD (1980) Associate Professor. BA, University of Arizona; MA, Ohio State University; PhD, University of Arizona.
- ROBERT D. BROWN (1965) Professor. AB, MA, PhD, Indiana University.
- MEREDITH B. CARY (1964) Professor. BA, Central Missouri State College; MALS, University of Michigan; MA, Michigan State University; PhD, University of Washington.
- MARY COBB (1987) Assistant Professor. AB, Oklahoma Baptist University; MA, PhD, University of Washington.
- MARJORIE J. DONKER (1967) Professor. BA, Western Washington State College; MA, PhD, University of Washington.
- RICHARD L. FRANCIS (1969) Professor. AB, Kenyon College; MA, Duke University; PhD, Yale University.
- KENNETH B. INNIS (1966) Associate Professor. AB, AM, Indiana University; PhD, University of Kansas.
- ELLWOOD G. JOHNSON (1963) Professor. BA, MA, PhD, University of Washington.
- WILLIAM C. KEEP (1966) Associate Professor. BA, PhD, University of Washington.
- LAWRENCE L. LEE (1962) Professor. BA, MA, PhD, University of Utah.
- MERRILL E. LEWIS (1962) Professor. BA, MA, University of Oregon; PhD, University of Utah.
- JOHN B. MASON (1986) Associate Professor. BA, University of Northern Colorado; MA, DA, PhD, University of Oregon.
- REED B. MERRILL (1969) Associate Professor. BS, MA, University of Utah; PhD, University of Colorado.
- GEORGE M. MULDROW (1960) Professor. BJ, MA, University of Missouri; PhD, Stanford University.
- KNUTE SKINNER (1962) Professor. AB, Colorado State College; MA, Middlebury College; PhD, State University of Iowa.
- KEN M. SYMES (1967) Professor. BA, MA, Utah State University; PhD, University of New Mexico.
- EVELYN C. WRIGHT (1972) Associate Professor. BS, Illinois State University; MA, PhD, 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

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:

English

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

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

Completion of this major will lead to a primary endorsement in English when taken in combination with a professional education program.

- Eng 304, 370, 442, 443, 444, 474, EdCI 481
- Eng 414 (Shakespeare)
- Two courses at the 300 or 400 level in British Literature
- One of the following: Eng 334, 335, 336, 415, 427, 429, 430
- 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

The department strongly recommends that students include courses in literary theory and criticism in their electives.

Major — English — Elementary 45 credits

This major must be taken in combination with the elementary or special education professional program. Completion of this major will lead to a Western approved supporting endorsement in English.

- Eng 304, 370, 440, 441, 442
- One course in American literature at the 300 or 400 level
- One course in British literature at the 300 or 400 level
- One of the following: Eng 301, 302, 351, 353, 354, 451, 453, 454
- One of the following: Eng 321, 327, 338, 341, 422, 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/Communication 93-94 credits
(English 49 credits and Communication 44-45 credits)

Completion of this major will lead to primary endorsements in English and speech when taken in combination with a professional education program.

English 49 credits

- Eng 304
- Eng 370, 442, 443, 444
- Eng 414 (Shakespeare)
- Two courses in British literature at the 300 or 400 level
- One of the following: Eng 334, 335, 336, 415, 427, 429, 430
- 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

Communication 44-45 credits
(See Communication section of catalog.)

English/Theatre 94 credits
(Theatre 45 credits and English 49 credits)

Completion of this major will lead to primary endorsements in English and drama when taken in combination with a professional education program.

English 49 credits

- Eng 304
- Eng 370, 442, 443, 444
- Eng 414 (Shakespeare)
- Two courses in British literature at the 300 or 400 level
- One of the following: Eng 334, 335, 336, 415, 427, 429, 430
- 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 in Education, 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 either of the following minors. A grade point average of 3.0 or better in English is required.

English

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

Completion of this minor will lead to a supporting endorsement in English when taken in combination with a professional education program.

- Eng 304, 370, 442, 443, 444
- Eng 301 or 302 or 351 or 353 or 354
- One elective in British literature 300 or 400 level
- One elective in American literature 300 or 400 level
- One of the following: Eng 334, 335, 336, 415, 427, 429, 430

English — Elementary
Education 28 credits

Completion of this minor will lead to a supporting endorsement in English when taken in combination with a professional education program.

- Eng 304, 370, 441, 442
- One course from Eng 301, 302, 351, 353, 354
- One course in American literature at the 300 or 400 level
- One course in British literature at the 300 or 400 level

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 37-38 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.

English

- 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.
- 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.
- 375 **SEMINAR FOR WRITING FELLOWS: TUTORING ACROSS THE CURRICULUM (3)**
Prereq: selection as a Writing Fellow. Examines theories of teaching writing and provides training for undergraduate Writing Fellows selected to work in Western's writing-across-the-curriculum program. Helps Fellows become accomplished readers of student writing and effective tutors for students writing in all disciplines. S/U grading.
- 401 **PREPROFESSIONAL WRITING (4)**
Prereq: Eng 101 and senior status. 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 status. 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, Chesnut, 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.

English

- 435 **STUDIES IN LITERARY GENRE (4)**
Prereq: Eng 304. Varying topics, such as the Idea of Comedy, will be treated from year to year. Repeatable with various topics.
- 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.
- 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.
- 458 **LAW FOR WRITERS (4)**
Prereq: Eng 304. Analysis of problems most likely to be encountered by writers, such as copyright, legal and ethical problems, censorship and libel.
- 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)**

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on page 37-38 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 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-z SEMINAR, TOPICS IN RHETORIC (5)

Rhetorical theory and composition. Topics from classical tradition and modern developments. Applications for teaching of language, literature and composition. Repeatable under different topics.



English

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.

515 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. Repeatable under different topics.

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 student and the prospective foreign language teacher.

Whatever the student's career goal, foreign language may well play a vital part. As our world grows smaller and more interdependent, we find it increasingly important to be able to communicate/negotiate in another language. Whether a traveler in Madrid or an engineer in a multi-national corporation in Brussels, an English teacher in Japan or a flight attendant out of Frankfurt, language opens doors, brings opportunities and makes things work. At the same time, the study of language opens a window on a new culture, new values and a new way of seeing the world—including a rich literature, theater, art and film.

Communicative competence is a major goal of all foreign language skills acquisition courses. In addition, students are expected to acquire:

- 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

The student who has studied a foreign language in high school may be granted additional university credit upon completion of foreign language courses at Western. Advanced placement credit is not awarded for 100-level courses. Request 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 which 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 530, well in advance of their planned quarter abroad.

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.

Foreign Languages/Literatures

- 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 BROCKHAUS (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.
- SHAW N. GYNAN (1986) Associate Professor of Spanish. BS, Georgetown University; MA, University of Texas, El Paso; PhD, University of Texas, Austin.
- VICKI L. HAMBLIN (1989) Assistant Professor of French. BS, Southwest Missouri State University; MA, Arizona State University; PhD, University of Arizona.
- JESSE HIRAOKA (1972) Professor of French and American Cultural 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) Professor of Russian and Linguistics. Certificate of Baccalaureate, Gymnasium for Boys, Belgrade; MA, University of Chicago.
- 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.
- KATHLEEN TOMLONOVIC (1987) Lecturer of Chinese. BA, Marycrest College; MA, Fordham University; MA, University of Iowa.
- JOHN H. UNDERWOOD (1988) Associate Professor of Spanish. BA, Arizona State University; MS, Georgetown University; PhD, University of California, Los Angeles.
- EDWARD J. VAJDA (1987) Assistant Professor of Russian and Linguistics. BA, Indiana University; MA, PhD, University of Washington.
- MICHIKO YUSA (1983) Associate 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

Course 425 is 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, communication, business, English as a second language, East Asian studies, and linguistics, among others.

Major — Classical Studies or Slavic Area Studies

Student-faculty designed majors in classical studies or Slavic area studies may be arranged.

TEACHING ENDORSEMENT

The department grants teaching endorsements in French, German, Spanish, Chinese, Japanese and Russian.

Regulations for the teaching endorsement are subject to change. For current requirements and for admission into the teaching endorsement program, students are advised to contact the foreign language endorsement adviser, Dr. Louise Kikuchi.

French, German and Spanish

66 credits

French, German and Spanish students must meet the following requirements (to be taken with Bachelor of Arts in French, German or Spanish):

- Major, 55 credits
- Endorsement, 11 credits
- Be recommended by a faculty member to pursue a teaching credential
- Have a GPA of 3.0 or better in the major and endorsement courses
- Pass a departmental foreign language oral proficiency exam
- Meet the major qualifications with courses distributed in the following manner:
 - 200-level: up to 15 credits maximum
 - 300-level: two third-year grammar/composition courses, 314 Phonetics, (German students must add 305, 331 or 332)
 - 400-level: must have 3 courses, including two fourth-year grammar/composition (French: two 401's; German and Spanish: 401, 402).
 - Two courses in literature
- FL 410, 420, 430

Japanese, Chinese and Russian

60 credit minimum

Students wishing to pursue a Japanese or Chinese endorsement will complete the East Asian studies major; the Russian endorsement may be obtained with the completion of a Slavic area studies major. Both

majors are student/faculty designed, arranged through the College of Arts and Sciences. See the Interdisciplinary section of this catalog. The following requirements must be met:

- Be recommended by a faculty member to pursue a teaching credential
- Completed the regular fourth-year sequel or equivalent in the language
- Passed the departmental oral proficiency exam
- Completed Linguistics 201 or Linguistics 314, Phonetics
- Maintained a GPA of 3.0 or better in the major
- Completed FL 410, 420, 430

Note: It may be necessary to meet the proficiency and fourth-year skills requirement through an approved study abroad program.

Postbaccalaureate students with a degree in a foreign language are required to:

- Have a GPA of 3.0 or better in the major
- Have sent a letter of recommendation from a faculty member in reference to the candidate's potential as a teacher
- Satisfactorily pass a departmental oral proficiency exam
- Complete the endorsement sequence FL 410, 420, 430 and 314, Phonetics

Additional work in the language may also be required. Students should consult the foreign language education adviser.

Students preparing two language teaching endorsements may apply 10 upper-division credits in the second language towards the 55 credits required for the major. The student must complete the most advanced skills course and pass the oral proficiency exam for both languages to receive teaching endorsement. FL 410, 420 and 430 will apply to both languages.

BACHELOR OF ARTS IN EDUCATION

Major — French, German, Spanish 45 credits

Elementary (no Foreign Language endorsement)*

This program is designed for prospective elementary teachers who wish to concentrate their major efforts in a foreign language. This program is not intended to result in a teaching endorsement by the department, but does satisfy the academic major requirement for certification in elementary education.

- Language skills courses through the fourth year: 201, 202, 203, (205), 301, 302, 401, 402 (27-30 credits)
- Plus one of the following options:
 - A. Selected courses under advisement at the 300 or 400-level in the language (15-18 credits)
 - or
 - B. Foreign study: a minimum of one quarter in the country of the language. Study should be in language, culture or literature (15 additional credits may be earned through foreign study)

*For additional courses necessary to meet the requirements for an endorsement in a foreign language, contact the foreign language endorsement adviser, Dr. Louise Kikuchi.

Minor — Chinese, French, German, Japanese, Russian, Spanish

- A minimum of 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; Chinese, Japanese, 303).

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
- Comm 373
- 6 credits in a foreign language selected under departmental advisement

No teaching endorsement can be granted on the basis of a minor alone.

GRADUATE STUDY

The Department of Foreign Languages and Literatures is currently preparing and will seek approval of a master's degree oriented to foreign language/second language teaching. This degree is expected to be in effect prior to summer of 1990. It is anticipated that the master's degree will include courses in the following areas:

- Application of modern technology to teaching
- Methods of foreign language teaching
- Linguistics and second language acquisition
- Culture/literature through film and text

The program, when implemented, can be completed in three summer sessions and is designed for teachers of French, German, Spanish, Chinese and Japanese. Segments of the program will also be useful to teachers of ESL.

COURSES IN FOREIGN LANGUAGES

Note: not all courses are offered every year. See Timetable of Classes for current offerings. Consult department for specific questions.

Courses numbered 109, 209 are intended for languages offered less frequently.

General Courses

Courses numbered X37, X97; 300, 400; 417, 445 are described on page 37-38 of this catalog.

- 109a,b,c DIRECTED INSTRUCTION IN MODERN FOREIGN LANGUAGES (3-5)
To be taken in sequence. 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)
To be taken in sequence. Prereq: FL 109. 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.
- 410 APPLIED LINGUISTICS (4)
Prereq: 6 credits in one modern foreign language beyond the second year. The role of linguistics in the analysis of foreign language teaching. Topics include learner variables, research in second language acquisition and contrastive structure (English with other languages).
- 420 METHODS AND MATERIALS FOR TEACHING FOREIGN LANGUAGES (4)
Prereq: 6 credits in one modern foreign language beyond the second year. To be taken prior to student teaching. Theory and practice of teaching foreign languages in secondary schools. Emphasis on developing appropriate techniques and materials to aid language acquisition.
- 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 appropriate materials and teaching strategies. S/U grading.

For courses taught in translation, see Classical Studies and East Asian 367.

Chinese

- 101, 102, 103 FIRST-YEAR CHINESE (5 ea)
To be taken in sequence. Fundamentals of the language: pronunciation, grammar, aural comprehension, reading and speaking.
- 201, 202, 203 SECOND-YEAR CHINESE (5 ea)
To be taken in sequence. Prereq: Chinese 103 or equivalent. 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 THIRD-YEAR CHINESE (5 ea)
To be taken in sequence. Prereq: Chinese 203. 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: Cl 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.

French

- 101, 102, 103 ELEMENTARY FRENCH (5 ea)
To be taken in sequence. Fundamentals of speaking, reading, writing and understanding French.

Foreign Languages/Literatures

- 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.
- 260 ATELIER FRANCAIS (5-12)
Prereq: French 103 or equivalent. Review of basic French grammar; intensive oral practice, simple composition, with vocabulary building. Discussion of modern French culture. S/U grading. Offered summers only.
- 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, *explication 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, *explication de texte* involving poetry, prose and drama from works of major authors after 1800.
- 360 ATELIER FRANCAIS. INTERMEDIATE LEVEL (5-12)
Prereq: 10 credits of 200-level French or equivalent. Advanced French grammar and stylistics; intensive oral practice; extensive practice in reading and writing. Discussion of modern French culture. S/U grading. Offered summers only.
- 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.
- 460 ATELIER FRANCAIS ADVANCED LEVEL (3-6)
Prereq: 10 credits of 300-level French or equivalent. Review of advanced French grammar and stylistics; readings and discussion of modern French texts; oral and written reports and presentations; *précis* writing. S/U grading. Offered summers only.

German

- 101, 102, 103 **ELEMENTARY GERMAN (5 ea)**
 To be taken in sequence. 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.
- 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.
- 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.
- 385 **GERMAN CULTURE AND CONVERSATION (1)**
 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.
- 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.

Foreign Languages/Literatures

- 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 37-38 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 FIRST-YEAR JAPANESE (5 ea)
To be taken in sequence. Fundamentals of the language: writing and reading *hiragana, katakana, and kanji*; grammar, listening and speaking. Tape-assisted oral practice is an integral part of the course.
- 201, 202, 203 SECOND-YEAR JAPANESE (5 ea)
To be taken in sequence. Prereq: Japanese 103 or equivalent. Further fundamental grammar; review of first-year grammar; emphasis on writing, reading, listening and speaking skills. Tape-assisted oral practice 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 **THIRD-YEAR JAPANESE (4,3,3)**
To be taken in sequence. Prereq: Japanese 203 or equivalent. Emphasis on well-rounded development of reading, writing, listening and speaking abilities; introduction of colloquial Japanese. Tape-assisted oral practice is an integral part of the course.

401, 402, 403 **FOURTH-YEAR JAPANESE (3 ea)**
To be taken in sequence. Prereq: Japanese 303. Part of the teaching endorsement requirements. Must complete up to 403 to satisfy the requirements.

Latin

101, 102, 103 **ELEMENTARY LATIN (5 ea)**
To be taken in sequence. 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; to be taken in sequence. Review of fundamentals; selected readings from various Roman writers; introduction to Latin civilization.

Russian

101, 102, 103 **ELEMENTARY RUSSIAN (5 ea)**
To be taken in sequence. 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.

Spanish

101, 102, 103 **FIRST-YEAR SPANISH (5 ea)**
To be taken in sequence. Fundamentals of understanding, speaking, reading and writing.

104 **REVIEW OF FIRST-YEAR SPANISH (5)**
Designed primarily for students with two years of high school Spanish to prepare them for the second-year level through review and development of basic structure and vocabulary. Also for students needing a review of the first year.

201, 202, 203 **SECOND-YEAR SPANISH (5 ea)**
To be taken in sequence. Prereq: Spanish 103 or 104 or equivalent. Review of fundamentals: understanding, speaking, reading and writing.

205 **SECOND-YEAR CONVERSATION (3)**
Prereq: Spanish 103 or 201 or equivalent. Emphasis on developing speaking skills in communicative situations.

301, 302 **THIRD-YEAR SPANISH (4 ea)**
To be taken in sequence. Prereq: Spanish 202 or equivalent. Written composition, vocabulary building, analysis of grammatical problems and discussion of selected Spanish texts.

305 **THIRD-YEAR CONVERSATION (3)**
Prereq: Spanish 202 or equivalent. Further development of speaking skills in communicative situations. May be repeated twice.

314 **PHONETICS (4)**
Prereq: Spanish 301 or equivalent. Emphasis on the improvement of the student's pronunciation and intonation, familiarization with phonetic transcription and awareness of problems in teaching Spanish sounds.

330 **HISPANIC CULTURE (3)**
Prereq: Spanish 202 or equivalent. Survey of Hispanic civilization (peoples, traditions, contemporary issues).

340 **INTRODUCTION TO HISPANIC LITERATURE (3)**
Prereq: Spanish 301 or equivalent. Selected works of major Hispanic authors, with emphasis on reading improvement and methods of textual interpretation.

Foreign Languages/Literatures

350 MAJOR WORKS IN HISPANIC LITERATURE (3)

Prereq: Spanish 340 or equivalent. Study of genres and trends during various periods in Hispanic literature. Specific topics to be listed. May be repeated for credit as topic varies. Recent topics have included: La Poesía hispanoamericana desde el modernismo. Contemporary Mexican Literature. Modern Spanish Theater. Generation of '98.

401.402 FOURTH-YEAR SPANISH (3 ea)

Prereq: Spanish 302 or equivalent. Composition and stylistics. analysis of special grammatical problems and discussion of Spanish texts or film.

405 FOURTH-YEAR CONVERSATION (3)

Prereq: Spanish 302 or equivalent. Advanced speaking practice in communicative situations

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 HISPANIC LITERATURE (3)

Prereq: two courses in upper-division Spanish and permission of the department. Major authors and movements. May be repeated as topic varies. Recent topics have included: El Quijote. Golden Age Theater. Modern Spanish Poetry, Latin-American Short Story.

Graduate Courses in Spanish

Courses numbered 500; 517; 545; 597 are described on page 37-38 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.A. 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 198,000 sheet maps, 878 atlases and a large number of 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 Department 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 program manager—Map Library, 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.
- PATRICK H. BUCKLEY (1967) Assistant Professor. BS, Notre Dame; MA, University of Washington; PhD, Boston University.
- VIRGINIA L. MAHACEK (1988) Instructor. AB, MA, ABD, University of California, Davis.
- 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.
- THOMAS A. TERICH (1973) Professor. BA, MA, California State University; PhD, Oregon State University.

Adjunct Faculty

- RICHARD H. BERG (1970) 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 gradu-

ate degree are advised to acquire a reading knowledge in a foreign language and competence in statistics and/or computer science during their undergraduate years.

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, 315, 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, 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, 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

Geography/Regional Planning

program. Those who transfer to Western at the end of their sophomore year or later may encounter difficulties 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
- Envr 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 301, 352, 356, 358, 452, 453, 456, 471, 475
- Geog 340, 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

NOTE: Students must also complete the specific program requirements for social studies education, includ-

ing 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 geography and social studies at the secondary level.

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, X37: 300, 400; 417, 445 are described on page 37-38 of this catalog.

- 201 HUMAN GEOGRAPHY (5)
Patterns of population and settlement; spatial analysis of economic, social and political organization.
- 203 PHYSICAL GEOGRAPHY (5)
Prereq: Physics 101 or Biol 101. 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.
- 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.
- 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.
- 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; Geol 101 recommended. Spatial and temporal variation of landforms; regional analysis of landforms and quaternary reconstructions; relationships of landforms with physical and human systems; applied geomorphology. Field trips.
- 331 **CLIMATOLOGY (5)**
Prereq: Geog 203; Physics 101 or 131 recommended. Physical basis of climate; macro-scale patterns of world climates; meso- and micro-scale climatology; applied climatology; paleo-climatology and modeling future climate.
- 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.
- 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 (3)**
Prereq: Geog 203 or 251. An introduction to the spectral characteristics of earth surface features. The collection and processing of reflected energy into digital images and subsequent image analysis. Special attention is devoted to the Landsat MSS and TM systems.

Geography/Regional Planning

358 GEOGRAPHIC INFORMATION SYSTEMS (3)

Prereq: Geog 251 or 351, and 354. 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 WATER RESOURCES (5)

Prereq: Geog 330 or 331; CS 101 or equivalent; Geog 354. The role of water in the environment. The nature of water use and resulting problems; measures of control; data analysis and presentation.

432 GEOGRAPHY OF SOILS (3)

Prereq: Geog 330. Soil characteristics and processes; description and classification; factors of soil development; spatial and temporal variation; application of soils in paleoenvironmental reconstruction. Field trips and laboratory study.

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 354; Geog 209 recommended. Optimal use of natural resources, methods of balancing benefits versus the costs incurred, emphasizes the variety of perspectives from which management policies can be developed and modeling tools can be made available.

462 TRANSPORTATION SYSTEMS AND PLANNING (3)

Prereq: Geog 201 or 205. Locational and network analysis of local, regional and national systems; transportation and planning.

464 THE DEVELOPING WORLD: SPATIAL PROBLEMS, STRATEGIES AND SOLUTIONS (3)

Prereq: Geog 201 or 205 and Geog 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.

GRADUATE COURSES

Courses numbered 500; 517; 545; 597 are described on page 37-38 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.

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 SYSTEMATIC 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: 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.

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 50 geology undergraduate majors and approximately 35 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 under-

graduate 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

- JAMES L. TALBOT (1976) Chair.
Professor of Geology. BA, University of Cambridge; MA, University of California, Berkeley; PhD, University of Adelaide.
- 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.
- EDWIN H. BROWN (1966) Professor. AB, Dartmouth College; MSC, University of Otago; PhD, University of California, Berkeley.
- 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) Associate 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 and Dean of Graduate School and Research. BA, MS, PhD, Columbia University.
- CHRISTOPHER A. SUGZEK (1977) Associate Professor. AB, University of California, Berkeley; PhD, Stanford University.
- 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.
- 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, 415, 430, 440; Geog 431, 432; Astron 315, 316; Biol 406; Sci Ed 410

Geology

Major — Earth Science —

Secondary 61-63 credits

- Geol 211, 212, 214, 304 or 305, 306, 310, 340, 407
- Geog 331 or Geol 252; Physics 131; Astron 315; Chem 121; Sci Ed 491, 492
- At least one elective from Geol 215, 314, 316, 318, 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

- Geol 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, 418, 419, 420

- 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, 407, 410a, 410b, 452, 472, 473
- Geog 432
- Chem 121, 122, 123
- Physics 241, 242, 341, 351
- Math 124, 125, 126, 204, 331, Comp Sci 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

- Geol 211, 212, 304, 306, 318, 352, 407 (or 418 and 420), 410a, 410b, 415, 452, and at least one from 453, 454, 455

- Chem 121
- Math 124, 125, 126, 204, 224, 331, Comp Sci 110
- Physics 241, 242, 341, 342, 343

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, 352, 407, 452, 453
- A minimum of four credits from the following: Geol 314, 316, 410a, 410b, 415, 432, 454, 455, 460

Combined Major — Geology/ Mathematics

110 credits

- Geol 211, 212, 304 or 305, 306, 318, 352, 407, 410a, 410b
- Math 124, 125, 126, 204, 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

A geology major who wishes to graduate with departmental honors must include Geology 399.

Students in the University honors program must also satisfy this departmental requirement.

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; X97; 300, 400; 417, 445 are described on page 37-38 of this catalog.

101 GENERAL GEOLOGY (4)

Prereq: Math 102 or equivalent. 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.

Geology

- 252 **THE EARTH AND ITS WEATHER (4)**
Prereq: Geol 101, Chem 101 or Physics 101. 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. 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, Physics 241; open to students with credit in Geol 214 only with permission of department. 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 (4)**
Prereq: Geol 212. Life on the earth as revealed by its inhabitants, past and present.
- 318 **STRUCTURAL GEOLOGY (4)**
Prereq: Geol 211, 212; Physics 241. 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 318; Physics 241. Basic elements of geomagnetism, seismology, gravity, and heat flow with reference to the internal structure of the earth.
- 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: Geol 318 and permission of instructor. Methods of geological field investigations; use of field instruments. 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.
- 412 **FIELD GEOLOGY FOR TEACHERS (2-5)**
Prereq: Geol 211. The geology of Northwest Washington as observed in the field. Offered 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. Offered summer only.
- 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.
- 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.

419 SEDIMENTARY PETROLOGY LAB (1)

Prereq: Geol 418. Study of the origin of sedimentary particles and their lithification and diagenesis; techniques for field study of sedimentary rocks.

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 419 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.

452 APPLIED GEOPHYSICS (5)

Prereq: Geol 352. Geological applications of geophysical techniques.

453 PLATE TECTONICS (4)

Prereq: Geol 352. Kinematics and dynamics of plate motions, with applications to geotectonics.

454 GEOTECTONICS AND EARTH PHYSICS (4)

Prereq: Geol 352; Geol 453 recommended. Mechanical and thermal properties of the earth, with special applications to orogenic belts. Normally offered alternate years with Geol 455.

455 PALEOMAGNETISM (4)

Prereq: Geol 352 and one year of college physics. Origin and interpretation of natural magnetism in rocks; origin and behavior of the geomagnetic field; geological interpretation. Normally offered alternate years with Geol 454.



Geology

- 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 groundwater resources.
- 480 **GEOLOGICAL LAB TECHNIQUES (1-2)**
Prereq: Geol 306, 418. X-ray, optical and analytical techniques used in advanced laboratory studies. S/U grading.
- 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, Chem 123. High temperature and low temperature aqueous geochemistry related to ore deposition and to dispersion of elements in the environment.

- 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.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on page 37-38 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.
- 524 **SEDIMENTARY PETROLOGY AND PETROGRAPHY (5)**
Prereq: Geol 419, 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.
- 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.
- 546a,b **COMPUTER APPLICATIONS IN GEOLOGY (3 ea)**
Prereq: permission of instructor; prior use of micro-computers required. Geological data management and problem solving using the computer. S/U grading.
- 550a,b **STRUCTURAL ANALYSIS OF DEFORMED ROCKS (2 ea)**
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 **PLATE TECTONICS (4)**
Prereq: Geol 352. Kinematics and dynamics of plate motions, with applications to geotectonics.
- 554 **GEOTECTONICS AND EARTH PHYSICS (4)**
Prereq: Geol 352; Geol 553 recommended. Mechanical and thermal properties of the earth, with special application to orogenic belts. Normally offered alternate years with Geol 555.
- 555 **PALEOMAGNETISM (4)**
Prereq: Geol 352 and one year of college physics. Origin and interpretation of natural magnetism in rocks; origin and behavior of the geomagnetic field; geological interpretation. Normally offered alternate years with Geol 554.
- 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 **FIELD SEMINAR IN REGIONAL GEOLOGY (3)**
Prereq: graduate status. Weekend field excursions to introduce graduate students to the geology of the Pacific Northwest and areas of research interest.
- 595 **SEMINAR IN CONTEMPORARY GEOLOGY PROBLEMS (1)**
Prereq: graduate status 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.
- STEPHANIE E. CHRISTELOW (1985) Associate Professor. BA, San Diego State University; MA, PhD, University of California, Santa Barbara.
- 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, PhD, Emory University.
- ALAN GALLAY (1988) Assistant Professor. BA, University of Florida; MA, PhD, Georgetown University.

- LEONARD M. HELFGOTT (1970) Associate Professor. BA, MA, PhD, University of Maryland.
- 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 (1937) Associate Professor. Ed. 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.
- ELIZABETH MANCKE (1989) Assistant Professor. BA, Colorado College; MA, University of British Columbia; PhD, Johns Hopkins University.
- GEORGE E. MARIZ (1970) Professor. BA, MA, PhD, University of Missouri.
- 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 East Asian Studies and History. BA, MA, PhD, University of Wisconsin.
- LOUIS W. TRUSCHEL (1970) Associate Professor. BA, Pacific Lutheran University; MA, PhD, Northwestern University.
- JEANNIE M. WHAYNE (1989) Assistant Professor. BA, MA, PhD, University of California, San Diego.

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. Twelve history credits of General University Requirements may be applied toward a major or minor. (See General University Requirements in the College of Arts and Sciences section.) Further, history majors are encouraged to enroll in Methods of Research and Analysis (History 398), which offers practical training in the tools of historical research.

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 2.50 is required for graduation.

Minor — History 25 credits

- 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 2.50 is required for graduation.

Minor — 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 (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 history 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.

History

A minimum grade point average in history of 2.50 is required for graduation and recommendation for teaching endorsement.

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
- 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.

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 X97, X97, 300, 400, 417, 445 are described on page 37-38 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 Lbrl 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.
- 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.
- 296 **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.
- 297 **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, Lbri 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.
- 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 Lbri 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 Lbri 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 Lbri 121, 122, 123. Readings and related films on selected historical topics; subject and course content varies with instructor. Repeatable for credit once.
- 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.
- 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.

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 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 JEWS (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.
- 398 METHODS OF RESEARCH AND ANALYSIS (3)**
Prereq: Hist 103 or 104; Hist 111, 112, or 113. The course familiarizes students with a wide variety of historical methods and tools and their application to themes in history. To develop writing skills as well as techniques in data analysis, source criticism, linguistics and place-name analysis and archeology. Members of the history faculty participate in seminars and discussions.
- 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)
- 416 **EARLY FRANCE AND THE AGE OF CHIVALRY (4)**
Prereq: Hist 315 or any 300-level history course. Analysis of social and political change within the region now known as France, from its habitation by Celts, Romans and Franks to its eventual dominance over the continent in the mid 15th century.
- 418 **MEDIEVAL ENGLAND (4)**
Prereq: Hist 315 or any 300-level history course. Social, religious and political accommodations made by a pagan, insular people in response to successive conquests by Celts, Romans, Saxons, Vikings and Normans. Traces continuity and change over nearly 15 centuries and witnesses the evolution of distinctive English culture.
- 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 FROM 1815 to 1914 (5)**
Prereq: senior status. From the wars of liberation to the First World War.
- 432 **GERMANY FROM 1914 TO PRESENT (5)**
Prereq: senior status. The impact of World War I; the Weimar Republic, the Third Reich and the period since 1945.
- 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.
- 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.
- 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.

History

- 442 FRANCE SINCE 1815 (5)
Prereq: Hist 113, Lbrl 123 or equivalent. Political, social and economic development of France since Napoleon.
- 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 AMERICAN REVOLUTION AND THE CREATION OF A NEW NATION (5)
Prereq: senior status. Origins of the patriot movement; effect of military strategy upon society; ramifications of the Revolution upon political institutions and social groups; post-war debates over shaping of the new nation; expansion, foreign policy and warfare to 1812.
- 453 THE MIDDLE PERIOD: 1612-1840 (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 (5)
Prereq: any 300-level history course. The United States in world affairs from colonial times to the present.
- 469 ORIGINS OF THE OLD SOUTH (5)
Prereq: senior status. Analysis of processes which transformed southern colonies into a distinct region: interaction of Indians, blacks and whites; evolution of slavery and the plantation system; competing concepts of family, place and economy; influence of climate and geography; politicization and ideology.
- 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, East Asian 201, 202. 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.
- 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.
- 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 37-38 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)
A survey of historians and approaches to the idea of history from antiquity to the turn of the 20th century.
- 502 HISTORIOGRAPHY II (4)
A thematic survey of the development of historical scholarship since 1900.
- 512 THE ANCIENT WORLD (4)
Prereq: one upper-level course in ancient history or permission of instructor.
- 515 MEDIEVAL HISTORY (4)
Prereq: Hist 315, or 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.
- 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)
- 568 ADVANCED SEMINAR IN ARCHIVES AND RECORDS MANAGEMENT (4)
Prereq: Hist 596 or 598. Readings in selected aspects of archives administration and the management of current records and information systems.
- 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 of the department. Readings in the history of China from 1912 to the present.
- 583 ANCIENT JAPAN (4)
Prereq: graduate status in history and Hist 483. Readings in Japanese historical writings up to the Meiji Restoration.
- 585 MODERN JAPAN (4)
Prereq: graduate status 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)

History

592a,b,c SEMINAR IN HISTORICAL RESOURCES ADMINISTRATION (4,4,10)

Prereq 592a,b: graduate status in history; 592c: approval of department graduate program committee. Readings, research, writing and internship experience in the theory and applications of historical resources administration.

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 ea)

Prereq: Hist 596 or 598. Professional internship in a cooperating agency or organization.

690a RESEARCH AND WRITING SEMINAR: THESIS (4)

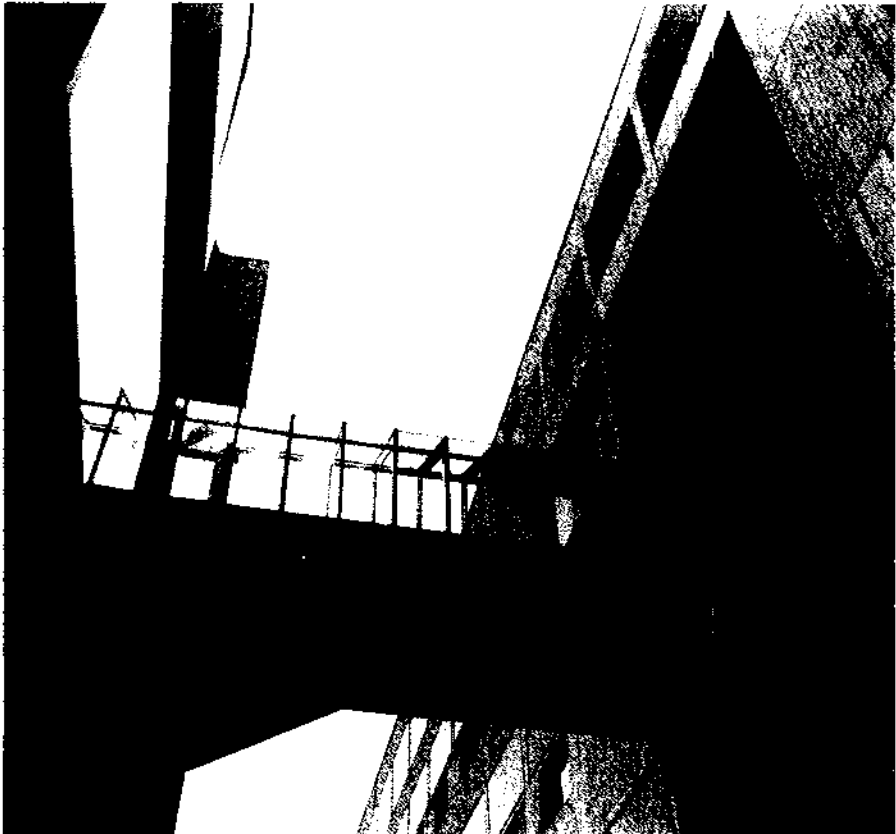
Introduction to research, the use of primary source materials, auxiliary sciences, problems of interpretation, textual criticism and the use of bibliographical aides. A knowledge of foreign language or the use of statistics or computer programming may be required depending upon the topic of research.

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 1990s 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."^{*}

HOME ECONOMICS FACULTY

ROSALIE ROSSO KING (1983) Chair.
Professor, BS, University of Washington;
MEd, Massachusetts State College at Framingham; PhD, University of Washington.

^{*}*Home Economics: An Introduction to a Dynamic Profession*, 2nd edition, Macmillan Pub., p. 10

LOU KUPKA-SCHUTT (1985) Lecturer, BA, University of Northern Iowa; MS University of Washington.

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

home economics find opportunities 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, 410 (11 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:* 14 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 107 credits

This concentration is designed for the student desiring a professional interior design education. The program is based on the premise that education is the first component in the preparation of a professional interior designer. That training includes formal interior design education, entry-level experience in the form of internships and satisfactory completion of a program that prepares students to pass qualifying examinations for entrance into the profession.

The responsibility to make decisions affecting the health, safety and welfare of the public is addressed as well as knowledge of anthropometrics and ergonomics, proxemics and behavioral theory; requirements for special populations (i.e., disabled,

elderly); interior construction and detailing; lighting; HVAC, physical attributes of materials, installation methods; building codes; fire codes and life safety requirements; industry product standards; business practices; specification writing for interior construction and furnishings. This program follows the guidelines of The Foundation for Interior Design Education Research (FIDER). Important aspects of the program include: opportunity to apply design concepts to situations within the community or University; and field trips relevant to the design industry, meeting with professionals in the field and working with the actual resource library.

Early advising is important for this program; classes must be taken in sequence and prerequisites followed.

A competitive selection process at the end of the sophomore year includes a portfolio review, a grade point average of 2.75 and successful completion of General University Requirements as well as supporting courses. Acceptance gives students entry to a professional sequence of interior design classes at the junior and senior level.

Another competitive selection process at the end of the junior year includes a portfolio review and a grade point average of 3.00 within the program. Acceptance completes the competitive selection process.

Career opportunities in the interior design field are varied: interior design, interior furnishings, merchandising, facilities management, marketing, retailing, residential and contract design, product design, historic preservation, communications and education.

- Core requirements:* Home Econ 122, 175, 250, 410 (11 credits); Home Econ 410 to be taken the senior year. All other core credits must be completed for acceptance into program
- Supporting courses:* 3 credits basic computer, 4 credits art his-

tory, 3 credits of business: including economics, marketing, management and finance. Suggested: art and art-related course work for use in portfolio. Must be completed before acceptance into program. (10 credits)

- All GUR credits must be completed before acceptance into program. A total of 12 GUR credits may be applied toward supporting course requirement
- *Concentration requirements:* Home Econ 360, 361, 362, 328, 329, 372, 164, 365, 371, 369, 376, 475, 476, 480, 482, 310, 412 (80 credits)
- *Electives:* Highly recommend that these credits come from the variety of specialized classes offered by design professionals during summer school or specialized classes with the Center for Apparel Design and Fashion Marketing

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, 410 (11 credits)
- Concentration requirements: Home Econ 164, 300, 301, 318, 319, 380, 382, 383, 384, 385, 386, 387, 388, 390, 392, 394, 395, 461, 465, 491 (68 credits)
- Supporting courses: Econ 203 and 204 (8 credits)
- Electives: 23 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, 410 (11 credits)
- Concentration requirements: Home Econ 164, 300, 301, 303, 305, 306, 307, 308, 309, 310, 311, 318, 380, 394, 395, 461, 491; Mgmt 311, 322 (71 credits)
- Supporting courses: Econ 203 and 204 (8 credits)
- Electives: 20 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 per-

sonnel, 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, 410 (11 credits)
- *Concentration requirements:* Home Econ 164, 322, 334, 338, 350, 353, 360, 370, 422, 432, 441, 448 (Child Development and Family Relationships credits to total 12)
- *Electives:* 13 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.

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
LOU KUPKA-SCHUTT, Department of Home Economics
GERRY 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 Lou Kupka-Schutt (676-3373) or Ming-Ho Yu (676-3504)

Major 101-112 credits

- Biol 101, 345, 348, 349
- Econ 203
- Chem 121, 122, 123, 251, 371
- Home Econ 250, 350, 353, 450, 454, 456
- Envr 352, 452, 453, 454
- Mgmt 311
- Math 240
- Psych 201, and 321 or 351
- Soc 202

Minor 25 credits

- Home Econ 250, 350, 450
- Envr 352, 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 37-38 of this catalog.

- 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.
- 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.
- 301 FASHION MARKETING I (4)
Prereq: junior status. 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 status. 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 status. 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 status. 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 (2)
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.)

Home Economics

- 311 VISUAL PRESENTATION STUDIO (5)
Prereq: junior status. Survey and participation in the art of visual presentation, illustrations to bring to life merchandising concepts. Theory, demonstration and laboratory (Offered in Seattle only.)
- 314 INTRODUCTION TO INFORMATION SYSTEMS (3)
Prereq: junior status. Structure of management systems and their application to computers in the apparel industry (Offered in Seattle only.)
- 315 SPECIAL EVENTS/PROMOTION PRODUCTION (1)
Prereq: junior status. (Repeatable one time.) 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 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.
- 328 INTERIOR PERSPECTIVE AND DESIGN COMMUNICATION (3)
Prereq: Home Econ 175, 250, 122; interior design major, or written permission of department. Drawing interiors and exteriors in perspective; elevations; lettering; graphics and beginning computer systems. A studio class.
- 329 INTERIOR DRAFTING AND DESIGN COMMUNICATIONS I (5)
Prereq: Home Econ 175, 328, 360, interior design major, or written permission of department. A studio class developing drafting skills: floor plans; elevations; cabinet sections; plans and detail drawing; advanced lettering; and advanced computer systems for interiors.
- 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.
- 360 INTERIOR DESIGN I (5)
Prereq: Home Econ 175 and written permission of department. The elements and principles of design; composition (spatial); beginning color studies; two-dimensional design fundamentals. A studio class.
- 361 INTERIOR DESIGN II (5)
Prereq: Home Econ 175, 360 and written permission of department. A studio class with emphasis on two-dimensional design and presentation, theories of advanced color; color rendering and presentation for interior space.

- 362 **INTERIOR DESIGN III (5)**
 Prereq: Home Econ 360, 361, 175 and written permission of department. A studio class with emphasis on three-dimensional design, advanced spatial composition, model construction and furniture design as related to interior space.
- 365 **TEXTILE FIBER AND FABRIC ANALYSIS (5)**
 Prereq: Home Econ 164, 10 credits laboratory science classes, junior status. 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.
- 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.)
- 369 **HISTORY AND EVOLUTION OF HOUSING (3)**
 Prereq: Home Econ 175, interior design major only. History of housing; housing theories; housing alternatives; history of architectural styles; human factors; design for special concerns (i.e., elderly, barrier free, etc.).
- 370 **HOUSING (3)**
 Prereq: Home Econ 175. Housing alternatives for the family; historical, aesthetic and cultural implications.
- 371 **ETHNIC DESIGN (3)**
 Prereq: Home Econ 175. The history and development of specific ethnic design as it relates to interiors and cultural needs. Ethnic area will change from year to year and may be taken for credit more than once.



- 372 **BUILDING SYSTEMS (5)**
 Prereq: Home Econ 175, 328, 329; 369 recommended. Structural and construction components of interior space; terms and systems: HVAC; lighting; plumbing; electrical; acoustics and energy concerns, theory and practice as related to interiors.
- 376 **FURNITURE HISTORY I (3)**
 Prereq: Home Econ 175; 369 recommended, or written permission of department. Gothic through 18th century; furniture, textiles, accessories, decorative arts, architectural and social concerns.
- 380 **CLOTHING CONSTRUCTION I (3)**
 Prereq: junior status. 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 status. 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 status. 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 WEAR DESIGN (2)**
Prereq: Home Econ 381, 384, 385. Using skills developed in previous course work, the student applies techniques for the design of garments for men. (Offered in Seattle only.)
- 392 **PORTFOLIO COLLECTION (1)**
Prereq: senior status. 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.)
- 393 **CHILDREN'S WEAR DESIGN (2)**
Prereq: Home Econ 381, 384, 385. Using skills developed in previous course work, the student applies techniques for the design of garments for children. (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 334, 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 status. 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.
- 412 **INTERIOR DESIGN INTERNSHIP (8)**
Prereq: senior status; interior design majors only, written permission of department. Internship with qualified design professionals in Seattle following pre-planned completion of goals and objects which result in a senior paper/project.
- 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.
- 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.
- 441 **HOME ECONOMICS VOCATIONAL EDUCATION (5)**
 Prereq: Psych 371; 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.
- 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.
- 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.
- 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.
- 456 **FOOD SERVICE MANAGEMENT (5)**
 Prereq: Home Econ 353, Envr 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.)
- 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 **FURNITURE HISTORY II (3)**
 Prereq: Home Econ 175, 376 or written permission of department. 19th through 20th Century: furniture, textiles, accessories, decorative arts, architecture and social concerns. Study of departmental historic chair collection.
- 476 **RESIDENTIAL DESIGN (8)**
 Prereq: senior status; interior design majors only. A studio class with emphasis on problem solving; space planning, furniture layout and selection, kitchen and bath design, design for special populations. Rendering and visual/oral presentation.
- 479 **BUSINESS OF INTERIOR DESIGN (2)**
 Prereq: junior status 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 **RESIDENTIAL AND CONTRACT RESOURCES (3)**
 Prereq: senior status, interior design majors only. Emphasis on research and development of resources and resource workrooms, specification of products, standards and codes; estimating; measuring of resources (i.e., fabric, carpet, wall-coverings, etc.).
- 482 **CONTRACT DESIGN (8)**
 Prereq: senior status; interior design majors only. A studio class emphasizing problem solving; space planning, furniture layout and selection, furniture and office systems. Design for special populations. Design for special purposes; historic preservation and adaptive re-use. Design attributes: lighting, color, materials and specification.
- 491 **APPAREL DESIGN/FASHION MARKETING PRACTICUM (5)**
 Prereq: senior status in apparel design or fashion marketing. Internship program placing the student in a work environment within the industry. (Offered in Seattle only.)

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

- LYLE E. HARRIS (1976) Chair.
Associate Professor. BA, MA, University of Montana; PhD, University of Missouri.
- CAROLYN DALE (1977) Associate Professor.
BA, MC, University of Washington.
- GERSON F. MILLER (1967) Professor. BA, University of California, Berkeley; MA, Pennsylvania State University.

- 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.
- SONYA ZALUBOWSKI (1988) Visiting Assistant Professor. BA, University of Wisconsin; MA, University of Illinois.

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.)
 - (c) Students who earn a GPA of 3.0 or better in five of any of the above staff courses may substitute a journalism elective for their sixth staff course
- Journ 430
- 15 upper-division credits in other academic areas under departmental advisement
- Cumulative GPA of 2.25 or higher in major
- A maximum of 55 journalism course credits may be applied toward the 180-credit minimum for graduation

*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:
 - (a) Two from: Journ 111, 112, 113, 114, 211, 212, 213, 214, 311, 312, 313, 314, 411, 412, 413, 414
 - (b) One from: Journ 121, 122, 123, 221, 222, 223, 321, 322, 323, 421, 422, 423, 431, 432, 433

COURSES IN JOURNALISM

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 37-38 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 status; Journ 104. Participation on the staff of the university newspaper; critiques in news reporting, writing, editing and make-up; editorial writing.
- 121, 122, 123 PERIODICAL STAFF (2 ea)**
Prereq: freshman status; Journ 104; one newspaper staff course. 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.
- 180 INTRODUCTION TO MASS MEDIA (4)**
Introduction to basic issues and problems facing journalists and the public as recipients of mass media messages in national and international society; nature, theory and effects of communication; media systems, structure and support; world news flow; media controls; First Amendment rights; ethical considerations. Credit not allowed for both Journ 190 and Comm 240.
- 204 COPY EDITING (3)**
Prereq: Journ 104. News copy desk operations; editing, headline writing; dummymaking; page make-up.
- 211, 212, 213, 214 NEWSPAPER STAFF (2 ea)**
Prereq: sophomore status; Journ 104. Participation on the staff of the university newspaper; critiques in news reporting, writing, editing and make-up; editorial writing.
- 221, 222, 223 PERIODICAL STAFF (2 ea)**
Prereq: sophomore status; Journ 104; one newspaper staff course. 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: Tech 260 or equivalent experience; 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. (Students must have their own access to darkroom facilities.)
- 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 status; Journ 104. Participation on the staff of the university newspaper; critiques in news reporting, writing, editing and make-up; editorial writing.
- 321, 322, 323 PERIODICAL STAFF (2 ea)**
Prereq: junior status; Journ 104; one newspaper staff course. 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 as interpreted through the courts; libel, privacy, access to information, censorship, contempt, agency regulations.
- 351 **PRESS ETHICS (3)**
Prereq: Journ 104. Introduction to ethical theories; examination of press codes and standards; changing roles of the news media that affect moral reasoning for the journalist; responsibilities of the press in a world of instant communication and reaction; historical perspectives through case studies; use of reporting methods, headlines, pictures, and news play in print and broadcast
- 360 **LITERATURE OF JOURNALISM (3)**
Prereq: junior status. 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 status, Journ 104. Participation on the staff of the university newspaper; critiques in news reporting, writing, editing and make-up; editorial writing.
- 421, 422, 423 **PERIODICAL STAFF (2 ea)**
Prereq: senior status; Journ 104; one newspaper staff course. 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.
- 430 **FIELD INTERNSHIPS (6)**
Prereq: Journ 204, 304, 350, and newspaper staff courses written permission. 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.
- 431, 432, 433 **TELEVISION NEWS STAFF (2 ea)**
Prereq: Journ 304, one newspaper staff course, 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 Comm 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)**
Prereq: Journ 304. 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).
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) 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. STOOPS, Jr. (1983) Associate 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 315, 320, 330, 340, 350, 364-369, 420, 421, and other appropriate upper-division courses
- Lbrl 499

Lbrl 302 and Eng 304 should be completed before enrolling in Lbrl 417a-d. A passing score on the Junior Writing Examination and permission of the instructor are required for enrollment 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 program. 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. A passing score on the Junior Writing Examination and permission of the instructor are required for enrollment 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

*Contact department before enrolling.

writing may be required to complete an appropriate additional writing course.

For information or advisement, contact 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 37-38 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.

Liberal Studies

- 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, and permission of instructor. 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 status. 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 status, permission of instructor. 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, discrete mathematics, statistics, number theory, geometry, history of mathematics, 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. In addition to the requirements for the major, they are expected to complete these courses: Math 305, Math 360, Math 419, and Math 483.

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

Placement in the first mathematics course at Western will be on the basis of the results of an appropriate placement test except for students who have successfully completed at least one quarter of calculus in college. 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.

Students who have completed one quarter or more of college calculus may not receive credit for any of Math 102, 103, 104, 105, 151, or 155 except by permission of the department chair.

Advice to Entering Students

The B.S. degrees in mathematics, applied mathematics and mathematics/computer science, and the B.A. in Education in mathematics—secondary are based on the following core:

- Math 124, 125, 126, 224 (calculus)
- Math 204, 304 (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 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 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, 204, 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

Mathematics

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.
- DONALD R. CHALICE (1967) Associate Professor. BA, University of Wisconsin; MA, PhD, Northwestern University.
- KEITH CRASWELL (1966) Associate Professor. BS, MS, PhD, University of Washington.
- BRANKO CURGUS (1988) Assistant Professor. BS, MS, PhD, University of Sarajevo.
- 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) Professor and Vice President for External Affairs. 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 (1964) Associate Professor. BA, San Francisco State College; MA, PhD, University of Washington.
- NORA HARTSFIELD (1984) Associate 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.
- LES A. KARLOVITZ (1989) Professor and Provost/Vice President of Academic Affairs. BS, Yale University; PhD, Carnegie Institute of Technology.
- 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.
- YUN-OIU SHEN (1988) Assistant Professor. BS, University of Science and Technology of China; MS, PhD, Michigan 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, 204, 281, 305, 341, 360, 419, 481
- Math-CS 207-208
- CS 210

It is recommended that the student also take EdAF 452.

Major — Mathematics —

Secondary 71 credits

- Math 124, 125, 126, 204, 224, 305, 312, 341 or 441, 360, 419, 483
- Math-CS 207, 208, 375
- CS 210
- Math 401 or 304
- At least one of the following two-course sequences: Math-CS 335-435, Math-CS 375-475, Math 401-402, Math 331-432, Math 331-430, Math 331-438, Math 304-404, Math 423-424, or Math 441-442

It is recommended that the student also take EdAF 452.

Minor — Mathematics

41 credits

This minor meets the requirements for a Supporting Endorsement in mathematics (4-12) for Washington state certification.

- Math 124, 125, 204, 360, 419, 483
- Math 305
- Math-CS 207-208, CS 210

Combined Majors

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, 204, 224, 304, 312, Math-CS 207
- CS 210
- Not fewer than 32 credits of approved electives in mathematics or math/computer science, including at least two of the following sequences: Math 331-432, Math 341-342 or Math 441-442, Math 401-402, Math-CS 335-435, Math-CS 375-475, Math-CS 423-424
- One of the following supporting sequences:
 - Physics 241, 242, 341, 351
 - Chem 121, 122, 123
 - CS 331, 332, 405
 - Geol 211, 212, 318

Permission to substitute some other sequence relevant to the student's educational objectives may be sought from the department chair

- Electives to include at least 20 credits from 400-level courses in mathematics or math/computer science, except Math 419, 481 or 483
- 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 as part of their major programs.

Major — Applied Mathematics

99 credits

- Math 124, 125, 126, 204, 224, 304, 312, 331, Math-CS 207-208
- CS 210
- Math-CS 335, 375
- Math 341-342 or Math 441-442
- One of the following concentrations:
 - a) Engineering Mathematics Concentration: Math 430, 432, 438, Math-CS 475 and one other 400-level course
 - b) Operations Research Concentration: Math-CS 435-436, CS 439 and two 400-level courses
- 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, 204 and CS 207, and CS 210 in the freshman year. Courses completed in the sophomore year should include at least Math-CS 208, Math 224, 304 and 331.

Mathematics

Minor — Mathematics

36 credits

(Not available to computer science majors.)

- Math 124, 125, 126
- Math 204
- CS 110 or 210
- 13 credits of approved electives from Math-CS 207, Math 224 and upper-division courses except Math 481 and 483

Combined Major — Mathematics-Computer Science

92 credits

- Math 124, 125, 126, 204, 224, 312, 331, 432 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 upper-division 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 37-38 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. 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 at least C- in 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. 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 at least C- in Math 103. Angles and angle measurement, trigonometric functions, identities, trigonometric equations, inverse trigonometric functions. 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 at least C- in Math 104. Inequalities, functions, especially rational, exponential, logarithm and trigonometric functions. Inverse functions. Course emphasizes advanced graphing techniques and solution of word problems.

- 124 **CALCULUS AND ANALYTIC GEOMETRY (5)**
 Prereq: suitable score on the *Precalculus* mathematics placement test or at least C- in 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, 104, 105, 124, 155, 204, 240, 241.
- 155 **ALGEBRA WITH APPLICATIONS TO ECONOMICS AND BUSINESS (4)**
 Prereq: suitable score on the *Intermediate Algebra* mathematics placement test or at least C- in 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: C- or better in Math 155 or Math 105 or suitable score on the *Precalculus* mathematics placement test. Functions and limits; differential and integral calculus, including partial differentiation.
- 204 **ELEMENTARY LINEAR ALGEBRA (4)**
 Prereq: Math 124. Systems of linear equations, matrices, determinants, vector spaces, linear independence and bases, subspaces for R^2 and R^3 , introduction to eigenvalues and eigenvectors, applications.
- 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 126. Introduction to probability with applications.
- 281 **MATHEMATICS IN GRADES K-8 (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. Concepts in arithmetic, informal geometry and measurement development from a problem-solving perspective. Not acceptable for any departmental major except B.A. in Ed., Elementary.
- 304 **LINEAR ALGEBRA (4)**
 Prereq: Math 125, 204, Math-CS 207. Linear transformations; orthogonalization, inner products and norms; further study of eigenvalues and eigenvectors; applications.
- 305 **NUMBER THEORY (4)**
 Prereq: Math 125 or 204. The properties of integers, Euclid's algorithm, Diophantine equations, congruences, continued fractions and residues.

Mathematics

- 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.
- 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 or minor in the Department of Mathematics. Open only to technology students except by permission.
- 331 ORDINARY DIFFERENTIAL EQUATIONS (4)**
Prereq: Math 126; students should also have (or take concurrently) Math 204. An introductory course including first order equations, second and higher order linear equations, series solutions, and applications to physical and other systems.
- 341, 342 STATISTICAL METHODS (4 ea)**
Prereq: Math 126; 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, non-parametric tests. Applications from economics, business, the sciences, education and psychology.
- 350 PROBLEM SOLVING SEMINAR (3)**
Prereq: Math 126 or permission. Techniques of problem solving in mathematics with particular emphasis on selected topics in discrete mathematics, calculus and elementary real analysis.
- 360 EUCLIDEAN AND NON-EUCLIDEAN GEOMETRY (4)**
Prereq: Math 125, 204, Math-CS 207. Metric development of Euclidean geometry and consideration of non-Euclidean geometries.
- 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 ABSTRACT LINEAR ALGEBRA (4)**
Prereq: Math 304, 312. Abstract vector spaces, linear transformations, spectral theory.
- 410 MATHEMATICAL MODELING (4)**
Prereq: Math 432. Project required; discrete continuous and positive systems, stability analysis, bifurcations, applications.
- 412 MATHEMATICAL MODELING COMPETITION (1)**
Prereq: permission of instructor. Preparation for participation in the national mathematics modeling competition. Repeatable.
- 419 HISTORICAL PERSPECTIVES OF MATHEMATICS (3)**
Prereq: 12 credits of upper-division mathematics and passing grade on junior writing examination. History and development of mathematical thought from ancient to modern times. Philosophical, sociological and biographical perspectives.
- 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, 304, 312. Introduction to metric spaces. Applications to infinite series, uniform convergence and other properties of continuous functions; the theory of derivative and of the Riemann integral.
- 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, 304, and 423. Parameterization of curves and surfaces, implicit function theorem, differentials, integration of differential forms, generalized Stoke's theorem.

- 430 **FOURIER SERIES AND PARTIAL DIFFERENTIAL EQUATIONS (4)**
 Prereq: Math 224, 304, and 331. 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.
- 432 **SYSTEMS OF DIFFERENTIAL EQUATIONS (4)**
 Prereq: Math 204 and 331; 304 recommended. Laplace Transforms, first order linear systems, stability theory of nonlinear systems, phase portraits, applications.
- 438 **INTRODUCTION TO COMPLEX VARIABLES (4)**
 Prereq: Math 224, 312 or permission. Differentiation and integration of complex-valued functions; Cauchy integral theorem; calculations of residues.
- 441, 442, 443 **MATHEMATICAL STATISTICS (4 ea)**
 Prereq: Math 224 and 304; each course prerequisite to the next. Probability theory, development of distributions; generating functions; averages, moments, regression, correlation, variance, and statistical inference.
- 481 **METHODS OF TEACHING MATHEMATICS IN GRADES K-8 (4)**
 Prereq: Math 281 with grade of C- or better. Survey of instructional modes and teaching strategies. Topics included are sequencing, evaluation, remediation, problem solving and attitudes.
- 483 **METHODS OF TEACHING SECONDARY MATHEMATICS (4)**
 Prereq: at least two upper-division mathematics courses. Topics discussed include pre-algebra, algebra, geometry, problem solving and resource materials.
- 504 **ABSTRACT LINEAR ALGEBRA (4)**
 Prereq: Math 304 and a 400-level course requiring student proofs of theorems. Abstract vector spaces, linear transformations, spectral theory
- 505 **APPLIED LINEAR ALGEBRA (3)**
 Prereq: Math 304. Linear modeling of mathematical phenomena, including phenomena from the sciences, and the application of matrix theory.
- 508 **COMBINATORICS (3)**
 Prereq: graduate status in mathematics. Counting techniques, generating functions, coding, coloring, relationships to probability theory.
- 510 **MATHEMATICAL MODELING (4)**
 Prereq: Math 432. Major project required. Discrete, continuous and positive systems, stability analysis, bifurcations, applications.
- 515 **DIFFERENTIAL GEOMETRY (4)**
 Prereq: Math 423. Geometry of curves and surfaces in \mathbb{R}^3 .
- 518 **TOPOLOGY (3)**
 Prereq: Math 423. Topological spaces, metric spaces, connectedness, compactness, product and quotient spaces, function spaces.
- 520 **REAL ANALYSIS (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 37-38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

- 502 **ABSTRACT ALGEBRA (4)**
 Prereq: Math 401. Rings, fields, field extensions, Galois Theory.
- 503 **TOPICS IN ABSTRACT ALGEBRA (3)**
 Prereq: Math 401, 502 or equivalent. Special topics in algebra based on the theory of groups and the application of group theory to other fields.
- 522 **FOURIER-LAPLACE TRANSFORM AND APPLICATIONS (3)**
 Prereq: Math 438, 520. Algebraic properties (including behavior of derivatives and convolution products), the inverse transform, generalized functions (and why they are necessary), solution of partial differential equations, Abel's mechanical problem and other specific scientific applications.

Mathematics

- 523 **METHODS OF MATHEMATICAL ANALYSIS (4)**
Prereq: an introductory real analysis course. Introduction to metric spaces. Applications to infinite series, uniform convergence and other properties of continuous functions. Theory of differentiation and of the Riemann integral.
- 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, 304, and 423. Parameterization of curves and surfaces, implicit function theorem, differentials, integration of differential forms, generalized Stoke's theorem.
- 533 **ADVANCED ORDINARY DIFFERENTIAL EQUATIONS (3)**
Prereq: Math 432, 523 concurrent. Existence and uniqueness of solutions, stability theory of non-linear equations, bifurcation.
- 535 **OPERATIONS RESEARCH (4)**
Prereq: Math 224, 304, 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.
- 538 **COMPLEX VARIABLES (4)**
Prereq: Math 224, 423. Differentiation and integration of complex-valued functions; Cauchy integral theorem; calculation of residues.
- 539 **COMPLEX ANALYSIS (3)**
Prereq: Math 523, 538. 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 224, 304. Probability theory, both discrete and continuous. The Central Limit Theorem.
- 542, 543 **MATHEMATICAL STATISTICS (4 ea)**
Prereq: Math 441. Math 542 prerequisite to 543. Distributions, generating functions, averages, moments, regression, correlation, variance, statistical inference.
- 546 **STOCHASTIC PROCESSES (3)**
Prereq: Math 404 and 441. Topics from Markov and sequential decision processes, renewal theory, inventory theory, stochastic control, etc.
- 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.
- 550 **TOPICS IN GEOMETRY (3)**
Prereq: graduate status in mathematics. A study of one or more topics in geometry such as convex sets, polytopes, tilings, integral geometry or combinatorial geometry.
- 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.
- 570 **OPTIMIZATION (4)**
Prereq: Math 304 and 423. Topics taken from nonlinear programming, calculus of variations or the theory of optimal control.
- 573 **NUMERICAL LINEAR ALGEBRA (4)**
Prereq: Math 304, Math-CS 375. Norms: fundamental matrix types, transformations and factorizations including singular value decomposition; linear equations, linear least squares; rounding error, conditions and stability; the algebraic eigenvalue problem (QR method).
- 574 **NONLINEAR COMPUTATION AND APPROXIMATION (4)**
Prereq: Math 224, 304, Math-CS 375. A selection of topics from the numerical solution of nonlinear algebraic equations, constrained and unconstrained nonlinear optimization and nonlinear least squares; least squares, minimax and spline approximation.
- 575 **NUMERICAL ANALYSIS (4)**
Prereq: Math 224, 304, 331, Math-CS 375. Eigenvalues and eigenvectors, systems of nonlinear equations and optimization, approximation, solution of initial value problems.
- 576 **NUMERICAL ANALYSIS (4)**
Prereq: Math-CS 575, corequisite Math 525. Topics in advanced numerical analysis.



595 TEACHING INTERMEDIATE ALGEBRA (1)
Prereq: appointment as TA teaching Math 102. S/U grading.

599 MATHEMATICS SEMINAR (1-3)

690 THESIS (variable credit)

691 PROJECT (1 or 2)
Prereq: advancement to candidacy, choice of project degree option. May be repeated to total of 2 credits.

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 wedging 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, functions and relations, equivalence relations, partially ordered sets and finite Boolean algebras.

208 DISCRETE MATHEMATICS II (4)
Prereq: Math-CS 207. Combinatorics, discrete probability, graph theory, algebraic systems, recurrences, Karnaugh maps.

335 LINEAR PROGRAMMING (4)
Prereq: Math 204 and CS 210. Linear programming, duality theory, sensitivity analysis, applications.

375 NUMERICAL METHODS (4)
Prereq: CS 210, Math 126 and 204. Elementary discussion of error, solution of non-linear algebraic equations, solution of linear systems of equations, polynomial interpolation, numerical quadrature and numerical differentiation.

435 OPERATIONS RESEARCH I (4)
Prereq: Math 126, 304, 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, non-linear 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 304. Eigenvalues and eigenvectors, systems of nonlinear equations and optimization, approximation, solution of initial value problems.

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.

Nursing

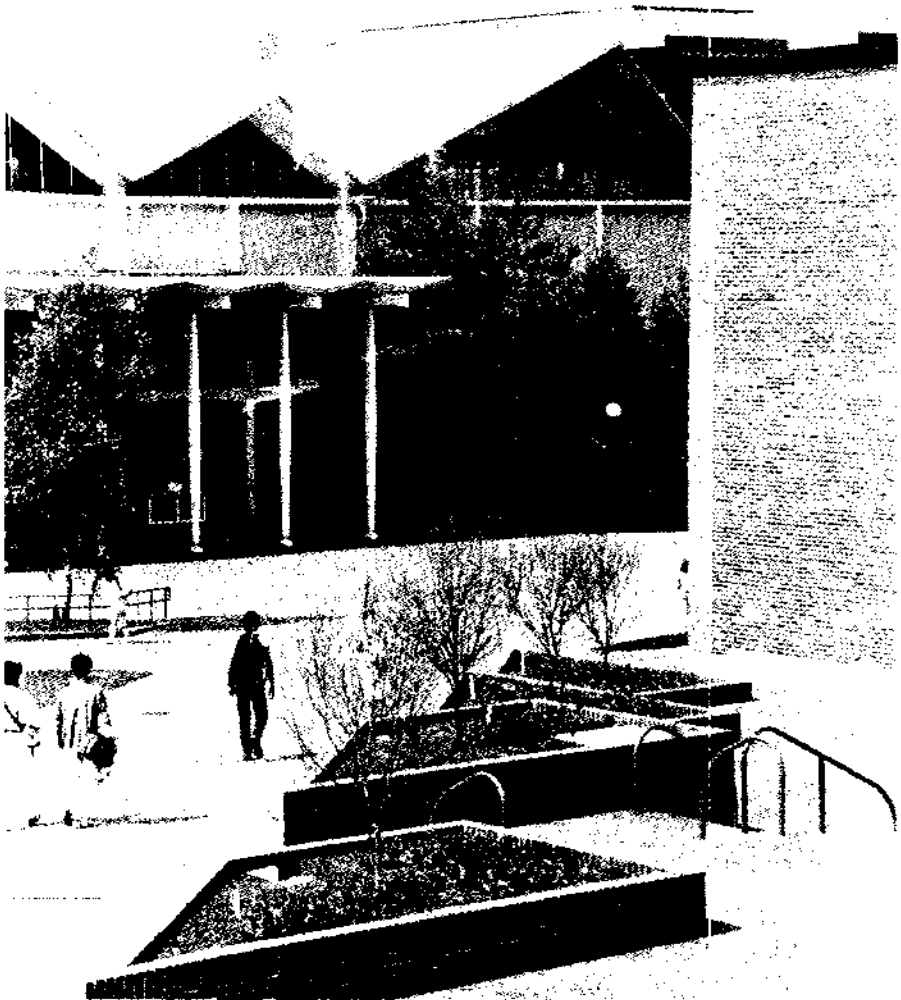
See the Professional Transfer Programs section of this catalog for information regarding one-year and two-year programs of study for students wishing to transfer to professional schools of nursing.

RN-BSN PROGRAM

Admission to Western's RN-BSN program, described below, has been suspended indefinitely, pending a

decision regarding its continuation or termination.

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.



Philosophy

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.

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 philosophy 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.

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.

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.

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.

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 60 credits

- Phil 102, 112, 201, 202, 310, 311, 364, 366, 367, 369, 410, 411, 420, 421, 425
- One course from Phil 365, 368
- 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 37-38 of this catalog.

102 INTRODUCTION TO LOGIC (3)
Introduction to the techniques of formal reasoning. Philosophy 102 in conjunction with Math 102 satisfies the General University Requirement in mathematics.

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.

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 satisfaction of General University Requirements until the entire sequence is completed.



- 303 **PHILOSOPHY OF LANGUAGE (3)**
 Prereq: Phil 102. 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.
- 310, 311 **THEORY OF KNOWLEDGE (3 ea)**
 To be taken in sequence. Prereq: Phil 102, 201. The attempt to understand the possibility, nature, origins and limits of knowledge; problems and concepts.
- 315 **INTRODUCTION TO EXISTENTIALISM (3)**
 Prereq: one course in philosophy or upper-class status. Major philosophers of the existential school, philosophical problems and answers as seen by existentialism. Special attention is given to Kierkegaard, Nietzsche and Sartre.
- 330 **SOCIETY, LAW AND MORALITY (3)**
 Prereq: one course in philosophy or upper-class status. 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 status 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 status. 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.
- 364 **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.
- 365 **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.
- 366 **HISTORY OF PHILOSOPHY: THE RATIONALISTS (4)**
 Prereq: one course in philosophy. Great philosophical thinkers in the rationalist tradition, their problems and their methods: Descartes, Spinoza, Leibniz, et al. Normally offered in even-numbered academic years.
- 367 **HISTORY OF PHILOSOPHY: THE EMPIRICISTS (4)**
 Prereq: one course in philosophy. Great philosophical thinkers in the empiricist tradition, their problems and their methods: Hobbes, Locke, Berkeley, Hume, et al. Normally offered in odd-numbered academic years.
- 368 **HISTORY OF PHILOSOPHY: KANT AND POST-KANTIAN PHILOSOPHY (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.
- 369 **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.
- 410, 411 **METAPHYSICS (3 ea)**
 To be taken in sequence. Prereq: Phil 102, 201, and one 300-level course. 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, 421 **ETHICAL THEORY (3 ea)**
 To be taken in sequence. Prereq: Phil 102 and 201, and one 300-level course, or permission of instructor. An examination of traditional and contemporary views concerning the overall nature of morality (views such as cognitivism and realism), and also of specific moral theories (such as utilitarianism and contractualism). Among other topics discussed are moral rights, moral responsibility and the moral virtues. 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

The department offers degree programs for students interested in professions related to exercise and sport science, physical education, health fitness, health education and recreation.

FACULTY

The department currently consists of 11 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 curriculum in health education offers a generalist preparation for a variety of career opportunities in health education and health promotion. The concentrations include:

- School Health Education
- Community Health Education
 - community-based
 - worksite-based

Recreation

The curriculum in recreation offers a generalist preparation for a wide range of career entry-level positions including:

- Community Recreation
- Therapeutic Recreation
- Outdoor Recreation
- Industrial Recreation
- Tourism

□ 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 intercollegiate athletic and club sports programs also are available.

PHYSICAL EDUCATION, HEALTH AND RECREATION

- RONALD D. RIGGINS (1977) Chair. Associate Professor. BA, Laverne College; MS Recreation, ReD, Indiana University.
- EVELYN E. AMES (1964) Professor. BS, University of Nevada; MS, Washington State University; PhD, University of Maryland.
- M. CHAPPELLE ARNETT (1960) Professor. BS, Centenary College; MS, Purdue University; EdD, University of Missouri.
- LORRAINE BRILLA (1985) Assistant Professor. BS, Pennsylvania State University; MS, Pennsylvania State University; PhD, University of Oregon.
- ROY CLUMPNER (1975) 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.
- CHARLES D. SYLVESTER (1984) Associate 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) Assistant Professor. BS, Wheaton College; MS, PED, Indiana University.

Faculty Associates — Health

- ROBERT COLLINS (1989) Health Education Curriculum Specialist, Bellevue Public Schools. BA, Whitman College; MS, University of Oregon; EdD, University of Oregon. (School Health Education).
- GAYLE M. KENNY (1988) Worksite Health Promotion Consultant. BSN, Duke University; MS, Whitworth College. (Community Health).
- LYNNE P. SHERWOOD (1986) Coordinator of Education and Safety, St. Joseph Hospital, Bellingham. BS (Food Science and Nutrition—Public Health Nutrition), BA, Central Washington University.
- LUCILLE TRUCANO (1982) Curriculum Consultant. BS, University of Washington; MS, University of California, Los Angeles. (School Health Education)

Coaching Associates

- Lynda M. Goodrich (1973) Athletic Director. BA in Ed, MA, Western Washington State College.
- Brad Jackson (1985) Men's Basketball Coach. BA, Washington State University; MA, Seattle Pacific University.

Athletic Training Associate

- Linda L. Bergen (1988) BA, ATC, California State University, Long Beach.

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

Physical Education

nutrition are included to provide more in-depth analysis of principles associated with human structure and function.

Prerequisites for entry into the major are (1) completion of 75 credits with a 2.5 GPA; (2) professional practicum experience in related field of study; and (3) written permission of the department. Each student is assigned an adviser; students must schedule an appointment to meet with the adviser and receive written approval before beginning the physical education sequence.

- 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, Envr 352a,b, 454, Math 240, PE 403, 440, Physics 131, 132, 133

B. Pre-Physical Therapy

53 credits under advisement

The pre-physical therapy option is available for students who wish to pursue post-baccalaureate study in a physical therapy certification program. In order to satisfy the admission requirement for most physical therapy professional programs, students should select 53 credits under advisement from the following:

- Biol 121, 122, 123, 340, 345, 349, 370, Chem 121, 122, 123, 251, Physics 131, 132, 133, Psych 201, 314, 316, Math 240, CS 101, 110

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 1,500 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.

This specialization must be pre-approved by the athletic training adviser and the athletic trainer of Western Washington University.

- Biol 349, PE 304, 409, 440, 491, 496, H Ed 350, Psych 201, Home Econ 250, Envr 352a,b

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: Each Student must meet with an assigned adviser and receive written approval prior to beginning the physical education major. Other prerequisites are (1) acceptance into the School of Education at a 2.75 grade point average; (2) competency test, or one credit class, or adviser approval 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, boardsailing; (3) Biol 348 or equivalent; (4) H Ed 252 or equivalent; (5) written permission of the department.

- 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

K-12 Physical Education

Supporting Teaching

Endorsement

38 credits

This course of study is a supporting endorsement in physical education grades K-12. This endorsement can be taken only if the student has a primary endorsement—an academic major which is certifiable by the State Superintendent of Public Instruction.

- Introductory courses: 10 credits
— Biol 348, H Ed 252, PE 203
- Instructional techniques: select two courses from:
— PE 220, 245, 250, 251, 256
- Exercise and Sport Science: 13 credits
— PE 302, 303; 309 or 310
- Pedagogy: 11 credits
— *PE 306 (or PE 350 plus 220 and 250), 401, 496

*Those students who want to emphasize elementary school teaching should select PE 350, and take 220 and 250 as the courses required from the 200 level. Those emphasizing secondary should select PE 306.

Major — Physical Education-Elementary Education

45 credits

This major is to accompany the elementary education professional program. Students complete an internship in an elementary classroom and are certified for teaching grades K-6.

Physical Education

- Biol 348
- H Ed 252
- PE 203, 220, 250, 251, 350, 301, 302, 303, 307, 309 or 310, 407, 485

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 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

Major — School Health Education 65 credits

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. Prospective majors should contact the School of Education Admissions Office (Miller Hall 202) regarding procedures related specifically to teacher education requirements.

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.

General Core 13 credits

- Chem 115*
- Nutrition — Home Econ 250* or Envr 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

School Health — Supporting Teaching Endorsement

24 credits

This course of study is a supporting teaching endorsement in school health education. This endorsement can be taken only if the student has a primary endorsement—an academic major which is certifiable by the State Superintendent of Public Instruction. The 24 credits are to include course work in: substance use and abuse, wellness and illness, safety education, nutrition and physiology.

- H Ed 150, 151, 152, 252, 350, 450

- Home Econ 250 or Envr 352a
- Biol 348 or PE 303

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 75 credits with a 2.5 grade point average, and (2) 26-27 credits (of which 18 credits meet GUR requirements) from the following: H ED 150, 151, 152, 252, Chem 115, 251, Home Econ 250 or Envr 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 — Comm 204 or 309 or Journ 405

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, Envr 454, Soc 335, 340, Comm 404
- Workplace-based setting: PE 208, 302, 403, 440, Rec 377, Psych 320, Tech 328

Minor — Community Health

25 credits

- H Ed 252, 349, 350, 447, 450
- Home Econ 250 (or Envr 352a)
- Biol 348
- 1-2 credits under departmental advisement

RECREATION

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 curriculum prepares students to plan, develop and administer programs and resources in a variety of 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 program emphasizes preparation in the broad areas of outdoor recreation, community recreation, and therapeutic recreation.

Physical Education

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 in 1986. Students interested in this program should consult Recreation for current information on admission procedures. **The program is popular, and the number of major and minor students is limited. Plan to apply early.**

BACHELOR OF ARTS

Major — Recreation 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 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

COURSES IN PHYSICAL EDUCATION

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 37-38 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 173 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 Lifeguard Training—New Method (2)

Prereq: current AFC Standard First Aid and Cardio-Pulmonary Resuscitation Certificate, and advanced swimming test instruction leading to qualification for the American Red Cross Lifeguard Training Certification.

120-129 DANCE (1 ea)

(See Theatre/Dance Department for additional dance offerings.)

- 120 Social Dance
- 122 Folk and Square Dance
- 123 Scottish Country Dancing

- 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
- Prereq: swimming test.
- 161 Board Sailing
 - 162 Horsemanship
 - 163 Sailing Instructor Training Course
- Prereq: demonstrate basic sailing competence
- 164 Kayak Touring
- Prereq: advanced level in swimming proficiency test
- 167 Bicycling
 - 168 Karate
 - 170 Hiking and Alpine Travel (2)
 - 173 Riflery
- The student enrolling in 157, 158, 159, 160, 161, 162, 163, 164, 170 and 173 pays cost of transportation and individual instruction. Students in 157, 158, 159, 161 and 167 also furnish own equipment.
- 180-193 INTERCOLLEGIATE SPORTS (2 ea)
- 180m Intercollegiate Football
 - 181 Intercollegiate Basketball
 - 183 Intercollegiate Track and Field
 - 185 Intercollegiate Golf
 - 186 Intercollegiate Tennis
 - 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 INSTRUCTOR COURSE—NEW METHOD (3)
- Prereq: ARC Emergency Water Safety Certificate or ARC Lifeguard Training Certificate, 80 percent or better on written pre-test, and 100 percent on swimming skill test.

- 301 BIOMECHANICS (4)
- Prereq: completion of math GUR. 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.

Physical Education

- 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 203. 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 250. 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 336. 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.
- 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.
- 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 Envr 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 or fitness settings.
- 491 **FIELD EXPERIENCE IN PHYSICAL EDUCATION ACTIVITIES (3)**
 Prereq: senior status and written permission of supervisor. Practical volunteer experience in agencies such as hospitals, fitness facilities, physical therapy clinics, on-campus fitness programs, community youth sport organizations and athletic training facilities. Repeatable with permission. S/U 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 37-38 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 **ANALYSIS OF EFFECTIVE TEACHING IN PHYSICAL EDUCATION (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 effectiveness in physical education. The study of current measurement of physical education teaching effectiveness, and 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 EdAF 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.
- 510 **LABORATORY TECHNIQUES IN EXERCISE SCIENCE (4)**
 Prereq: PE 301 and 303 or equivalent. Common laboratory techniques utilized in exercise science will be presented with emphasis on body composition analysis, circulo-respiratory testing, phlebotomy/blood analysis, muscular strength and endurance, computer usage, force platform analysis, electrogoniometry and cinematographical techniques.
- 511 **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.

Physical Education

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 IN 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 Biol 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 IN SPORT PSYCHOLOGY (3)

Prereq: PE 309 or permission of instructor. Theoretical foundations and behavioral applications of sport psychology including: history and current status of sport psychology, individual differences in sport behavior, motivation in sport, exercise psychology, social influence and sport, and the dynamics of sport groups.

542 SEMINAR IN SPORT SOCIOLOGY (3)

Prereq: PE 310 or permission of instructor. The study of sport as a microcosm of society with particular emphasis on the following topical areas: economics and sport, social mobility and sport, socialization, ethnic issues and sport, gender issues and sport, education and sport, sport and politics, and current social issues and sport.

543 SEMINAR IN 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.

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 37-38 of this catalog.

150 CONSUMER HEALTH (2)

Analysis of media promotion of health products and services; health quackery; guidelines for choosing health care; consumer protection.

151 SOCIETY AND DRUGS (2)

Physiological and behavioral effects of legal and illegal drugs; societal substance use and abuse; alternatives to drug use.

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 cancerous diseases; risk factors; prevention; methods of treatment; community resources; coping with cancer.

252 STANDARD 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.
- 350 **WELLNESS AND ILLNESS (3)**
Prereq: junior status in physical education, health and recreation. Analysis of wellness-illness continuum; relationship of lifestyle to health; investigation of various chronic/degenerative and infectious diseases.
- 351 **FIRST AID AND CARDIO-PULMONARY RESUSCITATION (1)**
First aid using a multi-media program including units on cardio-pulmonary resuscitation.
- 355 **HEALTH EDUCATION GRADES K-6 (2)**
Prereq: junior status in elementary education. Instructional methods in health for grades K-6; selection, analysis and application of health education curricula and materials.
- 407 **HISTORICAL PERSPECTIVES OF HEALTH EDUCATION (3)**
Prereq: H Ed 447, 450 and 460. Historical perspectives of health and health education; principles and practices of health education.
- 435 **ASSESSMENT AND DESIGN OF HEALTH PROMOTION PROGRAMS (5)**
Prereq: H Ed 350, PE 303; PEHR departmental major. Analysis and application of methods to determine high risks, needs and interests of individuals and groups; analysis and design of health promotion programs.
- 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, 350 or permission of instructor. Principles and application of methodology for educating about health in school, community, worksite and medical care settings; utilization and evaluation of resources.
- 451 **INTERNSHIP (15)**
Prereq: H Ed 407, 435, 450, 460. Full-time supervised professional experience emphasizing functional proficiency under joint sponsorship of University and agency personnel. S/U grading.

- 460 **PROGRAM PLANNING AND EVALUATION IN HEALTH EDUCATION (5)**
Prereq: H Ed 447, 450. Application of processes of program development in designing health education programs.
- 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.

COURSES IN RECREATION

Courses numbered X37; X97; 300, 400; 417, 445 are described on page 37-38 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.
- 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 HUMAN RELATIONS AND RECREATION DEVELOPMENT (3)
Prereq: Phase I; recreation major. Development of basic human relations, concepts and skills required of recreation professionals working in contexts designed to help improve the quality of life for clients.
- 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

- ROBERT J. QUIGLEY (1970) Chair.
Professor. BS, MS, California Institute of Technology; MA, PhD, University of California, Riverside.
- RICHARD A. ATNEOSEN (1968) Associate Professor. BS, MS, University of Minnesota; PhD, Indiana University.
- W. LOUIS BARRETT (1968) Associate Professor. BS, University of Idaho; MS, PhD, 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, PhD, Stanford University.
- RICHARD H. LINDSAY (1961) Professor. BS, University of Portland; MS, Stanford University; PhD, Washington State University.
- AJIT S. RUPAAL (1964) Professor. BSc, MSc, Panjab University; PhD, University of British Columbia.
- LESLIE E. SPANIEL (1968) Associate Professor. BS, University of Missouri, Rolla; PhD, Iowa State University, Ames.
- DONALD L. SPRAGUE (1965) Associate Professor. BS, MS, PhD, University of Washington.
- JAMES E. STEWART (1987) Assistant Professor. BA, BS, University of North Dakota; MS, PhD, University of New Mexico.
- RICHARD D. VAWTER (1968) Associate Professor. BS, Texas Technological University; MS, State University of Iowa; PhD, State University of New York.
- J. JOSEPH VEIT (1963) Professor. BSc, University of London; MSc, University of Birmingham; PhD, University of London.

Research Associate

Roy F. Potter (1977) BS, University of Washington; MS, University of Maryland; PhD, University of Rhode Island.

BACHELOR OF ARTS

Major — Physics 86 credits
Core Courses (required of all BA majors)

- Physics 241, 242; Math 124, 125, 126, 204
- Physics 341, 342, 343, 351, 352, 353; Math 224, 331, 432
- Physics 375, 381, 382, 383, 391, 392, 393

Physics/Astronomy

It is recommended that each of the above groups be taken in the first, second and third year, respectively.

In addition every major must complete one of the following concentrations:

Physics Concentration

- ☐ Physics 371 plus 7 credits of upper-division physics courses

Astronomy Concentration

- ☐ Astron 315, 316, 320

Chem 121 and Comp Sci 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; Math 124, 125, 126, 204; Chem 121
- ☐ Physics 341, 342, 343, 351, 352, 353; Math 224, 331, 332; Comp Sci 210
- ☐ Physics 371, 375, 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, 438
- ☐ Plus one 400-level course in physics or mathematics

Optics Concentration

- ☐ Physics 355, 405, 409, 410, 411

Combined Major — Physics/Computer Science 110 Credits

- ☐ Physics 241, 242; Math 124, 125, 126, 204
- ☐ Physics 341, 342, 351, 352, 355, 356; Math 331, 432; 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 2.5.

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 90 credits

- ☐ Physics 241, 242, 279; Math 124, 125, 126; Comp Sci 210
- ☐ Physics 341, 342, 343, 351, 352, 353; Math 204, 331, Math-CS 207
- ☐ Physics 355; Math 305, 360, 483
- ☐ Physics: 15 credits under advisement
- ☐ Math 320 recommended as writing-intensive course

This major meets the requirements for Washington state teaching endor-

sements in both physics and mathematics.

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 37-38 of this catalog.

101 PHYSICS FOR THE LIBERAL ARTS (4) F,W,S

Prereq: Math 102. 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: Math 103 and 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) F

Introduction to lasers, laser light and holography. Laboratory. Not intended for physics majors.

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.

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-Morely 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

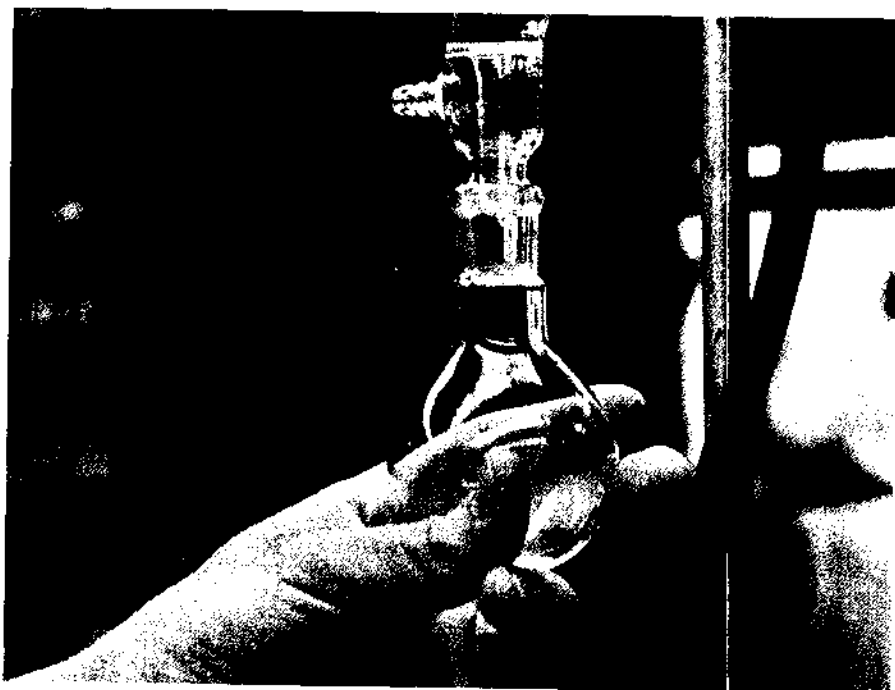
Prereq: Physics 242 and Math 125 (Math 126 recommended). Concurrent enrollment in Physics 351 required for physics majors. Electrostatics; magnetic fields of steady currents; time-varying electric and magnetic fields; DC and AC circuits; electromagnetic waves.

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.

Physics/Astronomy

- 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 or permission). Not for students who have taken Physics 356. Self-paced study in advanced digital electronics; gating, counters, decoders, multiplexers, shift registers and semiconductor memories.
- 362 OPTICS II (3) S
Prereq: Physics 342, 371 (or concurrent). Thick lenses and lens systems; stops and pupils; Seidel aberrations; coherence; diffraction grating types; Fresnel diffraction; interferometry; polarization.



- 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.
- 372 **OPTICS II LABORATORY** (1) F
 Prereq: Physics 362.
- 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.)
- 403 **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.
- 405 **LASERS** (3) S
 Prereq: Physics 342 and 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** (3) F
 Prereq: Physics 362 and 382. Concurrent enrollment in Physics 485 is recommended. 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.
- 410 **MODERN OPTICS LABORATORY** (1) W
 Prereq: Physics 409.
- 411 **ELECTRO-OPTICS** (3) W
 Prereq: Physics 342, 362, 382 (or concurrent). 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.
- 412 **ELECTRO-OPTICS LABORATORY** (1) S
 Prereq: Physics 355, 405 (or concurrent) 409, 411. Selected advanced experiments in electro-optics, non-linear optics, fiber optics and laser spectroscopy.
- 421, 422 **QUANTUM MECHANICS** (4 ea) F,W
 Prereq: Physics 383. Review of Schrodinger'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.
- 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.

COURSES IN ASTRONOMY

- 103 **ASTRONOMY FOR THE LIBERAL ARTS (4) F,W,S**
 Prereq: Physics 101 or Chem 101. A survey of astronomy including the solar system, galactic structure and cosmology. Not recommended for science, math or computer science majors.
- 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 AND GALAXIES (4) W**
 Prereq: Physics 131. Origin, structure and evolution of stars; supernovae, pulsars and black holes. The structure of galaxies; radio galaxies and quasars. Intended for science, math and computer science majors.
- 320 **COSMOLOGY (3) S**
 Prereq: Astronomy 316 (or Astronomy 103 and one year of college physics). Origin and evolution of the universe; curved space-time, the big bang, the expanding universe, the fate of the universe.
- 333 **SEARCH FOR LIFE IN THE UNIVERSE (3) S**
 Prereq: 3 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 320.
- 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.

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 in Education 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

Major: political science.

Minors: political science, Canadian-American studies, East Asian studies.

Bachelor of Arts in Education

Major: political science for secondary education.

Master of Arts in Political Science

Master of Arts in Political Science (Public Policy and Administration)

Master of Arts in Political Science (Political Science/ Environmental Studies)

POLITICAL SCIENCE FACULTY

- KENNETH R. HOOVER (1988) Chair.
Professor, BSc, Beloit College; MSc, PhD, University of Wisconsin-Madison.
- DONALD K. ALPER (1971) 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.
- MAURICE H. FOISY (1970) Associate Professor. BA, Gonzaga University; MA, Georgetown University; PhD, University of Oregon.
- EUGENE J. HOGAN (1969) Associate Professor. BA, Gonzaga University; MA, Georgetown University; PhD, University of Oregon.
- VERNON D. JOHNSON (1986) Assistant Professor. BA, Akron University; MA, PhD, Washington State University.
- RALPH E. MINER (1970) Associate Professor. BA, San Jose State College; MA, PhD, University of Oregon.

Political Science

GERARD F. RUTAN (1969) Professor. BA, MA, University of Montana; PhD, University of North Carolina at Chapel Hill.

SARA J. WEIR (1989) Assistant Professor. BA, MA, Ball State University; PhD, University of Washington.

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
- Pol Sci 260
- 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, 308, 343, 365 or 366; 390, 402, 406, 418a, 418b, 418g, 471

Politics and Government: Pol Sci 202 or Comm 202, 340, 343, 345, 346, 353, 365 or 366, 418h, 423, 426, 427, 429, 441, 443, 446, 449, 450, 471, 480, 490, 491

Public Law: Pol Sci 202 or Comm 202, 311, 365 or 366, 410, 411, 413, 414, 415

Political Theory: Pol Sci 360, 365, 366, 424, 460, 461, 463, 464, 465, 466, 467, 480

International Relations: Pol Sci 270, 305, 365 or 366, 370, 376, 411, 418a, 418b, 470, 471

Minor — Political Science

25 credits

- Poli Sci 250
- Remaining credits from at least 2 areas

Minor — Canadian/American Studies

30 credits

Program Advisers: Dr. Donald Alper, Dr. Gerald 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.

Combined Major — Political Science/Economics

100 credits

Program Adviser: Dr. Ralph E. Miner

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, 260, 270 or 291, 360, 365, 427
- A minimum of one course from three of these areas: Pol Sci 320; 345 or 346; 420 or 467; 426; 463 or 465; 470; 490
- 3-8 additional credits in upper-division political science elec-

tives, to complete the total required 100 credits of this program

- Econ 203, 204, 271, 301, 302, 303, 311
- FMDS/Mgmt 255
- Econ 410 or 415
- Econ 442 or 485
- 8 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. Sara J. Weir

This major meets the requirements for Washington state teaching endorsements in political science and social studies.

- Pol Sci 101, 250, 260, 270, 291, 311, 320
- 25 credits *under advisement* from the following courses: Pol Sci 343, 345, 346, 353, 360, 365, 376, 414 and 415, 420, 427, 446, 449, 450, 464, 465, 467, 470
- Students must also complete the specific program requirements for social studies education, as outlined in the College of Arts and Sciences interdisciplinary section.

Minor — Political Science

35 credits

- Pol Sci 101, 250, 270 or any other 400-level course (under advisement)
- Electives under departmental advisement to total 12 credits
- Soc St 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). The student must also submit a senior thesis and have a grade average of 3.5 in upper-division political science courses. Students in the University honors program must also satisfy these departmental requirements.

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. Up to 10 credits may be counted toward the major. The academic relevance and adequacy must be determined by the department through a written evaluative report. Prerequisite: 10 credits in political science or consent of the chair.

INDEPENDENT STUDY

Students wishing to pursue research and directed reading in areas of the discipline where they have had prior course work may apply to do independent study projects. Enrollment is with the consent of the instructor and the chair. No more than 10 credits may be counted toward the major.

GRADUATE STUDY

For concentrations in political science, public policy and administration, and environmental studies 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 37-38 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.

Political Science

- 202 **PARLIAMENTARY PROCEDURE (2)**
Theory and practice of parliamentary law. Also offered as Comm 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.
- 260 **POLITICAL ANALYSIS (5)**
Prereq: Pol Sci 101 or 250. An introduction to the kinds of argument and evidence used in political science. A survey of the role of values and logic, scientific method, quantitative and non-quantitative evidence, computer applications and library resources. Recommended for completion by the end of the sophomore year. Offered every year.
- 270 **INTRODUCTION TO INTERNATIONAL POLITICS (5)**
Prereq: Geog 201 or 205 or 209 or Hist 113 or Lbrl 123 or Pol Sci 101 or 291. 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.
- 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. Not offered every year.
- 308 **AFRICAN POLITICAL SYSTEMS (5)**
Prereq: Pol Sci 101 or 291. Post-colonial political development in Africa focusing on ideologies and strategies for achieving legitimate government and improved living standards. Several country studies will be included to illustrate outcomes associated with different strategies for development.
- 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 race, 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.

365 POLITICAL INQUIRY (5)

Prereq: Pol Sci 260. An examination of the contributions of science, philosophy and other inquiry systems to political knowledge and action. Explores ethical and political problems posed for inquiry by the relation between knowledge and power. Techniques for identifying and defining problems for analysis.

366 RESEARCH IN POLITICS (5)

Prereq: Pol Sci 260. Fundamentals of research design, including basic methods for the collection and statistical analysis of political and administrative data.

370 GLOBAL ISSUES IN INTERNATIONAL POLITICS (4)

Prereq: Pol Sci 270. Problems of global dimensions (population, food, resources, environment, nuclear proliferation, terrorism) and international efforts to solve them.

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.



Political Science

- 390 **THIRD WORLD POLITICS (4)**
Prereq: Pol Sci 270 or 291. Political processes and issues in the Third World: colonialism, nationalism, alternative models for political and economic development; problems of instability, military rule, population, famine, debt and other issues confronting developing nations.
- 402 **REGIONAL EUROPEAN SOCIETY AND POLITICS (3)**
Prereq: Pol Sci 101 or 291. Government and society in selected countries from the Scandinavian, Alpine, 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 status. 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 status. Supreme Court decisions interpreting major parts of the Constitution: Bill of Rights and Fourteenth Amendment.
- 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.
- 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 Envr 420.
- 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.
- 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.
- 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. No more than 10 credits of internship may be counted toward the major without the permission of the chair.
- 444a.b **ADMINISTRATIVE INTERNSHIPS (5 ea)**
 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. No more than 10 credits of internship may be counted toward the major without the permission of the chair.
- 446 **CURRENT PROBLEMS IN AMERICAN GOVERNMENT AND POLITICS (3)**
 Prereq: upper-division status. 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.
- 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.
- 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 Envr 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 Envr 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.
- 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.
- 490 **SENIOR SEMINAR IN AMERICAN GOVERNMENT AND POLITICS (5)**
 Prereq: senior status, 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 status 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)

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. Consideration of contemporary theories of political 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 graduate adviser. The consideration of special problems and the conduct of independent study under the guidance and supervision of a member of the faculty.

Graduate Courses

Courses numbered 500, 517, 545, 597 are described on page 37-38 of this catalog.

Admission to Graduate School or special permission 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 graduate adviser. Advanced comparative consideration 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 public settings.

521 SEMINAR IN PUBLIC POLICY ANALYSIS (3)

Advanced problems in public policy and analysis.

540 SEMINAR IN THE POLITICAL PROCESS (5)

The influence of organizations and individuals in the formation of public policy. Includes study of the role of beliefs in the political process.

542a,b PUBLIC SERVICE INTERNSHIP (5 ea)

Prereq: Pol Sci 501, 503 and permission of department. Work as research and management assistant with a local, state or federal government body (executive, legislative 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. (Repeatable 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 relation 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 graduate 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

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 mind and 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 26 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 students 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 clinical/counseling psychology, measurement, evaluation and statistical analysis and behavioral toxicology (with Huxley College of Environmental Studies). The department also offers an M.Ed. in school counseling psychology. 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.

Psychology

- 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.
- 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.
- ARLEEN C. LEWIS (1987) Associate Professor. BA, Utah State University; PhD, University of Nebraska.
- 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 and Vice President for Student Affairs. 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.

MAJOR DECLARATION

Students wishing to declare a major in psychology must: (a) have completed at least 75 credits; (b) completed at least 25 credits in psychology including Psych 306*; and (c) achieved an all-college GPA of 2.50 or higher. A GPA of 3.0 for at least 25 credits of Psychology (including Psych 306) may substitute for the 2.50 all-college GPA. (All GPAs are computed using all courses attempted.) Students failing to meet these standards may petition the Psychology Department's Undergraduate Admissions Committee for a waiver of one or more of these requirements.

BACHELOR OF ARTS

Major — Psychology

60 credits

The psychology major consists of a

**Students enrolled in Psych 306 who will have completed the other requirements for admission to the major at the end of that quarter may apply for admission to the psychology major and register for Psych 307. Admission to the major and continuing enrollment in Psych 307 will be contingent on successful completion of Psych 306.*

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. It should be noted that while some of the courses in the 45 required credits are specific (e.g. Psych 201, 306 and 307), others may be met from a series of choices. It is often useful for students to consult faculty advisers in consideration of these choices as well as the elective 15 credits. Personal interests as well as professional expectations also should be considered, and several concentrations of elective courses have been developed as guides for students in making these selections.

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 in addition to the major: Biol 212, 348, 349, 370, 403, 408, 424, 460, 465, 490

Human Development: Advisers — F. Grote and M. Lippman

- 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

Psychology

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

49-52 credits

Adviser — F. Grote

- Psych 201
- 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 University honors program 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 37-38 of this catalog.

Courses in educational psychology include Psych 316, 351, 352, 353, 451. Psych 451 is 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.

- 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.
- PSYCH 307 and all psychology courses numbered 402 and above (except Psych 425, 426 and 451) are open only to students who have been admitted to psychology as a major.**
- 307 EXPERIMENTAL PSYCHOLOGY AND STATISTICS II (5)
Prereq: Psych 306 and admission to the major. 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 and 306. 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.

Psychology

- 321 LEARNING (5)**
Prereq: Psych 201. A survey of the major principles of learning, memory and cognition. 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. Phylogenic 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.
- 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. Discipline at different developmental stages; parental influences on social and cognitive development; influences on parenting; a systems approach to understanding families; the changing American family.
- 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.

- 360 **HEALTH PSYCHOLOGY (2)**
 Prereq: Psych 201. Surveys psychological processes affecting physical health and illness and explores the role of psychologists within the health care system. Included are: psychophysiological relationships, effects of stress on health, preventive health behaviors, coronary-prone behavior patterns (Type A), psychological processes in medical treatment and psychological treatments of physical disorders. Summer only.
- 362 **PSYCHOLOGY OF FEAR (2)**
 Prereq: Psych 201 or equivalent. Emotional and behavioral components and effects of fear, anxiety and phobias. Diagnosis assessment and treatment of anxiety disorders. Summer only.
- 402 **SEMINAR IN PERSONALITY AND ABNORMAL PSYCHOLOGY (3)**
 Prereq: Psych 307 and 313 or 314. Major issues and methods in the study of personality and abnormal psychology. Laboratory and library research.
- 403 **SEMINAR IN SOCIAL AND DEVELOPMENTAL PSYCHOLOGY (3)**
 Prereq: Psych 307 and 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 and 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 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 and 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 status. 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 status 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 and 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: declared major in psychology and Psych 306, 313 or 314. 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 (3)

Prereq: Psych 306 and 316. Topics vary and include: cognitive development; personality and social development; psycholinguistics, and youth and social issues. Check the Timetable of Classes to determine which topic is covered in a given quarter. Repeatable for credit.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on page 37-38 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 the M.S. or M.Ed. in psychology 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 the M.S. or M.Ed. in psychology 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 the M.S. or M.Ed. in psychology 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. or M.Ed. in psychology 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)
 Prereq: admission to the M.S. or M.Ed. in psychology. A review of psychology as a profession, current research activities, ethics 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.

Psychology

- 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: admission to the M.S. or M.Ed. in psychology program. 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 BEHAVIORAL 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. clinical/counseling or the M.Ed. school counseling program. Permission of the instructor required for students in the general curriculum. 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 status, Envr 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.
- 551 **DEVELOPMENTAL SCHOOL COUNSELING (3)**
Prereq: admission to M.S. clinical/counseling psychology, school psychology curriculum or to M.Ed. in school counseling; students in general psychology program with instructor permission. A comprehensive overview of professional school counseling with particular emphasis upon recent advances in counseling program development, organization, evaluation and service delivery models.



- 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.
- 554 **STANDARDIZED TESTS (3)**
Prereq: admission to M.Ed. school counseling program, M.S. clinical/counseling program, or instructor permission. Standardized group tests commonly used in the public schools; selection and administration of tests; interpretation of norms.
- 555 **OCCUPATIONS AND CAREER DEVELOPMENT (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)**
Prereq: admission to clinical/counseling curriculum and Psych 511, or admission to the M.Ed. school counseling program and Psych 554. 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.

Psychology

- 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 (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.
- 570 PRACTICUM (1-10, not to exceed a total of 15 credits)
Prereq: admission to M.S. clinical/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. Repeatable for credit, but not to exceed 21 credits. 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, PhD, 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.
- 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 over-specialization. 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, 316

General Sociology:

Adviser — J. Richardson

- Core program
- Soc 303, 321, 330
- Additional sociology electives to total 70 credits

Criminology: Advisers —

J. Inverarity, D. Call

- Core program
- Soc 351, 352, 353, 354, 380, 452, 454
- Additional sociology electives to total 70 credits

Demography/Ecology:

Advisers — C. Gossman, D. Mazur

- Core program
- Soc 321, 322, 323, 415, 421
- Math 103
- 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 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
- Elementary program students also must complete professional program courses as outlined in the Educational Curriculum and Instruction section
- Secondary program 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

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 University honors program 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 37-38 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."
- 251 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.

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.
- 315 SOCIAL STATISTICS (5)**
Prereq: Soc 202. Application of statistical reasoning and methods in sociological research.
- 316 ANALYSIS OF SOCIAL DATA (3)**
Prereq: Soc 310 and 315 or equivalent. Basic techniques for drawing valid comparisons and conclusions from non-experimental data. Use of cross-classification, standardization and regression to solve a variety of problems. Topics include: estimation of relationships with simple linear models, use of ordinary and generalized least squares estimation, structural equation models and path analysis.
- 320 COMPUTER APPLICATIONS FOR SOCIAL SCIENCE DATA (3)**
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.
- 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.
- 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 (5)**
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)**
Prereq: Soc 310. 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.
- 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.

Sociology

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.

430a,b,c CURRENT SUBSTANTIVE RESEARCH (3)

Prereq: Soc 310 or 315 and permission of instructor. Seminar-based class, with topics that vary. Topics are continuations of substantive areas of faculty research and require a demonstrated level of preparation. The problems and methods that link the substantive area to the larger discipline are addressed through direct student research.

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.



- 450 **SOCIOLOGY OF LAW (3)**
Prereq: Soc 202, 310 and 315. The relationship between law and society: the origin of laws as reflecting popular attitudes and elite measures of social control. The methodological study of legal evolution and social change.
- 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.
- 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.
- 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 37-38 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: graduate status; 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 philosophical 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 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 who intend to seek employment in this profession, whether in a public school, clinic rehabilitation or hospital setting, are advised that clinical certification at the state and/or national levels is required. Out-of-state students should recognize that other requirements may exist for employment in other states.

Students who major in allied professional programs and are interested in speech, language and hearing development and understand the nature of communication disorders should consider the speech-language pathology and audiology undergraduate minor curriculum.

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. At the undergraduate level, a minor area of study of 25 credits or more is required. The minor must be approved by the student's academic adviser. Suggested areas include: biology, psychology, sociology or business. Individually designed minors are permissible with faculty approval.

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.

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 is accredited by the American Speech-Language-Hearing Association's Educational Standards Board (ESB) in both speech-language pathology and audiology and by the National Council for the Accreditation of Teacher Education.

CERTIFICATION IN SPEECH-LANGUAGE PATHOLOGY/AUDIOLOGY

Two types of professional certification are available: state certification (Communication Disorders Specialist, ESA-CDS), which is mandatory for public school employment in Washington State, and national certification (Certificate of Clinical Competence: Speech-Language Pathology, CCC-SLP; Audiology, CCC-A), which is necessary for employment in hospitals and clinics. Consult the department for additional information.

ACADEMIC AND CLINICAL COMPETENCY

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

- LOREN L. WEBB (1965) Chair. Professor. BS, University of California, Berkeley; MA, University of Redlands; PhD, University of Washington. Undergraduate adviser (Audiology/Aural Rehabilitation).
- CAROL C. McRANDLE (1975) Professor. BS, University of Minnesota, Duluth; MS, PhD, Purdue University. Director, Aural Rehabilitation Clinic. Transfer student adviser (Audiology/Aural Rehabilitation/Hearing Science).
- SAMUEL B. POLEN (1972) Professor. BS, Kent State University; MA, PhD, Ohio University. Coordinator, Speech Pathology and Audiology Graduate Program; Speech-language pathology graduate adviser (Speech-Language Pathology/Speech Science).
- MICHAEL T. SEILO (1970) Professor. BS, Northern Michigan University; MA, University of Arizona; PhD, Ohio University. Director, Audiology Clinic; audiology graduate adviser; undergraduate adviser (Audiology/Aural Rehabilitation/Experimental Phonetics).
- LINA ZEINE (1983) Associate Professor. BA, American University of Beirut, Lebanon; MA, University of Colorado; PhD, University of Kansas. Undergraduate adviser; National Student Speech-Language-Hearing Association chapter adviser (Speech-Language Pathology).

Speech Pathology and Audiology Clinic Staff

- BEVERLY BROWN (1988) Speech-Language Pathology Clinic Supervisor. BS, University of Wisconsin-Oshkosh; MS, University of Wisconsin-Madison (Speech-Language Pathology).
- CANDACE K. GANZ (1982) Director, Speech-Language Clinic. BA, MA, University of Kansas. Speech-Language Pathology Clinic adviser (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 Clinic adviser (Speech/Language Pathology).
- GEORGETTA LILLEY (1988) Speech-Language Pathology Clinic Supervisor. BS; MEd, California University of Pennsylvania (Speech-Language Pathology).

MAJOR DECLARATION

Eligibility Requirements

Students interested in majoring in speech-language pathology and audiology at the undergraduate level must make initial application with the Department of Speech Pathology/Audiology. At that time an adviser will be assigned. Students will complete an undergraduate major application to determine where they are in the eligibility process.

Application Procedures

If the student meets *all* eligibility requirements for entrance to the department, a formal application must be completed by the beginning of final exam week. This must be done in the academic quarter immediately prior to the quarter full admission is sought. Only after formal acceptance into the SPA undergraduate major will the student be eligible to enroll in courses other than SPA 351, 354 and 371.

BACHELOR OF ARTS

Major — Speech-Language Pathology and Audiology

60 credits

- SPA 351, 352, 353, 354, 356, 361, 371, 373, 374
- SPA 452, 456, 457, 458, 459, 462, 463

Speech Pathology/Audiology

- Electives under departmental advisement

Minor — Speech-Language Pathology and Audiology

25 credits

(A minimum of 25 credits. More than 25 are recommended.)

- SPA 351, 354, 361, 371, 373
- Electives under departmental advisement

GRADUATE STUDY

For concentrations in speech-language pathology and audiology leading to the Master of Arts degree, see the Graduate section of this catalog.

COURSES IN SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 37-38 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, central nervous system, respiration, phonation, resonance, articulation.
- 353 **SPEECH SCIENCE (4)**
Prereq: junior status. Acoustic and articulatory characteristics of the speech signal and their relation to speech production and perception. Lab required.
- 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 **PHONETICS (3)**
Training in recognition and production of sounds of spoken English through use of the international Phonetic Alphabet. Lab required.
- 361 **LANGUAGE LEARNING DISABILITIES IN CHILDREN (3)**
Prereq: SPA 351, 354. Etiologies of language learning disabilities in children; diagnosis and treatment procedures
- 371 **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.
- 373 **ARTICULATION DISORDERS AND THERAPY (3)**
Prereq: SPA 351, 352, 356 Symptomatology, etiology and therapy for articulation disorders.
- 374 **INTRODUCTION TO STUTTERING: THEORY AND THERAPY (3)**
Prereq: SPA 351. Characteristics of stuttering behavior; current theories of etiology; principles and practices of therapy; cluttering as a related disorder.
- 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.
- 455 **SPEECH-LANGUAGE THERAPY IN THE PUBLIC SCHOOLS (3)**
Prereq: SPA 351 or permission of instructor. Role of the professional in organizing and directing a speech-language therapy program in the public school setting.
- 456 **ORGANIC SPEECH-LANGUAGE DISORDERS (3)**
Prereq: SPA 354, 373 Symptomatology, etiology and therapy for cerebral palsy, cleft palate, aphasia, dysarthria and laryngectomy.

- 457 **METHODS IN SPEECH-LANGUAGE THERAPY (5)**
 Prereq: SPA 373. Current methods, materials and procedures used in treating a variety of communication disorders. Directed observation.
- 458 **BEGINNING CLINICAL PRACTICE IN SPEECH-LANGUAGE THERAPY (3)**
 Prereq: SPA 354, 457 and written permission of instructor. Clinic administrative procedures in therapy planning and implementation; professional writing; assistant clinician experience. Lab required.
- 459, 460 **CLINICAL PRACTICE IN SPEECH-LANGUAGE THERAPY (3 ea)**
 Prereq: SPA 458 or written permission of instructor. Supervised clinical practice.
- 462 **AUDIOMETRIC TESTING (4)**
 Prereq: SPA 371 or permission of instructor. Introduction to the theory and application of pure tone, impedance and speech audiometry to the assessment of hearing function; implications for rehabilitation.
- 463 **AURAL REHABILITATION (4)**
 Prereq: SPA 371; 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. Introduction to the theory and practice in use of the manual language methods with the hearing impaired.
- 465a **INTERMEDIATE SIGNING (2)**
 Prereq: SPA 465. Theory and practice of total communication; intermediate sign language.
- 466 **MEDICAL AUDIOLOGY (3)**
 Prereq: SPA 371. Pathologies of the hearing mechanism and their auditory manifestations. Discussion with physicians regarding diagnosis, referrals 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 371, 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 **FIELD PLACEMENT/OBSERVATION IN SPEECH-LANGUAGE PATHOLOGY OR AUDIOLOGY (1-6)**

Prereq: completion of the undergraduate major requirements and permission of department. Off-campus field experience in an approved setting designed to develop clinical competencies in the management of communication disorders. S/U grading

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on page 37-38 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.
- 510 **SEMINAR: ORGANIC DISORDERS (3)**
 Prereq: SPA 459 or equivalent, or permission of instructor. A survey of speech disorders; identification, classification and fundamentals of therapy for cerebral palsy and cleft palate individuals.
- 550 **SEMINAR: VOICE DISORDERS AND THERAPY (3)**
 Prereq: SPA 351, 352 or their equivalent, or permission of instructor. 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 **SEMINAR: SPEECH PATHOLOGY (3)**
 Analysis and evaluation of recent concepts, issues, techniques and methods applicable to speech disorders.

Speech Pathology/Audiology

- 552 **ADVANCED DIAGNOSTIC METHODS IN SPEECH AND LANGUAGE PATHOLOGY (5)**
Prereq: SPA 452, 558 and 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 permission of instructor. Atypical speech and language acquisition with special focus on current research findings and management techniques.
- 554 **SEMINAR: STUTTERING (3)**
Prereq: SPA 374 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: 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 permission of instructor. 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 ea)**
Prereq: SPA 558 or permission of instructor. Continuation of 558. Must be completed with a grade of "C" or better.
- 561 **SEMINAR: AUDIOLOGY (3)**
Prereq: SPA 371 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: AURAL REHABILITATION (3)**
Prereq: SPA 463 or permission of instructor. Issues related to the hearing-impaired population.
- 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 audiology research.



- 566 **BIOACOUSTICS (3)**
Prereq: SPA 561 or permission of instructor. The ear as a transducer and analyzer; electrophysiological and mechanical properties of the ear.
- 567 **SEMINAR: HEARING CONSERVATION (3)**
Prereq: SPA 562. Discussion of federal and state noise regulations. Cause and treatment of noise-induced hearing loss; the role of audiology in prevention and control of noise.
- 568a,b,c **ADVANCED CLINICAL PRACTICUM IN AUDIOLOGY (2 ea)**
Prereq: SPA 371, 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. The unique problems of the mainstreamed hearing-impaired child in the classroom; methods and techniques of working with this population.
- 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: ELECTROPHYSIOLOGICAL TESTING (3)**
Prereq: SPA 561, 566, 568a or permission of instructor. Current topics and issues in specialized areas of averaged electroencephalic audiometry; research trends and problems. Lab required.
- 574 **SEMINAR: SPEECH PERCEPTION (3)**
Prereq: SPA 353. Study of laboratory investigations of phonetic problems; analysis and measurement of variables in speech production, reception and perception.
- 575 **SEMINAR: INTERVIEW AND CONSULTATION (3)**
Prereq: SPA 552, 558, 564, 568a, or permission of instructor. Theories and techniques of the interview and consultation process for communication disorders.
- 575a **CLINICAL PRACTICUM IN INTERVIEW AND CONSULTATION (2)**
Prereq: SPA 575 or permission of instructor. Supervised clinical practicum.
- 577 **PEDIATRIC AUDIOLOGY (3)**
Prereq: SPA 371, 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.
- 592 **SEMINAR: ADMINISTRATION OF SPEECH-LANGUAGE 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.
- 596 **SEMINAR: SUPERVISION IN COMMUNICATION DISORDERS (3)**
Prereq: permission of instructor. Perspectives of the supervisory process. Theories, practices and techniques from this and other disciplines serve as a basis for discussion, implementation and evaluation. Lab required.
- 598a,b **INTERNSHIP IN THE PUBLIC SCHOOL SETTING (8 ea)**
Prereq: completion of the graduate major course requirements, permission of the department, demonstrated proficiency in clinical skills, and a minimum of 200 supervised clinical clock hours; SPA 598a is prerequisite to 598b. Supervised off-campus experience providing opportunities to develop and demonstrate clinical competence in the management of communication disorders in an approved public school setting. (Only 3 credits of SPA 598a and 3 credits of 598b are applicable toward the M.A. degree—see "Requirements in Specialization.") S/U grading.
- 599a,b **INTERNSHIP IN THE CLINICAL SETTING (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. SPA 599a is prerequisite to 599b. Supervised off-campus experience providing opportunities to develop and demonstrate clinical competence in the management of communication disorders in an approved clinical setting. (Only 3 credits of 599a and 3 credits of 599b are applicable toward the M.A. degree—see "Requirements in Specialization.") S/U grading.
- 690 **THESIS (6-9)**
- 691 **NON-THESIS OPTION (3)**
Prereq: SPA 502. Writing based on research or clinical projects. This report to be used to help satisfy the non-thesis requirement.

Technology

The Department of Technology encompasses engineering technology, industrial design, industrial technology, visual communication and technology education (teaching). An emphasis on breadth, basic knowledge, and analytic and laboratory skills pervades all levels of these fields. The department has a very high placement record, 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

- 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.
- 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) Professor. BA, MEd, University of Washington.
- KATHLEEN L. KITTO (1988) Assistant Professor. MSME, BS, Montana College of Mineral Science and Technology.
- TODD MORTON (1988) Assistant Professor. BSEE, MSEE. 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.
- ROBERT A. RAUDEBAUGH (1988) Assistant Professor BS, MA, Northern Arizona University; EdD, Arizona 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; Registered Professional Engineer.
- CHARLES E. YUNGHANS (1988) Associate Professor. BSEE, Valparaiso University; MSEE, Western Michigan University

COMPUTER COMPETENCY

Since technology courses stress application of computers, a course in 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 for the exact day, time and location. Attendance by prospective majors is advised. At this meeting, students may complete an advisee folder, submit a declaration of major and schedule an appointment with their appropriate program adviser. Declaration of major form (blue card) must be turned in to the department office.

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 has been approved and will be implemented in the future). 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 offers all four years of the Bachelor of Science degree program in electronic engineering technology on-campus in Bellingham and the last two (junior/senior) years in the evening off-campus in North Seattle. On-campus students complete a structured sequence of courses averaging 16-17 credits per quarter over a period of four academic years, whereas off-campus students complete the junior and senior years of the program by taking 8-9 credits per quarter over three calendar years. 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 begin the junior year of the program either on-campus or off-campus.

Students desiring to begin studies in EET on-campus should follow the normal admissions procedure of the University. Students desiring to attend the off-campus program should also make application to the Office of Admissions but must indicate their intention to attend in North Seattle. University enrollment quotas do not apply to the off-campus program.

Students desiring to begin studies in electronic engineering technology must first be accepted as majors by having their backgrounds evaluated

Technology

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.

Both the on-campus and off-campus components of Western's electronic engineering technology program in Bellingham and North Seattle are accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

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: Physics 131, 132, 133 or 241, 242, 341, 351
- Communications — 9 (+ 4 = 13) credits: Eng 402, Comm 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 inter-

disciplinary 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 complete 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 311, 323, 333a. Background course work should include trigonometry. Students should see their industrial design adviser for course plan assistance and assurance of meeting accreditation standards.

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.

Major — Industrial Design

107 credits

- Basic Core: Industrial Design/Technology — 37 credits: Tech 110 or 210, 211, 215, 216, 223, 309, 311, 323, 333a or 333
- 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 — 6 credits
- Supporting Courses — 34 credits: FMDS 330, Art 120, 130, 201, 202, 230, 370, recommended options; see adviser (include 12 credits, i.e. Art 250, 320, 378, 379)

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 with guidance from a departmental adviser):
 - Industrial Graphics: Tech 211, 214, 240, 309, 310, 311, 312, 313, 323, 340, 400(1)
 - Industrial Supervision: Tech 240, 322, 323, 328, 423, FMDS 255, 330, 348, Mgmt 460, 463, 465
 - 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 test-

Technology

ing 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 program 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.

The manufacturing engineering technology degree program is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).

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: Comm 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.

PLASTICS ENGINEERING TECHNOLOGY

A complete major program in plastics engineering technology has been approved and will be implemented in the future. In the meantime, students are advised to enroll in the industrial technology major with a specialization in plastics technology. Material describing the plastics engineering technology program will be distributed by the department when the program is implemented.

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 223, 231, 240, 250, 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, supervisory, 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
- Comm 240
- Tech 240, 241, 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

Technology

- 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 introduction 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.

*Excluding sub-college and/or remedial courses.

COURSES IN TECHNOLOGY*

Courses numbered X37; Y97; 300, 400; 417, 445 are described on page 37-38 of this catalog.

*Most technology courses with a laboratory have a materials fee.

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.

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)**
 Basic 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 **FOUNDRY AND FORMING (3)**
 Prereq: Tech 221. Tools, materials and techniques used to produce foundry patterns and principles and practices employed in the contemporary metal-casting industry.
- 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.
- 241 **COPY PREPARATION AND PASTE-UP (3)**
 Prereq: visual communication/art major or written permission. Preparation of line and tone copy for commercial reproduction processes; preparing single- and multi-color mechanicals; copy preparation and specifying; production planning.
- 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.

Technology

- 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 reduction testing.
- 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 view and pictorials. Use of digitizer tablets, CRTs, plotters and printers in conjunction with microcomputers.

- 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.
- 331 **ADVANCED WOODS (4)**
Prereq: Tech 231. Skill and development in the more complex woodworking processes with related information on the woodworking industry.
- 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.

Technology

352 ELECTRICAL TECHNOLOGY II (4)

Prereq: Tech 251; MET, IT, or PET major; or written permission. Introduction to digital electronics combinational 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 or 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. A study designed to acquaint the student with the operation of electronic systems. Feedback systems, multiphase power systems and solid state control systems. Structured laboratory with emphasis on experimental verification of results, original design, data analysis and formal report preparation.

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.

377 ENGINEERING METHODS (4)

Prereq: junior status, EET major or written permission. A study of the proper techniques to be used to obtain laboratory data and analyze results. Basic instrumentation and measurement techniques, error analysis, and grounding and shielding methods. Structured laboratory with formal report preparation.

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.
- 384 **TOOLING FOR LIMITED PRODUCTION OF MOTOR VEHICLES (5)**
Prereq: Tech 280 or permission of instructor and concurrent enrollment in Tech 385 and 386. Methods of tooling and production for space frame type chassis and suspension systems. Study of jigs and fixtures for machine sawing of steel alloys and TIG welding of components.
- 385 **TOOLING AND PRODUCTION METHODS FOR REINFORCED COMPOSITE VEHICLES (3)**
Prereq: Tech 280 or permission of instructor, Tech 384 and 386 taken concurrently. Methods of tooling a glass or other fiber reinforced body for an automobile body.
- 386 **ASSEMBLY AND TESTING OF LIMITED PRODUCTION AUTOMOBILES (2)**
Prereq: Tech 280 or permission of instructor and concurrent enrollment in Tech 384 and 385. Assembly of suspension, steering, brakes, clutch drive line, engine and other related components to a limited production vehicle. Alignment and testing of assembled vehicle.
- 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 status; 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.
- 405 **COMMUNICATIONS CIRCUITS (4)**
Prereq: Tech 375; pre- or coreq: Math 321, EET major or written permission. A study of communications concepts including analog and frequency modulation and detection methods, r.f. amplifier and oscillator circuits and transmitter and receiver principles. Structured laboratory with emphasis on experimental verification of principles, use of specialized equipment, data analysis and formal report preparation.
- 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 reproducibility and speed along with rendering.
- 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.

Technology

- 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 status 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 on 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.
- 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)**
Prereq: Comm 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 Comp Sci 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: Comp Sci 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 405; pre- or co-req: Tech 378. EET major or written permission. 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.
- 471 **PROJECT DEFINITION (1)**
Prereq: Tech 374, EET major or written permission. Students define objectives and prepare project proposals for Tech 474. This course should be taken during the quarter immediately preceding Tech 474.
- 474 **MICROCOMPUTER-BASED DESIGN (4)**
Prereq: Tech 374, 471, 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 digital modulation and detection methods, time-division and frequency-division multiplexing, serial data transmission and reception, modems, handshaking protocols, interface busses, 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 a 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 NO_x, 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.

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 status; 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

590 PRINCIPLES OF TECHNOLOGY I (5)

Prereq: teaching experience in physics or technology education or mathematics. A methods course for teachers preparing to teach the first year of the nationally validated high school course. "Principles of Technology." Involves introduction to science and technical content, the curriculum and support teaching materials, and experience with all laboratory experiments. **Note:** This course is not applicable to a master's degree.

591 PRINCIPLES OF TECHNOLOGY II (5)

Prereq: teaching experience in "Principles of Technology I." A methods course for teachers preparing to teach in the second year of the nationally validated high school course. "Principles of Technology." Involves introduction to science and technical content, the curriculum and support teaching materials, and experience with all of the laboratory experiments. **Note:** This course is not applicable to a master's degree.

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 247) director 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 Music 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 traditional 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 the director of the program.

COURSES IN AMERICAN CULTURAL STUDIES

Courses numbered X37; X97; 300, 400; 417, 445 are described on page 37-38 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.

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 wishes to be truly knowledgeable about Canada and things Canadian. It is a valid area of academic study with a strong interdisciplinary orientation.

Interdisciplinary

Program advisement is available from R. L. Monahan, director (676-3728 or 676-3284), Canada House 203 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

- 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 37-38 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.

Cellular/Molecular-Biochemistry

See Biology and Chemistry Department sections of the catalog.

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) 647-4785) adviser, or

one of the other Center for East Asian Studies faculty members:

- 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. Ancient and medieval China, Chinese economic history.
- Robert H. Kim. Education, Korea.
- Linda Amy Kimball. Anthropology, South-east 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.
- Kathleen Tomlonovic. Chinese language and literature.
- 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, Mongolian 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 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 37-38 of this catalog.

Interdisciplinary

- 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. 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. 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)
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
 - Lbrl 272, 273, 274, 275, 370, 371
- The Center for East Asian Studies also offers tutorials in advanced Chinese, advanced Japanese and advanced Korean. Elementary and intermediate Mongolian (15 credits each) are taught summers at Inner Mongolia University. East Asian Studies students may also spend up to one year at Asia University, Tokyo; Tsuda College, Tokyo; Inner Mongolia University, Hohhot; or Foreign Language University, Beijing..*

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 — General Science — Elementary 45 credits

- Physics 131; Astron 103 and/or Geog 331
- Chem 115 or 121; Geol 211, 212
- Biol 121
- Electives under advisement

Major — General Science — Secondary 4-12 92-95 credits

The major in secondary science results in a science 4-12 endorsement. 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.

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. 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 the 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 — Linguistics

These concentrations in general and applied linguistics are available through 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
- Comm 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 37-38 of this catalog.

- 201 INTRODUCTION TO LINGUISTICS SCIENCE (5)
Survey of linguistic method and theory.
- 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 in natural science/science education see Graduate section of catalog.

COURSES IN SCIENCE EDUCATION

Courses numbered X37, X97: 300, 400, 417, 445 are described on page 37-38 of this catalog.

- 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.
- 401 READING IN SCIENCE EDUCATION (1)
Prereq: Sci Ed 491 or concurrent enrollment or permission of instructor. In-depth study of science education literature with a view to writing one short and one extensive report, plus making two short presentations to class peers based on these reports.

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.

480 SPECIAL PROJECTS IN SCIENCE FOR THE ELEMENTARY GRADES (2-5)

Prereq: Sci Ed 390; 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 491 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. S/U grading.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on page 37-38 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. S/U grading.



Interdisciplinary

- 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. S/U grading.
- 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
- 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 390, 391 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 390, 391 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 390, 391 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, program head, and to individual advisers listed below.

Secondary Education

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. Robert Monahan
 - History — Advisers: Dr. Harry Jackson; Dr. Harley E. Hiller
 - Political Science — Adviser: Dr. James W. Davis
 - 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.

*See appropriate catalog sections and/or advisers for approved degree programs.

**Social studies majors are interdisciplinary student-designed majors, approved by the Social Studies Program Committee and leading to the Bachelor of Arts in Education degree. Students in the American cultural studies program must select this option.

Major — Social Studies

50 credits

Adviser: Dr. Peter J. Hovenier

- Anth 201 or Soc 202
- Econ 203 or 446
- Geog 201 and Geog 310 or 311
- Hist 103, 104
- Pol Sci 250
- Soc St 425 and select one from Soc St 435, 446, Geog 406, Econ 446*
- 10 upper-division credits under advisement in one social science or history. Courses to meet requirements stated above cannot be used to meet upper-division requirement
- Electives *under advisement* to total a minimum of 50 credits

For additional courses necessary to meet the requirements for an endorsement in social studies, contact the social studies adviser.

Minor — Social Studies

36 credits

Adviser: Dr. Peter J. Hovenier**

Required Courses:

- Hist 103, 104
- Geog 201
- Pol Sci 250
- Econ 203 or 446 and 204 or 447
- Soc St 425 or 426
- Electives *under advisement* to complete total credit requirement

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.

*Econ 446 counts if not selected above.

**Secondary social studies majors - see content area advisers.



COURSES IN SOCIAL STUDIES EDUCATION

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 37-38 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 status. Course explores community resources and the incorporation of the resources in the curriculum.
- 446 LAW FOCUSED TEACHING AND CURRICULUM (1-5)
Prereq: junior status. 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 and Huxley College sections 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 211: 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 37-38 of this catalog.

211 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.

313 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.

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. Allan G. Sleeman Economics
Dr. Earl D. Benson Finance,
Marketing & Decision Sciences
Dr. Bruce D. Wonder Management

Directors

Dr. Robert C. Meier MBA Program
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

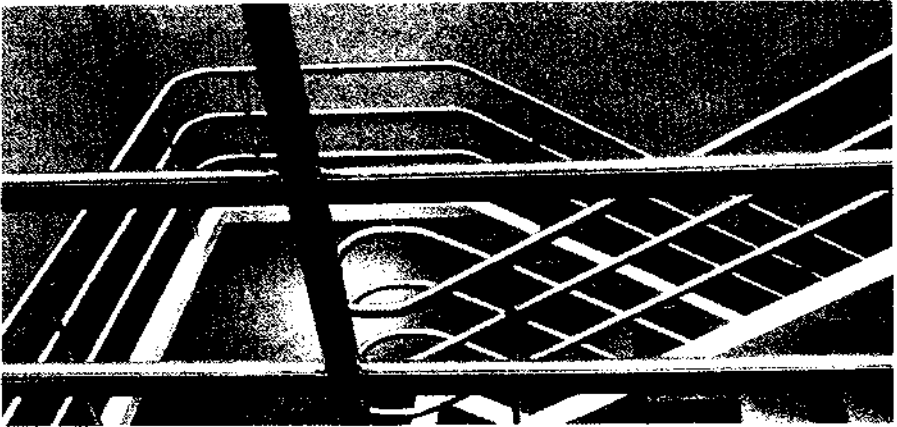
Academic Programs Leading to Undergraduate and Graduate Degrees

Accounting BA
Business Administration BA
Economics BA
Master of Business
Administration MBA*

**Consult the Graduate School for further details.*

Combined Majors

Interdepartmental majors are given in Accounting-Computer Science, Accounting-Economics, Business Administration-Computer Science, 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.

Enrollment in most upper-division courses (300 and above) is restricted to students who have been officially admitted to the College or who have been given special permission to enroll. 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 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.

Students are reminded that up to 32 hours of upper-division credit are elective. This provides significant opportunity to include courses in the arts, sciences and humanities. Early discussion with a CBE faculty adviser is strongly encouraged.

- 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

The Nippon Business Institute. The Nippon Business Institute is a four-year program in which students may complete their first two years at Everett Community College before transferring to Western. At Western students complete all requirements for a degree in business administration. During all four years of the program students study Japanese language, culture and business practice. The program includes a residency in Japan. Upon successful completion of the program, students are awarded a bachelor's degree in business administration and a certificate in Japanese business studies.

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 Continuing Education 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/Mgmt 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 331, 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, account-

- ing/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).

- Acctg 241, 242, 243, 341, 342, 461
- 6 upper-division accounting credits under departmental approval
- Comp Sci 210, 217, 310, 331, 332, 415, 430, 471
- Mgmt 271, 311, 360
- FMDS/Mgmt 255*, 482, 495
- FMDS 330, 341
- Econ 203, 204 and 409
- Math 156

ACCOUNTING FACULTY

- RONALD N. SAVEY (1976) Chair.
Associate Professor. BA, Western State College (Colo.); MBA, University of Denver; CPA, States of Colorado and Washington.
- JULIE A. LOCKHART (1982) Associate 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. BSME, University of Illinois; MBA, MS Engr., University of Southern California; CPA, States of Washington and California.
- BERT G. SCOTT (1987) Assistant Professor. BBA, Memphis State; MBA, University of Montana; DBA, Mississippi State; CPA, State of Mississippi.
- STEPHEN V. SENGE (1985) Associate Professor. BA, California Western University; MPA, Denver University; MA, DBA, Kent State University; CMA.
- WILLIAM R. SINGLETON (1976) Professor. BBA, Memphis State University; MBA, University of Portland; PhD, University of Hawaii; CPA, State of 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

*May substitute Math 240 for FMDS/Mgmt 255.

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 37-38 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.
- 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.

Accounting

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 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.

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 "B" 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. Typically all faculty on on-going appointments 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.

ALLAN G. SLEEMAN (1977) Chair.
Associate Professor. BSc (Econ), London
School of Economics; PhD. Simon Fraser
University.

- DANIEL A. HAGEN (1988) Assistant Professor
BA, MA, PhD, University of California,
Berkeley.
- JULIA HANSEN (1988) Assistant Professor BA,
University of Vermont; MA, PhD, Univer-
sity of California, Berkeley.
- K. PETER HARDER (1970) Professor. BA, Uni-
versity of Puget Sound; MA, PhD, Univer-
sity of Nebraska.
- MARY ANN HENDRYSON (1989) Lecturer. BA,
MA, University of Denver. ABD, Washing-
ton State University
- STEVEN E. HENSON (1985) Associate Profes-
sor. BA, California State University; MS,
PhD, University of Oregon.
- DAVID E. MERRIFIELD (1983) Associate Pro-
fessor BS, Willamette University; MA,
PhD, Claremont Graduate School.
- DENNIS R. MURPHY (1979) Professor and
Dean of the College of Business and Eco-
nomics. BA, MA, Western Washington
State College; PhD, Indiana University.
- DAVID M. NELSON (1977) Associate Professor.
BA, Whitworth College. MA, PhD, Univer-
sity of Oregon.
- DIANA PRICE (1988) Assistant Professor. BA,
MA, Dalhousie University. PhD, University
of British Columbia.

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 course-work completed at other institutions.

BACHELOR OF ARTS

Major — Economics 70 credits

- Econ 203, 204, 271, 301, 302, 303, 311, 401 or 402
- FMDS/Mgmt 255
- A minimum of 3 courses from the following main field courses: Econ 325 or 425; Econ 381; Econ 410 or 415; Econ 462 or 463; Econ 480 or 482
- An area of emphasis, consisting of at least 3 courses selected under departmental advisement
- Electives in the College of Business and Economics, under departmental advisement, to complete the required 70 credits of the major
- A minimum of 60 of the 70 credits must be in economics

Minor 24 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, 271, 301, 302, 303, 311, 401 or 402, 475
- 14 additional credits in upper-division courses in economics, under prior departmental advisement
- Math 124, 125, 126, 204, 224
- Math/Comp Sci 335
- Math 341, 342; or Math 441, 442, 443
- Comp Sci 210
- Additional credits in upper-division mathematics or computer science, under advisement from the departments of Economics and Mathematics, to complete the required 100 credits of this program

Combined Major — Economics/Accounting

104 credits

This major is designed for students wishing to combine a strong interest 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,

Economics

- 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, 271, 301, 302, 303, 311
- FMDS/Mgmt 255
- Econ 410 or 415
- Econ 442 or 485
- 8 additional credits in upper-division economics courses, under departmental advisement
- Pol Sci 250, 260, 270 or 291, 360, 365, 427
- Econ/Pol Sci 491
- A minimum of one course from three of these areas: Pol Sci 320; 345 or 346; 420 or 467; 426; 463 or 465; 470; 490
- 3-8 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 enrollment from the instructor.

COURSES IN ECONOMICS

Courses numbered X37; X97; 300, 400; 417, 445 are described on page 37-38 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. Emphasis on the use of differential calculus to formulate and solve economic problems.
- 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 203 and 204. The nature and functions of money and the role of depository institutions 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 (4)**
Prereq: Econ 203 and 204. Economics of the labor market: development and functioning of labor unions and collective bargaining.
- 381 **AMERICAN ECONOMIC HISTORY (4)**
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. Explores the economic basis of environmental issues and policies toward the allocation of environmental resources. An examination of property rights, externalities and the common-property basis of environmental problems. Issues such as air and water pollution, solid waste disposal, hazardous substances and wilderness preservation.
- 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. Topics include oil and OPEC, regulation of natural gas and electric utilities, nuclear energy, conservation, solar power and unconventional energy sources, with an emphasis on public policy.
- 401 **ADVANCED MACRO-ECONOMICS (4)**
Prereq: Econ 301; Econ 271 or equivalent; 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, growth and the balance of payments. Includes selective reading in current professional journals.
- 402 **ADVANCED MICRO-ECONOMICS (4)**
Prereq: Econ 302; Econ 271 or equivalent; FMDS/Mgmt 255 or Math 341 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.
- 405 **RADICAL ECONOMICS (4)**
Prereq: Econ 203 and 204. The fundamentals of Marxian economic theory and its modern variants. Application of the tools of radical economic analysis in examining economic trends and social issues.

Economics

409 MANAGERIAL ECONOMICS (4)

Prereq: Econ 203; Acctg 243; Math 156 or Econ 271; and FMDS/Mgmt 255. 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 203 and 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 (4)

Prereq: Econ 203 and 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 microeconomic concepts including the operation and decision-making of households and businesses in a market economy. Special consideration is given to the development of classroom teaching strategies involving the use of games, simulations and audiovisual 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 role of multi-national corporations.

463 INTERNATIONAL FINANCE (4)

Prereq: Econ 311; Econ 301 recommended. Balance of payments, adjustment mechanisms, international monetary system and international interdependence. Topics include determinants of exchange rate policy, the relationship between domestic monetary and exchange rate policies, and international policy coordination.



- 475 **ECONOMETRICS (4)**
Prereq: Econ 203, 204; Econ 271 or equivalent; 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 housing. Urban public finance; welfare economics and efficient resource allocation.
- 482 **REGIONAL ECONOMICS (4)**
Prereq: Econ 203 or 204. Topics include individual firm location decisions, transfer costs, firm market areas and spatial pricing, agglomeration economies, central place theory and city sizes, population migration and policies for regional growth. Also covers regional issues and trends pertaining to the Pacific Northwest, Washington state, and British Columbia.
- 483 **RESOURCE ECONOMICS (4)**
Prereq: Econ 203; Econ 271 or equivalent; Econ 302 or 409 recommended. Principles of efficient resource allocation over time, distributional equity, and cost/benefit analysis. Examines exhaustible resources such as minerals, renewable resources such as fisheries and forests, and quasi-public goods including water and wilderness.
- 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.
- 487 **ECONOMIES OF THE PACIFIC RIM (2)**
Prereq: Econ 203 and 204. The Pacific Rim is treated as a unique economic region of increasing importance. Topics include economic development patterns, interdependence, and economic achievements and problems. Special emphasis on trade, development and policy relations involving the U.S., Japan and the newly industrialized countries.

- 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 status 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 37-38 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

The Department of Finance, Marketing and Decision Sciences (FMDS) provides the opportunity for study in several related fields of business administration. The primary fields include finance, marketing and management information systems. Additional course work is provided in international business, business statistics, business and society, and business policy. These fields cover a variety of responsibilities in both public and private organizations. An emphasis on breadth, general knowledge and analytical skills pervades all levels of the undergraduate curriculum. Graduates from the FMDS Department will have completed a broad business program plus a wide range of non-business subjects, reflecting the department's belief that education should prepare students for satisfying achievements in life as well as business.

PROGRAM OBJECTIVES

Departmental programs have been designed to prepare students for leadership roles in business and the community. The educational objectives of the department are to:

- Encourage intellectual inquiry.
- Provide students with the perceptual and analytical skills necessary in making decisions and evaluating policy in business.
- Develop student understanding of the social, economic and regulatory environment of business.
- Enhance educational opportunities through research activities of faculty and students.

The program is designed for students with a variety of career goals including opportunities with financial institutions, manufacturing and retail firms, service industries and the public sector.

THE CURRICULUM

Development of the department's curriculum has been guided by the standards of the American Assembly of Collegiate Schools of Business. Students normally devote most of the freshman and sophomore years of study to completion of the General University Requirements (GURs) and the business administration major foundation courses. Several foundation courses satisfy GURs, and careful planning can save time for additional elective course work. Electives that emphasize oral and written communication skills are particularly recommended.

The junior and senior years are devoted primarily to upper-division core requirements and elective course work. Students may choose to concentrate their major electives in a single field if they wish. The department offers concentrations in finance, international business, management information systems and marketing. Students who wish to complete a concentration must pay close attention to class scheduling because of prerequisites and limited offerings of some courses.

STUDENT ADVISING

For answers to routine questions concerning preparation and progress through the major, students should consult the FMDS Department "Planning Guide," available in Parks Hall 343. Non-routine questions should be directed to the department chair. Questions concerning individual areas of study should be directed to faculty who teach in that area.

After the declaration of major (see next section), a student will be assigned a faculty adviser with whom the student is required to consult

concerning mandatory and elective courses in the chosen concentration. The faculty adviser may also be a source of information concerning career objectives and opportunities.

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/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. 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.

FINANCE, MARKETING AND DECISION SCIENCES FACULTY

- EARL D. BENSON (1980) Chair.
Professor BS, University of Idaho; MA, Pennsylvania State University; PhD, University of Oregon.
- DAVID J. AUER (1980) Lecturer. BA, MA, Western Washington University
- 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) Associate Professor. BA, California State University, Sacramento; MS, San Jose State University; PhD, University of Louisville
- ROBERT C. MEIER (1978) Professor. BS, Indiana University; MA, PhD, University of Minnesota.
- 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, PhD, Columbia University.
- ROBIN E. RIECK (1981) Assistant Professor. BA, MBA, PhD, University of Washington.
- DAVID S. RYSTROM (1983) Associate 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; MBA, DBA, University of Southern California.

BACHELOR OF ARTS

Major — Business Administration (Finance, Marketing and Decision Sciences) 91-92 credits

- Foundation Courses (32 credits):
Acctg 241, 242, 243
Econ 203, 204
FMDS/Mgmt 255
Mgmt 271
Math 156
- Core Courses (36 credits):
Econ 409
FMDS 308*, 330, 341, 357*
Mgmt 311, 360
FMDS/Mgmt 482, 495**
- Concentration Electives (23-24 credits):

Students may select one of the faculty recommended concentrations listed below, or may

*Majors should take FMDS 308 and 357 as early in their junior year as possible.

**Students may substitute Mgmt 491 and 492 in lieu of FMDS/Mgmt 495.

Finance, Marketing & Decision Sciences

choose to have no concentration and complete 23 to 24 credits under advisement

- Econ 203, 204, 409
- Math 156

Concentrations

Finance

- FMDS 440, 441, 444
- Two courses from FMDS 446, 447, 448, 449
- One course from Acctg 331, 341, 375, Econ 301, 302, 311, 410, FMDS 346, 455, 456

International Business

- FMDS 470
- One course from Econ 462, 463, 485, 486
- Two courses from FMDS 436, 473, Mgmt 366, 481, Acctg 451
- Two courses under advisement (students are strongly encouraged to take a foreign language as part of their GURs)

Management Information Systems

- Mgmt 312, FMDS 309, 410, 411
- Two courses from FMDS 413 (may be repeated), FMDS 414, Acctg 421, Comp Sci 415 (one COBOL course is highly recommended for the MIS concentration)

Marketing

- Mgmt 312, FMDS 433
- Three courses from FMDS 430, 431, 432, 434, 435, 436, 417 (topics)
- One course under advisement

Combined Major — Business Administration/Computer Science 94 credits

- Acctg 241, 242, 243
- Mgmt 271, 311, 312, 360
- FMDS 330, 341
- FMDS/Mgmt 255, 482, 495*
- Comp Sci 210, 217, 310, 331, 332, 415, 430, 471

*May substitute Mgmt 491 and 492 in lieu of FMDS/Mgmt 495.

Minor — Business Administration 40 credits

- Acctg 241, 242
- FMDS/Mgmt 255
- Mgmt 271, 311
- FMDS 330, 341
- Econ 203, 204
- Math 156

COURSES IN FINANCE, MARKETING AND DECISION SCIENCES

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 37-38 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 intended for students who plan to be business administrators on 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.

- 309 **ADVANCED MANAGEMENT INFORMATION SYSTEMS (4)**
 Prereq: FMDS 308. Analysis and design of decision support systems and end-user applications; theory, tools and techniques. Management of end-user computing; consulting, training and troubleshooting. Building and managing the Information Center.
- 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, FMDS/Mgmt 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 status 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: FMDS/Mgmt 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.
- 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.
- 411 **BUSINESS DATABASE DEVELOPMENT (4)**
 Prereq: FMDS 308. Overview of database use in modern business organizations. Alternative data models and normalization of data. Database design methodologies. Development of a database application using commercial software in microcomputer environment.
- 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 or equivalent, computer literacy; Soc 320 recommended. 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 **PROMOTION MANAGEMENT (4)**
 Prereq: FMDS 330, computer literacy. Management of the promotional function within the marketing program: advertising, sales promotion, public relations, direct marketing. Promotional objectives and strategies; organization of advertising function; media selection and evaluation; advertising research; 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, computer literacy; FMDS 357 or equivalent and 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, computer literacy; FMDS 357 or equivalent and FMDS 430 recommended. 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, 357 or equivalent, computer literacy; 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.
- 436 INTERNATIONAL MARKETING MANAGEMENT (4)**
Prereq: FMDS 330, 341, computer literacy; FMDS 480 or Econ 362 recommended. Formulation and implementation of international marketing strategies. Analysis of the contemporary global marketing environment; marketing mix issues and decisions in international markets; global competitive analysis and strategy, organizing for international marketing, current problems and practices in multinational firms.
- 440 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.
- 441 INTERMEDIATE FINANCIAL MANAGEMENT (4)**
Prereq: FMDS 341, FMDS 357 or Mgmt 356. An integrated approach to financial management including study of intermediate-level financial theory and its application to financial decision making under uncertainty.
- 444 FINANCIAL INSTITUTIONS AND MARKETS (4)**
Prereq: FMDS 341. 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 357 or Mgmt 356, FMDS 440. 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.
- 447 COMMERCIAL BANK MANAGEMENT (4)**
Prereq: FMDS 444. Management of commercial banks and similar depository institutions, emphasizing the measurement and control of risk in asset and liability management. Issues in contemporary banking.
- 448 INVESTMENT ANALYSIS AND MANAGEMENT (4)**
Prereq: FMDS 357 or Mgmt 356, FMDS 440. 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; knowledge of spreadsheets. 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.
- 455 REAL ESTATE (4)**
Prereq: Mgmt 271, FMDS 341. Real estate law; government regulation of real estate use; development, marketing and financing of commercial and residential real estate.
- 456 COMMERCIAL REAL ESTATE INVESTMENT (4)**
Prereq: FMDS 455. Investment strategy, selection, financing, appraisal of income properties such as rentals, apartments, condos, office buildings, shopping centers and other secure purpose real estate.
- 470 INTERNATIONAL BUSINESS (4)**
Prereq: FMDS 330, 341, or permission of instructor. Environment of international business and its impact on the firm. Globalization of markets, the multinational corporation, adjustments of business operations and products to foreign conditions.
- 473 INTERNATIONAL TRADE OPERATIONS (3)**
Prereq: FMDS 470 or permission of instructor. Operations of firms using exporting as a means to serve foreign markets. Focus on export operations (documentation, transport, support services, financing); practical aspects of contract negotiations; alternative methods of export business arrangements.
- 482 BUSINESS, GOVERNMENT AND SOCIETY (4)**
Prereq: Mgmt 271 and senior status. 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.)

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 (or Acctg 322), 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

Management describes what is perhaps the most challenging and difficult of human endeavors. It is the process by which we attempt to attain goals beyond the reach of a single individual. It requires that we work effectively and efficiently with and through others. It is not a single skill, but rather a dynamic body of knowledge with the goal of the fusion of multiple and diverse skills possessed by many into a single instrument whose effectiveness exceeds the sum of its parts. Management is eclectic, drawing upon the entire fund of human knowledge and experience that is necessary to attain the goals established. Management is also almost universal in application. Any time two or more people join together in pursuit of a common goal and one leads by virtue of skill, experience, personality or authority, management has been initiated.

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 increasingly international 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.

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) Associate Professor. BA, State University of New York College at Cortland, MA, Western Washington State College; PhD, University of Utah.
- 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; PhD, University of Washington.
- KENNETH S. KELEMAN (1977) 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.
- LOIS E. 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.
- MARK C. SPRINGER (1987) Assistant Professor. BA, University of Cincinnati; MBA, PhD, Vanderbilt University.
- HUBERT N. THORESON (1971) Associate Professor. BS, Valley City State College; MEd, EdD, University of North Dakota.
- DANIEL M. WARNER (1978) Assistant Professor. BA, JD, University of Washington, MA, Western Washington University.

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
- Mgmt/FMDS 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 at any time during each quarter. Transfer students may

be considered for admission prior to enrollment at WWU.

Upon acceptance, each student is assigned a faculty adviser. The student shall arrange to meet with that faculty member for academic advisement prior to registering for the following quarter.

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 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
Mgmt/FMDS 255
Mgmt 271
Math 156
- Core Courses (42 credits):
Econ 409
FMDS 308, 330, 341
Mgmt 311, 312, 322, 360
Mgmt 356 (or FMDS 357)
Mgmt/FMDS 482, 495*

*Students may elect Mgmt 491 and 492 in lieu of Mgmt/FMDS 495

Management

- 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.

Concentrations: Management

Human Resource Management

- Select four courses from Mgmt 401, 423, 424, 425, 426 or 427

Organization Development

- Mgmt 404, 405 and 406
- Select two courses from Mgmt 401, 402, 407 or 424

Production/Operations Management

- Mgmt 468
- Select one course from Mgmt 365, 366, 367 or Tech 423
- Select two courses from Mgmt 460, 463, 465 or 469

General

- Students not wishing to pursue a concentration shall meet with their faculty adviser to design a program of 16 credits of elective courses in the College*

Minor — Business Administration

40 credits

- Acctg 241, 242
- Econ 203, 204
- FMDS 330, 341
- Mgmt 271, 311
- Mgmt/FMDS 255
- Math 156

*Students interested in entrepreneurial management should select the general option and inform the department of that interest. They will be advised of the preferred curriculum choices for students intending to embark upon entrepreneurial careers or careers in small business.

COURSES IN MANAGEMENT

Courses numbered X37; X97; 300, 400; 417, 445 are described on page 37-38 of this catalog.

- 201 INTRODUCTION TO BUSINESS (4)
A survey of the field Introduction to the major functional areas comprising business or organizations. Recommended for students not intending to major in the College of Business and 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.
- 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. 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. Examination of concepts for planning, organizing, and controlling manufacturing and service operations. Topics include process systems, forecasting models, facility location and layout, production planning, inventory systems, project scheduling and quality assurance.

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.

366 INTERNATIONAL OPERATIONS MANAGEMENT (4)

Prereq: Mgmt 360. Analysis of issues and problems experienced in managing international operations. Topics include international logistics, facility location, production planning, technology transfer, foreign manufacturing systems and management of operations in the Pacific Rim.

367 MANAGEMENT OF SERVICE OPERATIONS (4)

Prereq: Mgmt 360. Concepts and techniques for designing, planning and controlling service operations. Topics include service site location, service facilities design, managing capacity and demand in service operations, work force scheduling, the queueing phenomenon and the impact of new technology on service operations.

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 312. 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 ORGANIZATION 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 TRAINING AND DEVELOPMENT (4)

Prereq: Mgmt 322. Training as related to organizational objectives. Training models, learning theory, evaluation methodologies, 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. Examination of logistic systems and the design of integrated manufacturing systems. Covers logistics and production systems, facility location and layout, group technology and design of flexible, computer integrated and just-in-time manufacturing systems.

463 OPERATIONS PLANNING SYSTEMS (4)

Prereq: Mgmt 360. Study of the principles and techniques for planning production. Topics include forecasting, master scheduling, capacity planning, material requirements planning (MRP), just-in-time manufacturing (JIT) and optimized production technology (OPT).

465 OPERATIONS CONTROL SYSTEMS (4)

Prereq: Mgmt 360. Study of the principles and techniques for controlling production and managing projects. Topics include shop floor control, inventory control, quality control management, scheduling for flexible manufacturing systems (FMS), critical path method (CPM) and project evaluation and review technique (PERT).

468 OPERATIONS POLICY AND STRATEGY (4)

Prereq: Mgmt 360. Review of operations management principles and examination of current topics in domestic and international manufacturing and service operations. Detailed analysis of case studies in production and operations management.

469 OPERATIONS MANAGEMENT FIELD STUDY (4)

Prereq: Mgmt 360 and permission of instructor. Field-based study of operations management theory and concepts applied to current manufacturing and service operations problems. Course involves facility tours and projects on actual manufacturing or service problems.

481 MANAGING CULTURAL DIVERSITY (4)

Prereq: Mgmt 312. Management of persons from diverse countries and cultures. Culture-specific issues and issues of diversity in the workplace. Course involves problems, cases and research assignments associated with managing in a multi-cultural and international work environment.

482 BUSINESS, GOVERNMENT AND SOCIETY (4)

Prereq: Mgmt 271 and senior status. 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, 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.

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.

COURSES IN OFFICE ADMINISTRATION

Admission to the Office Administration program has been suspended.

These courses are available to students completing programs in Office Administration who declared a major under an earlier catalog.

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 37-38 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.

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 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 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 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 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.

MBA Program

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 **OPERATIONS MANAGEMENT (4)**
 Prereq: MBA 502, 504. Surveys the fundamentals of operations management and further develops the student's competence through case analyses. The dual emphasis on concepts and applications prepares the student for all aspects of managing an operation. Detailed coverage of operations design, planning and control.
- 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.
- 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

Admission to the Business Education program has been suspended.

COURSES IN BUSINESS EDUCATION

These courses are available to students who declared a major under an earlier catalog and are completing their degree.

- 319 **BUSINESS EDUCATION IN THE SECONDARY SCHOOL (3)**
 Prereq: junior status. 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.

Business & Economics Teacher Prep

- 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.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on page 37-38 of this catalog.

These courses are available to students who entered the program under an earlier catalog and are completing their degree.

- 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.
- 575 **IMPROVEMENT OF INSTRUCTION FOR THE AUTOMATED OFFICE (3)**
Prereq: graduate status 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.

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.

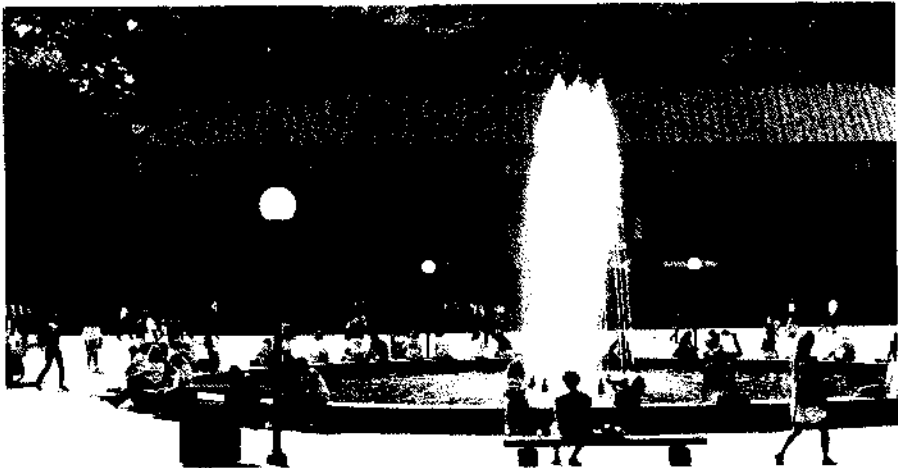
The Department of Educational Curriculum and Instruction is one of two major components of the School of Education and is responsible for developing and implementing teacher education programs which lead to Washington State Certification. The Department of Educational Curriculum and Instruction offers both undergraduate and graduate course

work in elementary, secondary, K-12 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/revision 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

Teacher Certification Requirements

See the Department of Educational Curriculum and Instruction section of this catalog.

Department Chairs

Dr. Leslie Blackwell Educational Administration & Foundations
Dr. Theodore A. Mork Educational Curriculum & Instruction

Overview of the School of Education

Administrative Services
 Certification Office
 — Initial Teaching Certification
 — Continuing/Professional Certification
 — Principal Certification
 Center for Regional Services
 — Field Services for Education
 — Advancement-Alumni/Development

Educational Administration and Foundations

Chair: Dr. Leslie Blackwell

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 Professional Program
 Elementary Education Professional Program
 K-12 Education Professional Program
 Special Education Professional Program
 — Special Education (K-12)
 — Special Education (K-12) with Secondary Education
 — Special Education (K-12) with Elementary Education
 — Early Childhood Handicapped (P-3)

Administrative Services:
 Admissions and Advisement
 Office of Field Experiences

Interdisciplinary Programs

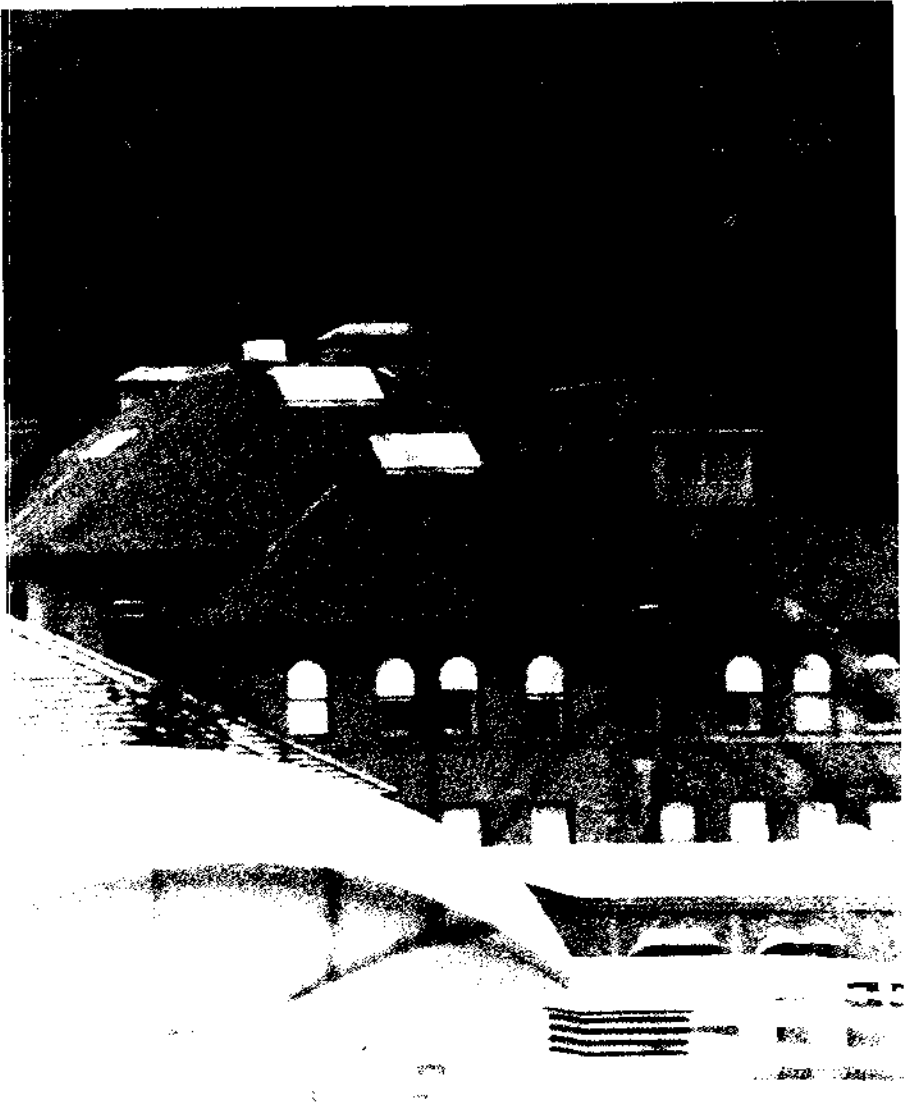
The following programs are listed alphabetically in the Interdisciplinary section of the School of Education, following the department listings:

Interdisciplinary Child Development Major
 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 Bulletin and the Continuing Education bulletins.

The following programs are listed alphabetically in the "Interdisciplinary" section following the departments listings:

Interdisciplinary Child Development
Early Childhood
Reading

Educational Administration & Foundations

EDUCATIONAL ADMINISTRATION & FOUNDATIONS FACULTY

- LESLIE BLACKWELL (1968) Chair, Associate Professor. BA, Washington State University; MEd, EdD, University of Washington.
- THOMAS BILLINGS (1964) Professor. BS, PhD, University of Oregon.
- FLORA FENNIMORE (1969) Professor. BS, Mt. Angel College; MA, EdD, Washington State University.
- F. RICHARD FERINGER (1962) Professor. 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) Professor. BSEd, MA, The College of the City of New York; MPhil, PhD, Teachers College, Columbia University.
- SAMUEL P. KELLY (1965) Professor. BA, BA in Ed, MEd, Western Washington State College; PhD, University of Chicago.
- ROBERT H. KIM (1971) Professor. BA, Hangek University for Foreign Studies; BA, MA, EdD, George Peabody College.
- ROBERT LAWSON (1985) Lecturer. BA, MEd, Western Washington University.
- 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.
- R. HUNTER NICKELL (1985) Lecturer. BA, MEd, Western Washington University.
- LINDA REISSER (1987) Lecturer. BA, MEd, University of California, Santa Barbara; EdD, University of Massachusetts.
- SY SCHWARTZ (1967) Associate Professor. BS, MS, EdD, Wayne State University.
- JOSEPH E. TRIMBLE (1978) Professor. BA, Waynesburg College; MA, University of New Hampshire; PhD, University of Oklahoma.
- JOHN F. UTENDALE (1972) Professor. BS, University of Alberta; MEd, Eastern Washington State College; EdD, Washington State University.
- PHILIP B. VANDER VELDE (1967) Associate 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. The program area office is located in Miller Hall 324.

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 at least two consecutive years of certificated teaching experience in one district on at least a half-time basis; the service must cover the entire school year. 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 Student 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; the program area office is located in Miller Hall 305.

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 Endorsement 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 206.

COURSES IN EDUCATIONAL ADMINISTRATION & FOUNDATIONS

Courses numbered X37; X97; 300, 400; 417, 445 are described on page 37-38 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 instructor. Prepares the student to take the School of Education's computer competency examination. Previous experience with computers is assumed. S/U grading.
- 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.

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 status 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 37-38 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 ELEMENTARY AND SECONDARY SCHOOLS (4)
Prereq: permission of instructor. Program articulation between elementary and secondary schools as well as unique aspects of these schools.
- 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.)

- 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 Student Personnel Administration program 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 PERSONNEL 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. Covers the fundamentals of planning, organizing, staffing, control and leadership in public service and voluntary organizations.
- 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.

Educational Administration & Foundations

- 592a, FIELD EXPERIENCE IN ADMINISTRATION FOR THE PRINCIPAL (2-6)**
b,c
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 programs of college student services or related activities. Repeatable to a maximum of 14 credits. S/U grading.
- 592h. FIELD EXPERIENCE IN ADULT EDUCATION (2-6; total 8)**
j,k
Prereq: permission of instructor. Supervised field experience in developing, directing or evaluating adult education programs relating to: (h) administration; (i) learning problems; (k) curriculum planning.
- 594j PRACTICA IN ACTION RESEARCH (3 ea)**
k,m
Prereq: teaching experience and permission of instructor. Field-based studies by entire school building staffs to resolve persistent and significant school problems. Course requirements include the development 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 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; (k) early childhood education; (n) community education; (p) interprogram topics.
- 642a. FIELD PROJECT IN EDUCATIONAL ADMINISTRATION (2-5)**
b,c,d
Prereq: master's degree, permission of instructor and submission of a one-page outline indicating scope of proposed project (repeatable to 8 credits).
- 643 ADMINISTERING THE IMPROVEMENT OF CURRICULA (3)**
Prereq: MA or MEd and EdCI 521 or 522 or equivalent. Systematic analyses of curricular offerings, development of guidelines for curriculum design and development of curricular screening devices.
- 644a. SEMINARS IN EDUCATIONAL MANAGEMENT: ADVANCED SYSTEMS THEORY (5 ea)**
b,c
644a Advanced Educational Systems Analysis
Prereq: master's degree and permission 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 strategies 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 people and/or programs thus affecting accountability)
- 647a. SEMINARS FOR SCHOOL PRINCIPALS (4 ea)**
b,c,d
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 community 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 (1-9)**
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 (1-3)**
Prereq: approval of 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.

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, interpersonal, 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

This concentration is designed to develop introductory counseling skills. Required courses for this concentration (21 credits) are: HS 446, 447, 448; and three courses from the following: HS 331, 333, 335, 432, 434, 438 and 451.

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 academically prepare a person for eligibility as a certified chemical dependency counselor at levels 1, 2, and 3 (CDCC I, CDCC II, CDCC III) State of Washington. It also meets state standards for qualified alcoholism counselors according to WAC 279.19. Students specializing in this concentration at Level 1 are required to successfully complete a six-course curriculum (HS 440, 441, 443, 447, 448 and 449). Human Services 440 and 443 are open to all students; however, students wishing to enroll in Human Services 441, 442, 447, 448 and 449 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 have met the requirements for CDCC II or CDCC III must receive permission of the instructor.

The Management Concentration

This concentration is designed to prepare students to provide administrative services. Required courses for this concentration (12 credits) are: 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, trainers, 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 all 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 37-38 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, PRACTICUM SEMINAR—FIRST b.c 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.
- 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.

Educational Administration & Foundations

- 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 and 447 or permission of instructor. Introduction to a number of major theories of counseling. Review of a variety of approaches to caseload management in individual and group counseling settings. Additional work with skills acquisition and development.
- 449 **ALCOHOLISM AND SUBSTANCE ABUSE: FAMILY DISEASE (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.
- 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.

477 SEMINAR IN CULTURAL AWARENESS (3)

Readings and discussion of contemporary cross-cultural issues; culturally different groups and their interaction with human services systems; comparative ethnic issues, conflicts and institutional practices.

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 37-38 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.

Graduate Courses

Courses numbered 500 517: 545; 597 are described on page 37-38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

- 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. 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.
- 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.
- PETER J. HOVENIER (1970) Associate Professor. BA, University of California, Santa Barbara; MA, Brigham Young University; MA, PhD, Stanford University.
- KENNETH W. HOWELL (1988) Associate Professor. BA, MA, Arizona State University; PhD, University of Oregon.
- 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.
- 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, MEd, Southwest Missouri State University.
- KARNA L. NELSON (1987) Lecturer. BA, MA, Arizona State University.
- ALDEN L. NICKELSON (1962) Professor of Education and Biology. BS, MA, PhD, University of Washington.
- SAMUEL A. PEREZ (1989) Associate Professor. BS, Delta State University; MEd, Memphis State University; EdD, Utah State University.
- ROBERT H. PINNEY (1971) Associate Professor. BA, University of Washington; EdD, Stanford University.
- KAY PRICE (1984) Lecturer. BA, MA, Western Washington University.
- MAURICE L. SCHWARTZ (1968) Professor and Dean of Graduate School and Research. BS, MA, PhD, Columbia University.
- KRISTINE L. SLENTZ (1989) Visiting Assistant Professor. BA, State University of New York; MA, PhD, University of Oregon.
- 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.
- EILEEN L. WALTER (1987) Assistant Professor. BS, University of Dayton; MA, San Francisco State University; PhD, University of Arizona.

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.)

Recent changes in Washington state requirements for certification may cause changes in published program requirements. Students or applicants should check with the program office for additional information. 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 throughout their programs, 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 closer to 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 certification program. During these eight to ten quar-

ters, 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 academic major.

Program Sequence

Each teacher education program begins twice per year. Elementary Education and Elementary Special Education begin in fall and spring quarters. Secondary and Secondary Special Education begin in fall and winter quarters. K-12 candidates join other programs and may begin in fall, winter or spring.

PROGRAM CONTENT

There are four major components in the teacher education program:

- 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 students 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.

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 Western's graduate program in Secondary Education. See a Secondary program adviser for more details. A similar program may also be in effect as early as fall 1990 for other levels of certification. Contact the program area office for additional information.

CERTIFICATES AND ENDORSEMENTS

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 certification office as an area of primary endorsement. These majors are offered by various departments within the University. The current list of approved majors follows:

- *Anthropology
- Art (see K-12 section)
- *Biology
- *Biology/Chemistry
- Business and Office Education
- *Chemistry
- *Chemistry/Mathematics
- *Chemistry/Physics
- *Earth Science
- *Economics
- English
- English/Theatre (this double major leads to endorsements in English and drama)
- English/Communication (this double major leads to endorsements in English and speech)
- 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)

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
- Child Development (Interdisciplinary)
- Economics
- English
- Environmental Studies
- Foreign Languages
- General Science

***Science Education.** *Majors in science programs that do not offer a Bachelor of Arts in Education require completion of a Bachelor of Arts or Bachelor of Science plus additional courses in science methods. 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).*

- Geography
- Geology (Earth Science)
- History
- Humanities
- Mathematics
- Music
- Physical Education
- Psychology (Human Development)
- Science Education/Environmental Studies
- Social Studies
- Sociology
- Speech
- Student/Faculty Designed Major

Some of these majors for elementary candidates do *not* fulfill the requirements for a WWU recommendation for a supporting endorsement. See the departmental description and your adviser for additional information.

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)
- Special Education (K-12)
- Early Childhood Handicapped (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 Handicapped 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 Continuing/Professional Certification 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. Of the above, EdAF 311 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 and Communication 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

The Washington Administrative Code, Section 180-75-082, requires applicants for teacher certification in Washington to give evidence of "good moral character and personal fitness." The application for certification requires candidates to answer several questions dealing with sexual offenses, drug and alcohol offenses, and any other prior police records. Students with prior records must report to the WWU certification officer prior to admission to the School of Education.

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 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. This GPA may be determined on the basis of the student's most recent 45 credits.

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	Total Score	Verbal Comp. (Eng.)	Quant. Comp. (Quant.)
WPCT	99**	50	40
SAT	870	440	340
ACT	20	20	9

*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.

**The new state requirement for the WPCT is the mean score for all people taking the test the previous year. It may change slightly for the 1990-91 school year, so students are advised to check with the School of Education Admission's Office.

- **In-School Observation**
Five full days of classroom observation in an accredited school will be required for admission. This observation may be completed in one or two classrooms. Students must request a Five-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 admission. When requesting this packet, students need to designate their area of interest as 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:

- Comm 101 (4) Fundamentals of Speech
- Comm 312 (3) Speech for the Teacher
- Comm 235 (4) Exposition and Argumentation (Secondary candidates only)
- Comm 454 (3) Speech for Elementary Teacher (Elementary candidates only)
- Comm 331 (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 required 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.

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. Howard Evans

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 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. The Secondary program begins fall and winter quarters only.

Program Standards

Students admitted must maintain a 2.75 GPA in the professional studies program and successfully complete a minimum of one professional studies course each calendar year. Those who do not meet this requirement will be dropped and must reapply to Secondary Education before continuing with professional studies courses.

Secondary Education Professional Program

63 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 credits

- EdCI 471, 471a
- EdCI 472, 472a
- EdCI 484
- or EdCI 481

Secondary Programs Internship

24 credits

- EdCI 495

Elementary Program

Program Area Head:

Dr. H. O. Beldin

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.

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. The Elementary program begins fall and spring quarters only.

Elementary Education Professional Program 87-89 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 *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 and Curriculum Content 32 credits

- Art 380
- Music 361
- Math 481
 - Note: Math 281 is a prerequisite for Math 481.
- PE 306
- Sci Ed 390
- Sci Ed 391
- Soc St 425
- Eng 440
- or EdCI 424
- EdCI 485
- EdCI 396

Elementary Internship 24 credits

- EdCI 494

Supporting Endorsement — Elementary Education K-8

Admission Requirements

- Valid Washington State Teaching Certificate

Educational Curriculum & Instruction

- An approved liberal arts major of at least 45 quarter hours
- Coursework in Child Growth and Development
- Coursework in classroom organization and management

Course Requirements

- Soc St 425
- Sci Ed 390
- Sci Ed 391
- Lib Sci 304
- EdCI 485
- PE 306
- Music 351
- Art 390
- Eng 440 or EdCI 424
- Math 481
- EdCI 591

Additional competencies required: Health Education.

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. Theodore Mork
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
58-62 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

Educational Curriculum & Instruction

physical education. (See appropriate catalog section for description.)

The courses listed below are *not* in the sequential order students will follow.

Professional Studies Core

23 credits

- Psychological Foundations
 - Psych 351
 - Psych 352 or 353
- Philosophical Foundations
 - EdAF 310
 - EdAF 411
- 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
- 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 only (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 (elementary) or minor (secondary) in addition to the professional program. Students in the Special Education P-3 Program

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 the post-baccalaureate section and then see a Special Education adviser.

Courses necessary for completion of certification requirements with a primary endorsement in Special Education are outlined below. Special Education programs begin 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 certification and endorsement in Special Education 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 is a prerequisite for Math 481.

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

Special Education Internship

24-26 credits

- EdCI 490a (optional)
- 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 is a prerequisite for Math 481.*
 - 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)
- EdCI 396
- EdCI 494
- EdCI 498b

Special Education Major with Secondary Certificate

94-102 credits

This major leads to a 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

Educational Curriculum & Instruction

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)
- 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. The courses listed below are *not* in the sequential order students will follow.

This program was under review at the time the catalog copy was prepared, and that process may result in some changes in the requirements. Please see a special education adviser for details.

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
- SPA 351
- SPA 354

Special Education Program 32 credits

- EdCI 360
- EdCI 361
- EdCI 460b
- EdCI 460c
- EdCI 460d
- EdCI 461a
- EdCI 461b
- EdCI 462a
- 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
- SPA 465
- SPA 465a

Early Childhood Internship 24-26 credits

- EdCI 490a (optional)
- EdCI 498a

Supporting Endorsement — Special Education K-12

Admission Requirements

- Valid Washington State Teaching Certificate

Course Requirements

- Special Education Core
 - EdCI 360

- EdCI 361
- EdCI 462
- EdCI 461a
- EdCI 461b
- EdCI 466
- Reading
 - EdCI 385 and one of the following: EdCI 485, 481, 484, or EdCI 485 and 485a
- Curriculum
 - EdCI 422 or 471. Choose course that represents the level (elementary or secondary) in which not currently endorsed
- Internship
 - EdCI 498, depending on prior experience, by advisement

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.

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 public school teacher to whom they have been assigned for final approval.

During the internship, students teach under the direct supervision of a certified teacher in a school setting. They have intensive practice in integrating methods, content area knowledge and classroom organizational strategies. For the final portion of the internship, students take full responsibility for a classroom.

The Office of Field Experiences is the service agency of the School of Edu-

cation which seeks placements for prospective interns. It *does not guarantee placements*. Placement in a school is contingent on:

- Meeting all requirements (satisfactory academic work and practica and faculty recommendation)
- Availability of placements in specific grade/subject areas
- Acceptance by K-12 school personnel

A maximum of three initial interviews for placement will be arranged by the Office of Field Experiences.

Any subsequent placement after a voluntary or non-voluntary withdrawal from an internship will be granted only by faculty recommendation following a case conference.

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 are listed on the student intern application available in the program area office or the Office of Field Experiences. The Office of Field Experience reserves the right to place students anywhere within the WWU service area.

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 satisfy the following:

- 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 state criteria can be met. Contact the Office of Continuing/Professional Certification for details.

The Continuing/Professional Certificate will again be endorsed for both grade level and subject matter area.

CONTINUING/ PROFESSIONAL CERTIFICATION REQUIREMENTS AT WESTERN WASHINGTON UNIVERSITY

The Continuing/Professional 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/Professional Certificate, the teacher must have had at least two years of continuous teaching experience with the same employer (half-time teaching or more) and earn at least 45 credit hours, of which at

least 21 credits must be earned subsequent to the first year of teaching. The Continuing/Professional Certificate is valid as long as the teacher is in educational service and meets state requirements for formal course work. 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 planned course work must be approved prior to registration and must be taken post-baccalaureate and be upper division (300-400) or graduate level, except that lower-division course work may be counted provided it is also counted toward supporting endorsement.

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/Professional Certificate is made through Continuing Certification, Miller Hall 204, (206) 676-3388. **A master's degree will be required for continuing certification** for anyone applying for the Continuing/Professional Certificate after August 31, 1992. Persons interested in pursuing a master's degree and the Continuing/Professional 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 37-38 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.
- 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 affecting 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: admission to the School of Education or permission of the instructor. An introduction to the special instructional needs of handicapped and gifted children.

- 361 PRACTICUM IN SPECIAL EDUCATION (3)
Prereq: EdCI 360 and permission of instructor. Observing and participating in recreational and educational activities with exceptional children, youth, and adults.

- 363 EXCEPTIONAL CHILDREN IN THE CLASSROOM (3)
Prereq: admission to the School of Education or permission of instructor. Introduction to the characteristics and needs of exceptional learners; pertinent federal and state laws; curricular and behavior management adaptations in the regular classroom; assessment of learning problems; instructional techniques; behavior management strategies.

- 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. Requires three hours per week of observation and participation in an assigned elementary classroom. 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. Requires three hours per week of observation and participation in an assigned elementary classroom. S/U grading.

Educational Curriculum & Instruction

- 396 PRE-INTERNSHIP 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.
- 424 LANGUAGE ARTS IN THE ELEMENTARY CURRICULUM (4)
Functions and programs of language arts in the curriculum including reading, writing, speaking, listening.
- 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 meetings, 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 status 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.
- 460 **LEARNING DISABILITIES (4)**
Prereq: EdCI 360 or permission of instructor. Theoretical background assessment and instructional procedures for the learning disabled student.
- 461a **ASSESSMENT AND EVALUATION I (3)**
Prereq: EdCI 462 or permission of instructor. Assessment of pupil performance, selection of teaching strategies and evaluation using fluency as one of the parameters. Daily practicum required.
- 461b **ASSESSMENT AND EVALUATION II (3)**
Prereq: EdCI 461a. Use of individualized teaching strategies and evaluation using curriculum-based assessment and precision teaching. Daily practicum required.
- 462 **CURRICULUM, METHODS AND PRACTICUM IN SPECIAL EDUCATION (6)**
Prereq: EdCI 360 and 361 or permission. Curriculum selection and adaptation of methods and materials for exceptional children and youth. Includes direct instruction, pre-vocational and vocational programming and transition services, survey and adaptation of instructional materials, task analysis and classroom management. Daily practicum in local schools required.
- 463 **EDUCATION OF BEHAVIOR DISORDERED CHILDREN (4)**
Prereq: EdCI 360. Assessment, methods and curriculum for behavior disordered children. Emphasis on social skills training.
- 464 **THE EDUCATIONALLY DISADVANTAGED (4)**
Prereq: admission to the School of Education or permission of instructor. Methods for teachers of children who are underachieving in school due to differences in their cultural/experiential backgrounds.
- 466 **FAMILIES, PROFESSIONALS AND EXCEPTIONAL CHILDREN (3)**
Prereq: EdCI 360 and 361 or permission of instructor. Techniques for communicating with and counseling handicapped and gifted children and their parents, and working with interdisciplinary teams.
- 467a **PROGRAM DEVELOPMENT FOR EARLY CHILDHOOD SPECIAL EDUCATION (3)**
Prereq: EdCI 360. 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.
- 467b **DIAGNOSTIC TEACHING OF PRESCHOOL AND PRIMARY CHILDREN (4)**
Prereq: EdCI 360 or permission of instructor. Formal and informal testing procedures for identifying learning problems and selecting teaching procedures for preschool and primary exceptional children.
- 467c **TYPICAL AND ATYPICAL INFANTS, TODDLERS AND PRESCHOOL CHILDREN (3)**
Prereq: EdCI 360 or permission of instructor. Theoretical and conceptual issues in the study of typical and atypical development of infants, toddlers and preschool children, including practicum observation experience.
- 467d **CURRICULUM AND ACTIVITIES FOR PRESCHOOL HANDICAPPED CHILDREN (4)**
Prereq: EdCI 360 or permission of instructor. Curriculum development and adaptation; selection of methods and materials for the preschool handicapped child.
- 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: EdCI 360 or permission of instructor. 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 (4)**
Prereq: EdCI 320 or permission, concurrent enrollment in EdCI 471a. Secondary curricula, lesson planning, instructional theory into practice, school structure.

Educational Curriculum & Instruction

- 471a PRACTICUM (2)
Prereq: concurrent enrollment in EdCI 471. Observation and assisting within classrooms, interviewing middle/high school personnel, peer teaching. S/U grading.
- 472 SECONDARY SCHOOL MANAGEMENT, INSTRUCTION AND EVALUATION (4)
Prereq EdCI 471 or permission. Diagnostic techniques, models of instruction, questioning skills, measurement, discipline, management, and peer teaching.
- 472a SECONDARY SCHOOL PRACTICUM (2)
Prereq: concurrent enrollment in EdCI 472. Students serve as teaching assistants in assigned public schools four-five hours each week; some small group and large group instruction. S/U grading.
- 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.

494a INTERNSHIP—EARLY CHILDHOOD EDUCATION (2-24)

Prereq: recommendation for supervised teaching. Supervised teaching experience to develop and demonstrate teaching competence at the pre-primary or primary level. May be repeated up to 24 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.

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 TEACHING AND ADMINISTERING IN BRITISH SCHOOLS: K-12 (3,6)

Theory and practicum of education in England; e and f must be taken in sequence. Offered summers in England. Not open to undergraduates.

499e Practicum in English Schools in Oxfordshire (3)

499f Workshops. Lectures and Experiences in Philosophy, Administration, Culture, History, Curriculum, Methods and Materials of English Schools (6)

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on page 37-38 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.

518 CURRENT ISSUES IN EDUCATION (1-5)

Prereq: graduate status or permission of instructor. Examination and discussion of several current and controversial issues in any of the following areas: (a) elementary education; (b) early childhood education; (c) reading; (d) secondary education; (e) special 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.

Educational Curriculum & Instruction

- 523 **TEACHING ADOLESCENTS (4)**
Prereq: permission of program adviser. 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.
- 533 **ADVANCED SEMINAR IN ELEMENTARY EDUCATION (4)**
Prereq: advancement to candidacy. Advanced study of individual research topics in elementary education.
- 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.
- 535 **RESEARCH ANALYSIS OF CURRENT ISSUES IN ELEMENTARY EDUCATION (4)**
Prereq: graduate status and EdAF 501. Examination and analysis of research underlying current issues and problems in elementary education.
- 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 **SEMINAR 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.
- 561 **ADVANCED FUNDAMENTALS IN SPECIAL EDUCATION (3)**
Prereq: admission to graduate program or permission. Etiology of handicapping conditions, service models and the laws that influence service and funding. Introduces foundations of assessment and evaluation, a theme developed later in the graduate sequence in the context of learning and social behavior development.
- 562 **LEARNING PROBLEMS (4)**
Prereq: admission to graduate program or permission. Information processing and learning theory as it applies to handicapped learners. Assessment and evaluation of cognitive strategies and academic skill development will be discussed.
- 563 **CURRICULUM AND METHODS IN SPECIAL EDUCATION (3)**
Prereq: admission to graduate program or permission. Models of curricular organization selection and adaptation of content to facilitate mainstreaming and instructional aids, including computers and adaptive equipment. Writing IEPs with computer assistance.
- 564 **BEHAVIOR MANAGEMENT (4)**
Prereq: admission to graduate program or permission. Applied behavior analysis and cognitive strategies for special education and high risk children. Assessment and evaluation of social skill development.
- 565 **CONSULTATIVE TEACHING IN SPECIAL EDUCATION (4)**
Prereq: admission to graduate 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 COMMUNICATION SKILLS FOR SPECIAL EDUCATORS (4)
Prereq: admission to graduate program or permission. Roles of the special educator as a member or team leader of interdisciplinary teams; communication with parents about their exceptional children; working with professional colleagues in IEP meetings and informal settings. Practice of skills related to giving and receiving information with the community, parents, students and colleagues.

567 ADVANCED ISSUES IN SPECIAL EDUCATION (3)
Prereq: completion of 20 hours in the Med in Exceptionality or permission of the instructor. Intensive study of legal and ethical issues in special education.

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)
Prereq: teaching experience. 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: EdC1 442 or permission of department. Advanced studies in the principles of supervision; utilization of instructional resources and the evaluation and improvement of teaching.

591 RESIDENCY IN ELEMENTARY TEACHING (8 or 16)
Recommended for supervised teaching. Supervised teaching experience to develop and demonstrate teaching competence at the primary and/or intermediate grades. May be repeated. S/U grading.

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 (2-6)
Prereq: permission of instructor. Designing, field testing and evaluating innovative school programs, practices and materials for the elementary school.

594e, PRACTICUM IN READING DIAGNOSIS f,g,h 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 practica 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: EdCI 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) elementary education; (b) early childhood education; (c) reading; (d) secondary education; (e) special education.

666 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. Emphasis will be on problems faced by the reading specialist/consultant in working with children, parents, teachers, other specialists and administrators.

690a THESIS (1-9)

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 (1-9)

Prereq: approval of 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

BACHELOR OF ARTS IN EDUCATION

Major — Child Development

45 credits

This major must be taken with either the Elementary or Special Education Certification program. The major is organized into major topical strands in development. The Learning and Development strands must be completed before courses in the other strands are taken. Selections of options under each topic should be made in consultation with an adviser.

Core 34-41 credits

- Learning
 - Psych 351 or Psych 321
- Development
 - Psych 352 or Psych 316
- Motor Development
 - PE 485
- Language Development
 - SPA 354 or EdCI 489 or Eng 442
- Variations in Development
 - EdCI 360
- Child in the Family
 - Psych 355 or Home Econ 322 or Home Econ 426
- Child and Family in Society and Culture
 - EdCI 435
 - Soc 360 or Anth 481 or Anth 351
- Statistics
 - Psych 306 or Soc 310
- Advanced Topics in Developmental Psychology
 - Psych 456a or 456b or 456d

Elective Topics

(Electives under advisement to total a minimum of 45 credits)

- Sex Roles
 - Psych 219 or Anth 353 or Soc 368

- Life Span Development
 - EdCI 431 or Psych 353 or 357 or Soc 333 or Home Econ 421 or Soc 380
- Advanced Topics
 - Psych 456a or 456b or 456c or 456d

Minor/Endorsement — Early Childhood Education

24-26 credits

This program leads to a supporting endorsement (P-3) in Early Childhood Education to be added only to an Elementary 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 420
- EdCI 390 or EdCI 592d

Early Childhood Electives

By advisement to total a minimum of 24 credits in the minor.

Early Childhood Education Adviser: Dr. Roberta Bouverat

Minor/Endorsement — Reading 26-29 credits

This program leads to a supporting endorsement (K-12) in Reading to be added to an Elementary or Secondary teaching certificate.

Interdisciplinary

Reading Core 2-4 credits

- Foundations of Reading or Language
— EdCI 385 or EdCI 489

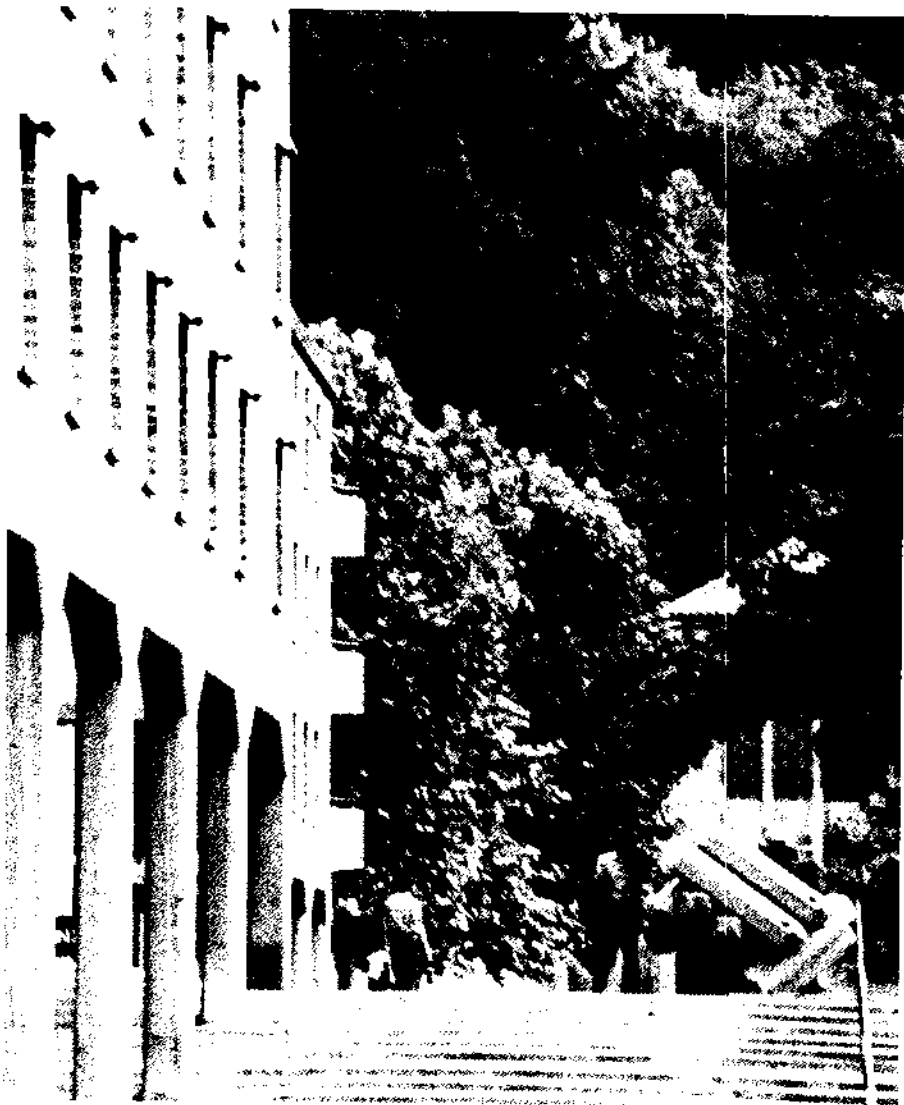
Reading Program 24-25 credits

- 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:

Lib Sci 405
Lib Sci 407
Eng 441
Eng 444
EdCI 583

Adviser: Dr. H. O. Beldin



FAIRHAVEN COLLEGE

Dr. Marie D. Eaton, 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.

Fairhaven College is committed to curriculum intergration; that is, courses are expected to use a gender-conscious and multi-cultural approach to topics, resources and classroom practices.

Any WWU student can apply 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. Students completing the Fairhaven Interdisciplinary Concentration earn the Bachelor of Arts or Bachelor of Arts in Education.

Requirements for bachelor's degrees awarded by Fairhaven College are as follows:

- The Fairhaven Core Program
- A Fairhaven Interdisciplinary Concentration (the individually designed major) or WWU departmental major
- 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 or 301 and Fairhaven 208 partially fulfill this requirement.)
- Scholarship and credit standards as prescribed in the *Student Guide to Fairhaven College*

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, including: business & industry; communications, journalism & research; creative writing; 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; U.C. Berkeley; Stanford University; The New School for Social Research; 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); McGill University (Canada).

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.

Fairhaven College offers the opportunity for self-motivated students who have demonstrated exceptional learning skills to design an individualized alternative to parts of the core program (Hum. Soc. Sci I & II), making systematic use of existing course challenge procedures.

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
- 202 Humanities and The Expressive Arts I
- 204 Society and The Individual I
- 206 Science and Our Place on the Planet I
- 208 Writing Competency
- 209 Transition Conference
- 302 Humanities and The Expressive Arts II

- 304 Society and The Individual II
 306 Science and Our Place on the Planet II

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 individually designed major — “Fairhaven Interdisciplinary Concentration”

303 Concentration Seminar

- Components of Concentration:
 Proposal of study
 Completion of course of study
 Senior project
 Student summary and evaluation
 Committee review and approval

OR

Option B: A major in one of the departments of Western Washington University. (See departmental requirements.)

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 for the Bachelor of Arts or Bachelor of Arts in Education degrees. 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:

- Music, Performance and Society
- Culture, Cognition and Intuition in Healing
- Law and Studies in Social Power
- Financial Markets and Behavioral Economics
- Creative Writing: Environment, Language and Vocation
- The Ethics of Science
- The Narrative Image: Writing, Film and Photography
- Dance as an Historical Art Form
- The Art of Teaching: An Interdisciplinary Approach
- American Indian Culture: Federal Programs in Social Change
- History Through Literature
- Art as Sign and Ritual in Society
- Youth in Conflict: Community Based Services

Further information pertaining to the concentration, its possibilities and

prospects, may be found in the *Student Guide to Fairhaven College*.

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 *School of Education* in helping the student to complete requirements. The document, "Policies and Procedures for the Student/Faculty Designed Programs for Teacher Certification at Fairhaven College," is available from the Fairhaven main office.

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 applica-*

tion 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* or *Transfer 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 student's progress. The student-faculty evaluation becomes a part of the student's academic file, and forms part of the student's credential for applying for employment and for graduate programs.

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 col-

leges 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 offers scholarships to selected students. Write separately to Fairhaven College for information.

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.

In addition to the uniform application, Fairhaven requests a personal statement, two letters of recommendation, and an interview (in person or by telephone). **Before providing these materials** (and to make an appointment) please call (206) 676-3680.

We encourage you to pay us a visit. If you contact us in advance, we can arrange appointments with the Dean, an admissions adviser, faculty, students or other WWU staff.

FAIRHAVEN COLLEGE FACULTY

- MARIE D. EATON (1975) Professor and Dean of Fairhaven College. BA, Pomona College; MEd, PhD, University of Washington.
- 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 CONTON (1980) Associate Professor. BA, Oberlin College; MA, PhD, University of Oregon.
- CONSTANCE P. FAULKNER (1968) Professor. BS, PhD, University of Utah.
- 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.
- DANA C. JACK (1982) Lecturer. BA, Mount Holyoke; MSW, University of Washington; EdD, Harvard University.
- 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.
- DANIEL M. LARNER (1968) Professor. AB, Harvard College; MS, PhD, University of Wisconsin, Madison.
- 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.
- 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, oceanica, philosophy, physics, psychology and psychology of women,

Fairhaven College

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. Fairhaven 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 1989-91 CURRICULUM. The courses and studies listed in this *Catalog* will be offered during the 1989-91 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 all Fairhaven College students with fewer than 90 credits the quarter of admission. An introduction to critical learning skills, aspects of educational theory, curricular structures and individualized learning. Partially satisfies the all-University writing proficiency requirement.

202 CORE: HUMANITIES AND THE EXPRESSIVE ARTS I (5)

Exploration of the assumptions and practices which inform human inquiry and creativity in literature, philosophy and the arts.

204 CORE: SOCIETY AND THE INDIVIDUAL I (5)

Introduction to the study of people as individuals and in societies, explored through works in social science, literature, history and psychology.

206 CORE: SCIENCE AND OUR PLACE ON THE PLANET I (5)

Science and technology are systematic, self-critical, intellectual activities by which a culture copes with the regular phenomena of its world. This class addresses science and its associated technological applications in Western culture and seeks to understand their limitations and potential.

208 CORE: WRITING COMPETENCY (3)

Development of a portfolio of writing and demonstration of writing competency in consultation with faculty. See *Student Guide to Fairhaven College* for procedure. Partially satisfies the all-University writing proficiency requirement.

- 209 **CORE: TRANSITION CONFERENCE (1)**
 Demonstration of readiness to pursue Concentrated Studies, in consultation with faculty. See the *Student Guide to Fairhaven College* for procedure.
- 301 **CORE: TRANSFER SEMINAR: METHODS OF INTERDISCIPLINARY STUDY (5)**
 Required of all transfer students to Fairhaven College, with upper-division status, the quarter of admission. An introduction to self-designed interdisciplinary studies. Individualized attention to writing and independent study skills. Seminar topics will vary with instructor.
- 302 **CORE: HUMANITIES AND THE EXPRESSIVE ARTS II (5)**
 Prereq: Fair 202 or permission of instructor. Critical, interdisciplinary study of the major themes, ideas, issues in the humanities and expressive arts.
- 303 **INTERDISCIPLINARY CONCENTRATION SEMINAR (5)**
 Prereq: Fair 209. Required of students undertaking an Interdisciplinary Concentration. Application of procedures and assistance in ordering one's course of study into an effective concentration proposal. Credit awarded upon filing the proposal.
- 304 **CORE: SOCIETY AND THE INDIVIDUAL II (5)**
 Prereq: Fair 204 or permission of instructor. Techniques of interdisciplinary study expanded and evaluated in the critical exploration of major concerns in human and social development.
- 306 **CORE: SCIENCE AND OUR PLACE ON THE PLANET II (5)**
 Prereq: Fair 206 or permission of instructor. Critical exploration and techniques of interdisciplinary study in the sciences and at the common boundaries of science with the arts, philosophy, society and history.
- 401 **SENIOR PROJECT (Variable)**
 Independent study required of students undertaking an Interdisciplinary Concentration. See the *Fairhaven College Guidelines for Concentrations* for more information.
- 403 **ADVANCED SEMINAR (5)**
 Required of all Fairhaven College students. A forum in which students are required to reflect on, summarize and evaluate their major or concentration programs and to consider their education in relation to the world they are entering.

CONCENTRATED STUDIES

210/310/410 a-z HISTORY, CULTURE AND SOCIETY (1-6)

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. (A-F grading.)

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.

215 SEXUAL MINORITIES (3)

Historical, sociological, political, psychological and cultural aspects of people who prefer modes of sexual expression other than exclusive heterosexuality.

216 WORLD RELIGIONS (4)

Study of the history, mythology and cultural context of various world religions. Repeatable with different topics.

Fairhaven College

- 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.
- 219 **THE CIVIL RIGHTS MOVEMENT AND THE PHILOSOPHY OF NON-VIOLENCE (3)**
Uses the television series, "Eyes on the Prize," to study the Civil Rights Movement between 1954 and 1965. Introduces the writings of Martin L. King and their background in the works of Tolstoy and Gandhi, comparing the philosophy of non-violence with pacifism and utopianism.
- 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 **MODERN 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 204 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.
- 317 **ORIGINS OF CONSCIOUSNESS (3)**
Study of Julian Jaynes argument in *The Origins of Consciousness In the Breakdown of the Bi-Cameral Mind* and examination of relevant material in anthropology, psychology, philosophy and literary criticism.
- 318 **MANAGERS AND ELITES: UNDERSTANDING LEADERSHIP (4)**
Prereq: courses in political science, social psychology or management. Historical study of elites in the U.S. The role of managers and organizers in politics, business and labor. Psychology of leadership and organizational dynamics.
- 319 **THE VIETNAM ERA (4)**
Prereq: U.S. history or political science. Historical, political, cultural changes brought about during America's Vietnam era, 1954-1975, both here and in Vietnam.
- 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.
- 412 **CRITIQUE OF AMERICAN CAPITALISM (5)**
Prereq: Econ 204, Fair 212 or equivalent plus upper-division status. 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 permission of instructor. 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.

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.

418a-c SEARCH FOR A METHOD: ADVANCED SOCIAL THEORY (4 ea)

Prereq: courses in economic, political or other social theory. Three-quarter course exploring 20th century feminist, Marxist and other social theory. Emphasis on method: how to seek and evaluate answers to social questions. Need not be taken sequentially.

419 CANADIAN INDIAN POLICY (5)

Prereq: a course on North American Indians in anthropology, history, ethnic studies. Relations with Indians in Canada began with French and British contact, the English institutions and policies being incorporated by the new Canadian nation in the 1870s. The impact of these policies on native people, and how they compare with the Indian experience in the United States.

220/320/420 a-z LANGUAGE, LITERATURE AND COMMUNICATIONS (1-6)

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 develop 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. Different 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.

228 SPEAKING WELL (3)

Practice in the art of speaking effectively, including clear articulation, responsive argument, short public speeches and storytelling. Clarity of thought and image and aptness of style and vocabulary.

- 321 **COMMUNICATION AND GENDER (4)**
 Prereq: previous communication course. Survey and analysis of gender differences in communication behavior with a discussion of implications for personal and social change.
- 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 202 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 **LANGUAGE, POLITICS AND SOCIAL ROLES (4)**
 Prereq: social science or communication class. Study of language structure and use with consideration of its implications for political and social interactions.
- 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.
- 327 **WOMEN AND FICTION (4)**
 Prereq: women studies or literature courses. Discussion of literary, social, psychological and historical issues in selected fiction written by women in the last 100 years.
- 328 **MAKING UP THE WORLD: PLAYS, FILMS AND TELEPLAYS (4)**
 Prereq: one course in literature and one in theatre or drama, or permission of the instructor. Concentrates on understanding the dramatic forms common to successful contemporary works, on the qualities of imagination working in each medium, and on the social images and messages which emerge from the use of these forms.
- 421 **WINTER, WRITING, AND DOSTOEVSKY (4)**
 Prereq: humanities courses or permission of instructor. A critical study of Dostoevsky, his life, times, works and influence as a novelist, psychologist, religious philosopher and social theoretician. Readings include the major novels and representative shorter works.
- 422 **TOLSTOY! (4)**
 Prereq: humanities courses or permission of instructor. A critical study of Leo Tolstoy's literary evolution, moral quest and social reforms, with special reference to problems of the present time. Readings include *Anna Karenina* and representative shorter fiction; also his *Confession* and selections from his writings on religion, politics, and alternative education.
- 230/330/430 a-z NATURE, SCIENCE AND THE ENVIRONMENT (1-6)**
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.
- 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 (2 ea)**
 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.
- 332 **NATURAL HISTORY OF INLAND WATERS (4)**
 Prereq: Fair 206 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 FEMINIST SCIENCE (4)

Prereq: Fair 206 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.

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.

432 TIME, SPACE AND REALITY (4)

Prereq: upper-division status. A study of assumptions underlying various concep-tions and descriptions of space, time, measurement and reality. May include dis-cussion of classical and modern physics, art, child development, non-Western cul-tures. Appropriate for the artist, liberal artist, or scientist. Repeatable with differ-ent topics.

433 FRONTIERS (4)

Prereq: Fair 206 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, cul-tural, psychological and physiological com-ponents of human development, personal iden-tity 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, "Center-point."

243 AWARENESS THROUGH THE BODY (4)

The body, its internal senses and its movements. Attention is paid both to theo-ries 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 intro-duction to basic theories and research from psychology, anthropology, sociol-ogy 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 DEATH AND DYING (5)

The implications of one's death for philo-sophy, culture, art, literature, aging, eco-nomics, psychology, medicine and living.

344 ADULT DEVELOPMENT IN WOMEN: CHOICES AND CONFLICT (4)

Prereq: previous courses in psychology. Study of major theories of adult develop-ment, including Jung, self-in-relation and cognitive-developmental theorists. Theo-ries will be applied to narratives of actual lives, as part of assessing the theories' usefulness.

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 MENTAL HEALTH IN WOMEN: VULNERABILITIES AND STRENGTHS (4)

Prereq: previous courses in psychology. Examination of how culture interacts with women's personality development to create high rates of depression and eating disorders. Women's mental health as des-cribed by the self-in-relation theorists.

347 PSYCHOLOGY OF WOMEN (4)

Prereq: previous courses in psychology or women studies. Major theories of psy-chology of women.

348 MEN AND IDENTITY (3)

Prereq: courses in human development, women studies or body awareness. Ex-ploration, through the arts, of men's changing identities and roles. Study of artists, media and criticism dealing with contemporary gender roles and relation-ships. Sharing of creative work, with colla-borative projects in theatre, dance, music and mixed media.

349 FROM DESCARTES TO PHENOMENOLOGY (4)

Prereq: courses in philosophy, upper-division status 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 status. 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.

443 MORAL REASONING: THEORIES AND THEIR APPLICATIONS (4)

Prereq: previous courses in psychology. A look at major theories of moral development and their application to people reasoning about real moral conflict in their lives.

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.

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 INWARD JOURNEY (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.

353 ART AND SOCIETY (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 Pythagoras. Chinese landscape painting to Zen Buddhism, David to the French Revolution.

354 SCRIPTWRITING WORKSHOP I (4)

Prereq: some previous coursework or experience with creative writing, or permission of the instructor. Practice in the art and craft of writing for the dramatic media: theater, film, television and radio. Intensive writing and rewriting experience with a supportive group of other writers.

356 DREAMS, IMAGINATION AND CREATIVITY (4)

Prereq: Fair 204 or Fair 243 or permission of instructor. 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 204 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.

454 SCRIPTWRITING WORKSHOP II (4)

Prereq: Fair 354, previous 300-level work in scriptwriting in any medium, or permission of instructor. Advanced practice in the art and craft of writing for dramatic media: theatre, film, television, radio. Emphasis on sharpening forms and styles, and on preparing scripts for production.

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 (1-15)

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 an 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 status. 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 provides for an educational environment enhancing the creation, development, performance and teaching of the fine and performing arts. The College has a strong physical presence on campus through its multi-building facilities which are found adjacent to the two major plazas of the campus. The Concert Hall, a major theatre, two experimental theatre performance spaces, an intimate theatre, rehearsal spaces, classrooms, art studios and the Western Gallery are housed in these facilities. The arts are additionally represented throughout the campus by site specific sculpture of international importance which comprise the Outdoor Sculpture Collection.

Within this environment the College provides for its academic majors while also offering a full spectrum of arts experiences and courses to the general student body.

The College enables the student to grow in a specific discipline, while concurrently encouraging cross-disciplinary experiences. A commitment to a career in an arts discipline warrants and demands exploration in all the arts. The departments of the College provide the necessary flexibility to develop the specific talents and interests of each student. In addition to the traditional course of study, the College offers student/faculty designed majors to allow for cross-disciplinary study. Within each department an appropriate balance of historical, analytical, practical and pedagogical courses combine to provide an effective curriculum.

The nature of instruction within the College provides for a nurturing atmosphere with the faculty acting as men-

tors to their students. This approach is consistent with the unique goals and dreams that each student brings to the College. The faculty of the College are dedicated educators, scholars and artists who strongly believe in the primary role the arts play in our civilization.

Academic Programs Leading to Undergraduate and Graduate Degrees

Art	BA, BA/Ed, BFA, M/Ed
Art History	BA
Music	BA, B/Mus, M/Mus, BA/Ed
Theatre	BA, BA/Ed

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

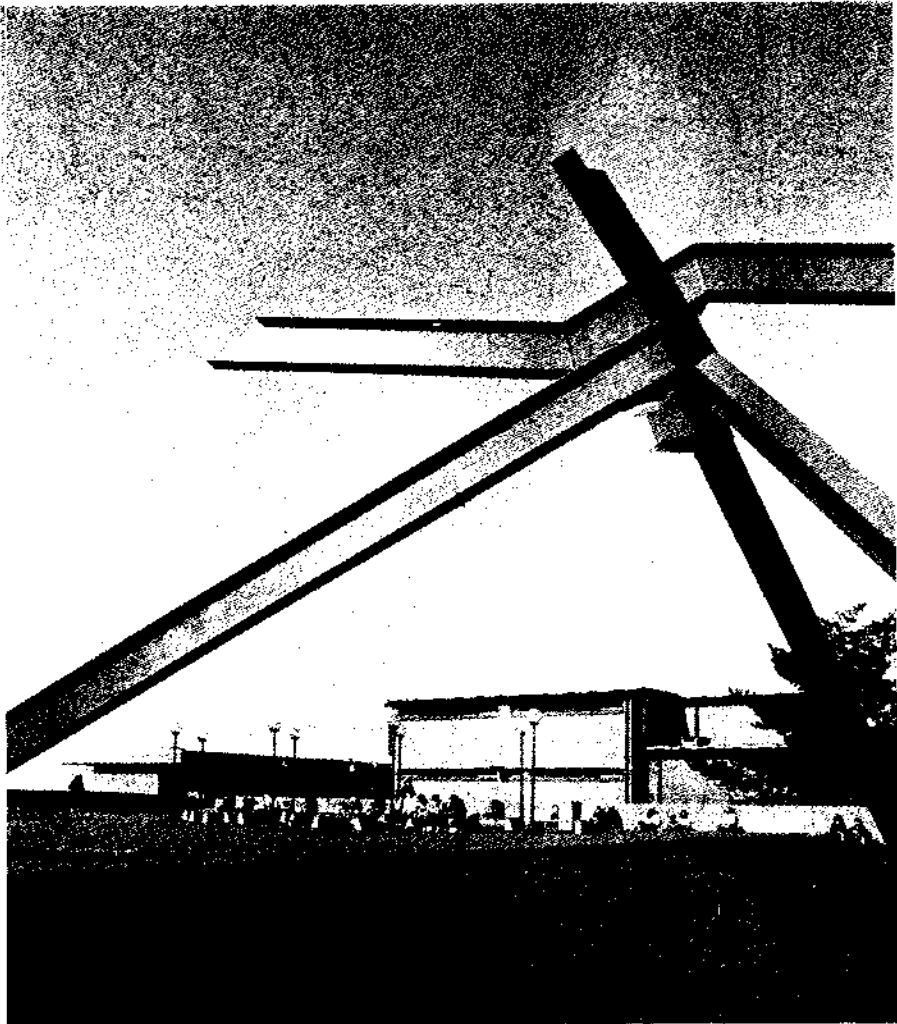
The Student/Faculty-designed major is a major for a bachelor's degree granted by the College of Fine and Performing Arts. Each major is approved by the Curriculum Committee of the College of Fine and Per-

forming Arts. Approval should come after 45 — and before 90 — credits are completed.

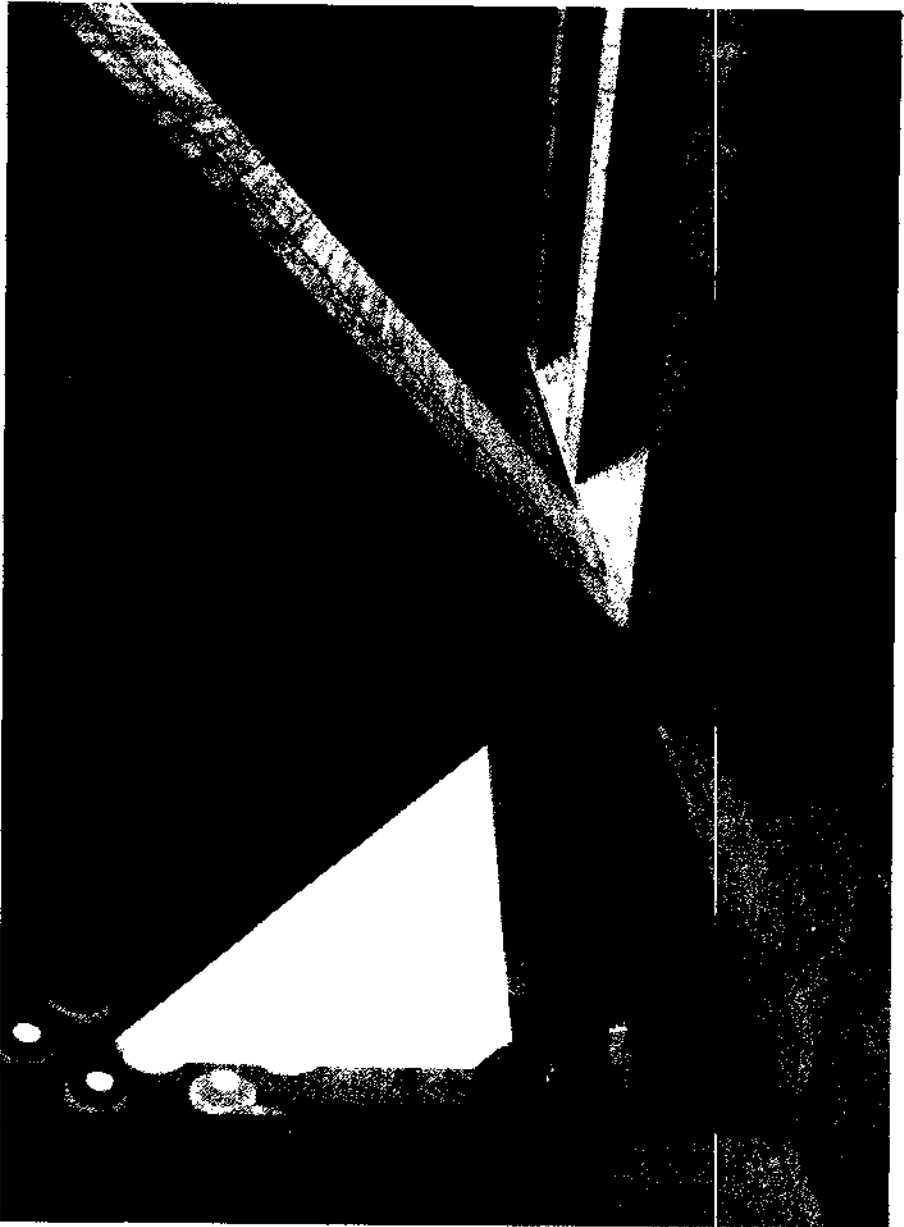
Directions and contract forms will be issued to applicants by the Dean's office only after the Dean has granted preliminary approval to the applicant's concept for his or her student/faculty-designed major.

Department Chairmen

Gene Vike Art
C. Bruce Pullan Music
Dr. Douglas VanderYacht
..... 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 Bulletin and the Continuing Education bulletin.

Art

Western is unique among universities for the quality of its commitment to art in the living environment. The concept features Western Gallery, a world class Outdoor Sculpture Collection, permanent collections which are distributed throughout the campus and two student-managed galleries. Western is an excellent place to study art whether one is interested in a professional career or a quality liberal arts education.

The Department of Art offers a number of degree programs with major and minor concentrations in art history, art education, graphic design and illustration, painting, drawing, printmaking, sculpture, ceramics and fibers. 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 Department of Art, 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 Department of Art has attempted to give the greatest possible degree of flexibility in its programs 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) Associate Professor.
BA, MAT, Brown University; MFA, Washington State University.
- LAWRENCE HANSON (1963) Professor. BA, MFA, University of Minnesota.
- CAROL JANSON (1982) Assistant Professor.
BA, MA, PhD, 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.

Art

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.

Gallery Director:

Sarah Clark-Langager (1988) BA, Randolph-Macon Woman's College; MA, University of Washington; PhD, Graduate Center, City University of New York.

Adjunct Faculty:

Sarah Clark-Langager (1988) BA, Randolph-Macon Woman's College; MA, University of Washington; PhD, Graduate Center, City University of New York.

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
- Art 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, fibers, graphic design/illustration, or in a combination of these areas as determined by the student's contractual agreement. Courses outside the Department of Art 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 studio majors will submit 10-15 slides of

their work as verification of competency.

Studio Minor 30-35 credits

- Art 101 or equivalent
- Art 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, German, Spanish, or Russian

Art History Minor 30-35 credits

- Art History 220, 230, 240
- 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 K-12 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.

Major — K-12 Art

Specialist 70 credits

Required of all majors:

- Art 101 or 201 and 202
- Art 120, 220, 230, 240, 250, 260, 270, 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 230
- 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
- Art 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 concentration 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 Department of Art 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 Department of Art'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 sub-

mit 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 Department of Art, 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 or gallery.

INTERNSHIP

The Department of Art 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 AND OUTDOOR SCULPTURE COLLECTION

Western Washington University is committed to the concept of art in the living environment. Within its campus is housed the Outdoor Sculpture Collection created with site-specific roots found within the grounds and plazas of the campus. It is in this environment that the Western Gallery has been created, in its plaza standing as a central focus between the northern and southern parts of the campus.

The primary purpose of the Western Gallery is to provide diverse experiences in the visual arts for its constituencies, encompassing the University community and region while providing a point of reference to the national and international art scene. Through historical, contemporary and experimental art exhibitions, through the outdoor collection of contemporary sculpture, through the publications and through interpretative interdisciplinary programs, the Western Gallery is committed to creating an environment for learning. The Gallery acts as a center for discussion and exchange of ideas on critical issues in contemporary art. The Western Gallery recognizes its role in expanding its audience's awareness of the visual arts as central to the dynamic and pluralistic nature of our society.

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 advisement concerning transfer of

credit during the first quarter at the University.

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 37-38 of this catalog.

NOTE: The Department of Art 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)**
Introductory level problems involving the elements and principles of two-dimensional design.
- 130 **THREE-DIMENSIONAL DESIGN (3)**
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 (3)**
Prereq: Art 101 or equivalent. A lecture/lab course covering history, methods and practice of printmaking concepts. Introduction to the relief, 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)**
Prereq: Art 130 or permission of instructor. Introduction to fabrication techniques in metals and a variety of other materials. May be applied toward a sculptural, mixed media and/or craft approach in creative expression.
- 260 **FIBERS/FABRICS I (3)**
Prereq: Art 101 or equivalent. An introduction to the media of fibers and fabrics. Structuring of fiber forms and application of paint/dye/thread to fabric surfaces.
- 270 **GRAPHIC DESIGN I (3)**
Prereq: Art 101 or equivalent. Anatomy of letter forms, alphabets, and calligraphy. Introduction to layout and design.
- 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 **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.
- 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.
- 303 **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.
- 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.

Art

- 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, Art History 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.o 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.
- 343 SUMMER INTENSIVE CERAMICS
How, why, when and what to do with clay. Basic manipulation of clay; glazing and kiln firing. Attention to workable classroom problems, critiquing, safety, historical background and slide presentations. Covers a variety of hand-building techniques, how to use the potter's wheel, glazing, casting, kiln loading and firing. A variety of clays and firing techniques are used. Offered summers only.
- 350 METALS II (3)
Prereq: Art 250 or permission of instructor. Problems in form and expression with a continued emphasis on materials and processes. Additional emphasis on accessing light industrial fabrication facilities via field trips, and studio visitations. 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.
- 371 GRAPHIC DESIGN I (5)
Prereq: Art 270. A lecture studio class introducing the design of logos, posters, brochures and ads.
- 373 INTRODUCTION TO COMPUTER GRAPHICS (3)
Computers and graphic software for artists and designers.
- 376 CARTOONING (3)
Prereq: Art 101 or equivalent. Basic course covering character development, movement and panel composition. Repeatable to 12 credits.
- 378 BLACK AND WHITE ILLUSTRATION (3)
Prereq: Art 202. 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 378. 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.
- 380 ART EDUCATING THE CHILD (3)
Prereq: EdAF 310 or equivalent. Not for art 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)**
Prereq: Art 381. 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
- 401 **ADVANCED DRAWING WORKSHOP (5)**
Prereq: Art 301. Class is for the pursuit of individual creativity in drawing media. Repeatable to 15 credits.
- 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.
- 411a,b **ADVANCED PRINTMAKING WORKSHOP (3.5)**
Prereq: Art 313. Contemporary problems in printmaking processes. Repeatable to 15 credits.
- 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.
- 441a,b **ADVANCED CERAMIC WORKSHOP (3.5)**
Prereq: Art 342. Problems in advanced ceramics; self-directed projects and weekly seminars. Repeatable to 15 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.
- 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.
- 470 **TYPOGRAPHY (5)**
Prereq: Art 371 and concurrent enrollment in Art 474. Emphasis on letter forms as design and illustrative elements. Advanced work in periodical design. Repeatable to 15 credits.
- 471 **ADVANCED GRAPHIC DESIGN (5)**
Prereq: Art 470 and 474. Advanced work in corporate identity and in brochure design. Repeatable to 15 credits.
- 472 **ADVERTISING DESIGN (5)**
Prereq: Art 471. The theory and design of advertising media. Developing the concept, preparing the roughs and preparation of comprehensives. Repeatable to 10 credits.
- 473 **ADVANCED COMPUTER GRAPHICS (2)**
Prereq: Art 373. Current topics in computer graphics. Advanced techniques and software. Repeatable to 9 credits.
- 474 **DESKTOP PUBLISHING (3)**
Prereq: Art 373 and concurrent enrollment in Art 470. The use of the computer for typesetting and design with emphasis on PageMaker software and postscript language.
- 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 status, permission of instructor. For advanced students to prepare a professional portfolio presentation.

477 FIELD INTERNSHIP IN GRAPHIC DESIGN (3-15)

Prereq: senior status, art major, permission of instructor. Enrollment by portfolio review. Supervised field work in appropriate professional situations

482 ART EDUCATION WORKSHOP (1-5)

Prereq: teaching experience. Explorations in art media and their adaptation to use in the school; may be repeated with different topics.

494 BFA WORKSHOP (5)

Prereq: admittance to BFA Program and permission of instructor. Individual problems specific to the student's major discipline. Repeatable to 23 credits.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on page 37-38 of this catalog.

Admission to Graduate School or special permission required. See Graduate section of this catalog.

- 580 **CURRENT CHALLENGES IN ART EDUCATION (2-4)**
Prereq: teaching experience and 27 credits in art. Special problems in art education as announced. Repeatable to 12 credits.
- 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.
- 590a-g **GRADUATE STUDIO (5 ea)**
Prereq: graduate status with BA or BFA in Art and permission of instructor. Repeatable to 20 credits.
590a Drawing/Printmaking
590b Painting
590c Sculpture
590d Ceramics
590e Jewelry
590f Fiber/Fabric
590g Graphic Design
- 590a **THESIS (1-5)**
Prereq: advancement to candidacy
- 690b **FIELD PROJECT (1-6)**
Prereq: advancement to candidacy.
- 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 and permission of instructor. Training in methods and processes of gallery management and preparation of exhibitions. Repeatable to 6 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.

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.

Art History

- 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. Advanced studies in museology. Repeatable to 15 credits.
- 405 **ADVANCED GALLERY MANAGEMENT (3)**
Prereq: Art History 305, and 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 status, 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 37-38 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.
- 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:
a. Prehistoric and Primitive Art History
b. American Art History
c. Modern Art History
d. 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.

The Department of Music offers one general and five professional undergraduate programs leading to baccalaureate degrees in music. The general program (B.A.) provides a liberal arts education with music as the major subject. The five professional undergraduate programs (B.Mus.) emphasize the development of proficiency in the major area: music education, performance, history and literature, composition, and jazz studies. The B.Mus. in music education has three areas of emphasis: K-12 general music, K-12 instrumental music, and K-12 choral music. 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.

A variety of large and small ensembles and music courses are open to all qualified students of the University, regardless of major. The ensembles include: University Choir, Concert Choir, Symphonic Band, Wind Ensemble, University Symphony Orchestra, Jazz Ensembles, Chamber Music (in all instruments and voice), Collegium Musicum, Opera Theatre and Vocal Jazz Ensemble. Music courses open to all students in the University include: The Art of Listening to Music, Fundamentals of Music, Music in the Western World, Electronic Music, Non-Western Music, and the History of Jazz, among others. All music ensembles present public programs throughout the year, and several ensembles participate in annual tours.

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).

The department is a full member of the National Association of Schools of Music.

MUSIC FACULTY

- C. BRUCE PULLAN (1975) Chair.
Professor. BA, Kings College; Diploma in Ed., New College; MA, Cambridge University.
- FORD D. HILL (1975) Associate Professor. AB, Wisconsin State University; MA, Indiana University.

Music

- KAREN IGLITZIN (1986) Associate Professor. BM, Indiana University; MM, Yale University.
- CHUCK ISRAELS (1986) Associate Professor. BA, Brandeis 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.
- DAVID WALLACE (1987) Associate Professor. BM, University of Michigan; MM, University of Wisconsin; DMA Eastman School of Music.
- EUGENE S. ZORO (1969) Associate Professor. BM, MM, Eastman School of Music of the University of Rochester.

Affiliate Music Faculty

Nicholas Bussard, oboe
Gregory Cox, trombone
Dan Embrey, jazz guitar
David Feingold, classical guitar
Walter Gray, cello
Laurie Hartz, class piano
Virginia Hunter, voice
J. Christopher Leuba, horn
Kenneth Murphy, saxophone
Tom Parriott, trumpet
Francine Peterson, bassoon
Kenichi Ueda, flute
Marianne Weltman, voice

Nancy Bussard, professional accompanist
Anne Hildebrand, "Prep" program coordinator
Lucille Oster, professional accompanist
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 require-

ment 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 advisability 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 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 Pottag, edited by Hovey. Mozart, "Concerto No. 3" or Saint-Saens "Romance." Major and

Music

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

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

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.

Students in the B.Mus. degree programs 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.

Those 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.

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: 12 credits of Music 264, 265, 364

Music

- 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)

K-12 General Music Emphasis

10 credits

- Music Education: Music 461
- Pedagogy: Music 164, 271
- Electives: 3 credits selected under advisement. Piano majors will take all elective credits in Music 466

K-12 Choral Music 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

K-12 Instrumental Music 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

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

**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.*

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

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 cred-

its in courses numbered Music 311-316 or above (minimum 12 credits)

- Pedagogy: select 6 credits 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 audition 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 cred-

its 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

Major — Music 60 credits

The Bachelor of Arts is the liberal arts degree program in music. The curriculum, providing 6 credits of music electives, 40 credits of free electives, and 70 credits of General University Requirements, allows for individual preferences in intensifying studies in certain aspects of music and broadening the scope of academic pursuits.

- Theory/Literacy laboratory (18 credits): Music 121, 122, 123, 124, 125, 126, 221, 222, 223, 224, 225, 226
- Music History (9 credits): Music 342, 343 and 341 or 344
- Theory/Music History electives: 9 credits selected from Music 105, 205, 231, 322, 324, 326, 331, 334, 335, 336, 422, 424, 431, 434, 435, 436, 442, 443

Music

- Applied Music on major instrument or voice: 6 credits minimum*
- Major Performance Ensemble: 12 credits minimum
- Music Electives: 6 credits selected under advisement

Minor — Music 30 credits

- Theory/Literacy laboratory: 9 credits—Music 121, 122, 123, 124, 125, 126
- Music History and Literature: 6 credits—Music 104 or 105 and 202 or 205
- Music electives: 15 credits selected under advisement

BACHELOR OF ARTS IN EDUCATION

Elementary Music Major

47 credits

(plus Performance Requirement and the School of Education professional elementary 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.

*Additional course credits in applied music instruction beyond the required minimum of 6 may be obtained under the advisement of the appropriate area coordinator.

COURSES IN MUSIC

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 37-38 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)

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.
- 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.
- 264a-k **INSTRUMENTAL LAB FOR SECONDARY INSTRUMENTS (1-2 ea)**
 Prereq: open to music majors only. Pedagogy of and performance on secondary instruments, conducting, developing teaching strategies with goals and objectives. Repeatable for credit.
 264a Flute
 264b Oboe
 264c Clarinet
 264d Bassoon
 264e Saxophone
 264f Horn
 264g Trumpet
 264h Trombone
 264i Euphonium
 264j Tuba
 264k Percussion
- 265a-b **STRING TECHNIQUES AND PEDAGOGY LAB (1-2 ea)**
 Prereq: open to music majors only. Principles and techniques of playing and teaching string instruments.
 265a Violin/Viola
 265b Cello/Bass
- 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.

Music

- 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.
- 328 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.
- 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.

Music

458 BIRCH BAY ORCHESTRA MUSIC WORKSHOP (2)

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 37-38 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.
- 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.

Music

- 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.
- 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 900-1600
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.
- 555 **ADVANCED BIRCH BAY BAND MUSIC WORKSHOP (2)**
A reading workshop in materials and literature for school music band teachers. Participants are expected to prepare scores and conduct the ensemble. Course not applicable to Master of Music degree. Offered summers only.
- 556 **ADVANCED BIRCH BAY ORCHESTRA MUSIC WORKSHOP (2)**
A reading workshop in materials and literature for school orchestra music teachers. Participants are expected to prepare scores and conduct the ensemble. Course not applicable to Master of Music degree. Offered summers only.
- 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 components of an education major in English/Theatre and a secondary endorsement in drama. The programs provide pre-professional training for those intending to pursue careers in theatre. Degree programs also provide preparation for those who wish to seek advanced degrees or in conjunction with other course work to prepare for teaching careers, law degrees, and business management professions—especially those focused on psychology, interpersonal and group communication or personnel management skills.

THEATRE

The Bachelor of Arts program is a balance of theory (formal academic classes with a strong dramatic literature component) and practice (lecture, demonstration, studio and production experience in all phases of theatre). A vigorous program of faculty-directed productions relates directly to class work. Supplemented by graduate and undergraduate directing projects, the production program offers numerous and varied opportunities for students to learn the exciting collaborative arts of theatre.

Each new student is grounded in fundamentals and chooses one or more areas of specialization: acting, children's theatre, dance, directing, dramatic writing, dramatic literature and technical theatre. Plays chosen for production range from the great classic dramas to the avant-garde and from original student scripts to Broadway musicals.

Special features of the program include: touring theatre (performing for elementary and high schools in sustained characterization for 60 performances), summer stock where student actors work intensely in vari-

ous phases of production including rehearsal for as many as three shows in a day, and Tour Abroad.

Theatre students at Western learn by doing in a variety of special classrooms including: an 1,100-seat proscenium house with computerized lighting control, a newly equipped 200-seat modified thrust house, and an 100-seat experimental black box. Support facilities also include an acting studio, a dance studio, costume, make-up, scene and paint shops.

For information and advisement contact the chair, Dr. Douglas Vander Yacht, Performing Arts Center 395, (206) 676-3876.

THEATRE/DANCE FACULTY

- DOUGLAS R. VANDER YACHT (1970) Chair. Associate Professor. BA, Western Washington State College; MA, Purdue University; PhD, Ohio State University.
- DENNIS E. CATRELL (1966) Professor. BA, University of Michigan; MA, Northern Illinois University.
- ROGER GERMAIN (1970) Lecturer. BA, Western Washington State College.
- 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.
- VICTOR H. LEVERETT (1977) Lecturer. BA, BA in Ed, Western Washington State College; MA, Washington State University.
- PERRY F. MILLS (1981) Assistant Professor. BA, Western Washington State College; MA, Western Washington University.
- MAUREEN E. O'REILLY (1983) Associate Professor. BA, Whitman College; MA, University of Washington; MFA, University of Cincinnati.
- LEE H. TAYLOR (1967) Lecturer. BA, Goddard College; MA, University of Washington.
- THOMAS E. WARD (1977) Associate Professor. BA, Western Maryland College; MFA, New York University, School of Arts.

BACHELOR OF ARTS

Major — Theatre 80 credits

- Required core (52 credits):
Th/D 135 or 138, 160, 170, 212, 213, 222, 250, 265, 285, 322, 380, 381, two courses selected from 428 a, b, c, d, e, plus 6 hours of dramatic literature
- Concentration (15 to 18 credits) selected from:
 - Acting: Th/D 260, 261, 360, 361, 363, 460, 461
 - Children's Theatre: Th/D 350, 351, 450, 452, plus 6 hours under advisement
 - Dance: Th/D 255, 256 or 257 and 235, 238, 241, 242, 336, 432
 - Directing: Th/D 216, 260, 311, 314, 371, 470, 471
 - Dramatic Writing: Th/D 385, 485, 486, 487, 488
 - Dramatic Literature: Th/D 325, 327, 328, 365, 465, plus 6 hours under advisement
 - Technical Theatre: Th/D 216, 311, 312, 313, 314, 315, 411
- Electives (13-15 credits)

Minor — Theatre 30 credits

- Th/D 101, 160, 170, 212, 222
- One of Th/D 201, 231, 250, 260, 285
- One of Th/D 314, 322, 350, 371, 385
- Electives under advisement

BACHELOR OF ARTS IN EDUCATION

Major — English/Theatre

94 credits
(English 49 credits and Theatre 45 credits)

This major meets the requirements for Washington state teaching endorsements in both English and drama.

Theatre 45 credits

- Required Core: Th/D 101, 160, 170, 212, 213, 222, 250, 260, 261, 285, 322, 371, 380 or 381
- Recommended additional courses: Th/D 360, 470, 428a-e

English (see English section of catalog) 49 credits

Teaching Endorsement

This sequence meets the requirements for a Supporting Endorsement in Drama for Washington State Teacher Certification.

Theatre—Supporting

Endorsement—Secondary 26 credits

- Th/D 101, 160, 170, 212, 222, 255, 260, 350, 371

GRADUATE STUDY

For concentration in theatre 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.

COURSES IN THEATRE AND DANCE

Courses numbered X37; X97; 300, 400; 417, 445 are described on page 37-38 of this catalog.

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. 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. Open to non-majors. S/U grading.
- 139 **MODERN JAZZ DANCE (2)**
Emphasis on control and isolation of body parts, rhythm and alignment. 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.
- 170 **INTRODUCTION TO DIRECTING (2)**
Theory and practice of stage direction. Students are required to attend all lectures and act in at least three directing scenes. S/U grading.
- 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 **INTRODUCTION TO DANCE (3)**
An overview of the cultural role of dance.
- 235 **BEGINNING MODERN DANCE II (2)**
Prereq: Th/D 135 or equivalent. Further development of movement principles established in Th/D 135. Open to non-majors.
- 238 **BEGINNING BALLET II (2)**
Prereq: Th/D 138 or equivalent. Further development of principles of ballet. Increased difficulty and terminology; preparation for advanced levels. 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.

Theatre/Dance

- 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 AND DANCE PRODUCTION (2 ea)
Prereq: permission of instructor. Direct instruction and experience in theatre or dance organization and production. 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 (3)
Prereq: Th/D 101 recommended. Evolution of *costume* from Ancient Greece 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.
- 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.
- 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.
- 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.
- 362 **TOURING THEATRE (15)**
An intensive and comprehensive involvement in the study and practice of theatre production. Participants prepare all aspects of a touring production and an accompanying educational theatre workshop offered in elementary and secondary schools throughout the state; 40 to 60 performances.
- 363 **AUDITION PREPARATION (2)**
Prereq: Th/D 260 and/or permission of instructor. Preparation of several contrasting monologues and development of specific performance skills to best demonstrate the varied talents of the individual actor in an audition format. S/U grading.
- 365 **ADVANCED ORAL INTERPRETATION (3)**
Prereq: Th/D 265 or permission. Continuation and refinement of theory and techniques of oral interpretation from beginning oral interpretation (Th/D 265) and introduction of Reader's Theatre theory and practice.
- 371 **PLAY DIRECTION I (3)**
Prereq: Th/D 170, 314 and at least 3 credits of acting. 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, 370; 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.
- 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.
- 450 **CREATIVE DRAMATICS LEADERSHIP (3)**
Prereq: Th/D 350. Advanced techniques; supervised teaching.

Theatre/Dance

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

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: Th/D 371 and 30 hours in the major. 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 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 37-38 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.
- 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
528e Contemporary
a,b,c,d or e may be repeated once with permission of graduate adviser.
- 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. 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.
- 690 **THESIS (1-9)**
- 691 **RESEARCH PAPER (1-3)**
Planning and execution of a publishable scholarly paper.

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 center on three academic majors: environmental science, environmental policy and assessment, and environmental education. Studies in these program areas lead to the B.S. or B.A. degree in environmental studies and 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 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; watershed management; human ecology; environmental policy and decision-making; outdoor and experiential education; and environmental journalism. 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 Fidalgo Island, within easy traveling distance of the campus, provides facilities for marine studies.

About 180 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 Assistant to Vice President for Academic Affairs. 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 FREIER (1986) Lecturer. BS, Purdue University; MEd, Western Washington University.
- MICHAEL FROME (1987) Environmental Journalist-in-Residence. City College of New York; George Washington University.

- ERNST L. GAYDEN (1971) Associate Professor. PhB, University of Chicago; MS, Illinois Institute of Technology.
- 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.
- TIMOTHY L. McDANIELS (1988) Lecturer. BA, University of Minnesota; MA, Simon Fraser 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) 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

- RICHARD S. BENNETT
USEPA Corvallis Research Laboratory.
PhD (Animal Ecology), Iowa State University.
- DOUGLAS BULTHUIS
Marine Science Laboratories, State of Victoria, Australia. PhD (Botany), LaTrube University, Australia.
- KOJI HARA
Kanagawa Dental College, Kanagawa, Japan. DDS, DSc, Kanagawa Dental College.
- RONALD J. KENDALL
Institute of Wildlife Toxicology, Clemson University. PhD (Fisheries and Wildlife Science), Virginia Polytechnic Institute and State University.
- PETER WILLING
PhD (Water Resources Policy), Cornell University.
- PAUL WOODS
Institute of Wildlife Toxicology, Huxley College. PhD (zoology), Miami University, Ohio.

Affiliated Faculty

- RANDALL S. BABCOCK, Associate Professor, Department of Geology.

Huxley College

- DANIEL L. BOXBERGER, Assistant Professor, Department of Anthropology.
- SARAH CAMPBELL, Assistant Professor, Department of Anthropology.
- LOWELL T. CROW, Professor, Department of Psychology.
- GEORGE T. CVETKOVICH, Professor, Department of Psychology.
- MELVIN DAVIDSON, Professor, Department of Physics and Director, Computer Center.
- CONSTANCE FAULKNER, Professor, Fairhaven College.
- MAURICE H. FOISY, Associate Professor, Department of Political Science.
- STEVEN E. HENSON, Assistant Professor, Department of Economics.
- RAND F. JACK, Professor, Fairhaven College.
- ROBERT E. KELLER, Professor, Fairhaven College.
- HARVEY A. KELSEY, Associate Professor, Department of Geology.
- DAVID T. MASON, Professor, Fairhaven College.
- GEOFFREY B. MATTHEWS, Assistant Professor, Department of Computer Science.
- DAVID E. SCHNEIDER, Associate Professor, Department of Biology.
- MAURICE L. SCHWARTZ, Dean, Graduate Affairs and Research, and Professor, Department of Geology.
- KATHLEEN J. STEPHEN, Associate Professor and Science Librarian, Wilson Library.
- STEPHEN SULKIN, Professor and Director, Shannon Point Marine Center.
- RONALD J. TAYLOR, Professor, Department of Biology.
- DON C. WILLIAMS, Professor, Department of Biology.
- H. WILLIAM WILSON, Professor, Department of Chemistry, and Director, University Instrument Center.

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 environmental studies majors 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.
- 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 major 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 seek a degree 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 anthropol-

ogy, 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. B.S. degree holders must be evaluated for General University Requirements.

DEGREE PROGRAMS

To achieve its purpose in undergraduate education, the College has developed an integrated set of three majors, each of which offers the student a number of options and emphases. These majors lead to a B.S. in environmental studies:

- Environmental Science
- Environmental Policy and Assessment

Huxley College

□ Environmental Education

In addition, the College offers a B.A. degree with a humanities-oriented major in environmental studies; a B.A. in Education with an environmental studies major; student/faculty-designed majors; and 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 major (B.S. program), student/faculty designed major, or the environmental studies major leading to the B.A. or B.A.Ed.
- 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 "common requirements" and, in addition, specific course requirements for a major.

Huxley's majors are broadly conceived and allow students to elect coursework, seminars and independent study in freshwater, marine, coastal and terrestrial ecology; air

and water pollution; environmental chemistry; environmental toxicology; environmental risk management; 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 major 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 course work 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 either a senior thesis or an internship.

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.

- Envr 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:

- Organic Chemical Contamination of Ecosystems
- The History of Resource Allocation in the Pacific Northwest
- Environmental Fluoride
- Integrated Pest Management
- Environmental Problems in the Third World
- Applied Risk Management Practices

Senior Thesis (498a) 10-15 credits

Normally taken in the senior year, the Senior Thesis is a special project carried out under the supervision of faculty advisers and written in thesis form according to guidelines supplied by the College. It may reflect a single study topic or form part of a major investigation which may take the form of fieldwork or laboratory, library or community research. Two bound copies of the Senior Thesis are submitted by the student, one of which is kept on file in Wilson Library. The thesis must be submitted in at least first-draft form by the third week of the student's last quarter of study.

Internship (498b) 10-15 credits

An internship is a supervised work experience typically of one to three months' duration in a government agency, legislature, corporation, lobby, lawyer's office or research laboratory, where the work involved is relevant to environmental studies. The student keeps records during the internship, which is then documented by a written report with such slides, drawings, graphs or tables as may be necessary according to guidelines supplied by the College. Choice of internship and preparation of report are under the supervision of faculty advisers.

Students whose full-time, quarter-long internships earn from 11 to 15 credits will accumulate more than the

required 32 credit hours of common requirements.

Recent Senior Theses:

- Aldicarb Residues in a Coastal Marine Environment: Analysis of Water and Soil Samples in Bellingham Bay, Washington, Utilizing a New Gas Chromatograph Method
- Monitoring: The Missing Link in Effective Land-Use Decision-Making
- A Washington State Salmon Net Pen Mariculture Primer
- Keeping Up in A Changing World: The Culture and Environment of the Cofán Indians
- A Field Study on the Effect of Counter 156 on Selected Wildlife

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
- Puget Sound Power and Light
- Padilla Bay-Breazeale Interpretive Center
- Whatcom County Water District 10
- State Legislatures
- Public Schools
- National Parks
- Outdoor Education Centers

Major — Environmental Science

90 credits plus supporting courses

The Huxley College environmental science curriculum is aimed at students having interests in:

- Watershed studies
- Wildlife or behavioral toxicology
- Marine or terrestrial ecology
- Conservation biology
- Water quality
- Aquatic chemistry
- Environmental nutrition
- Science policy studies

Huxley College

The Huxley major in environmental science, through its required courses and choice of electives, permits a student to specialize in the above areas of study, as well as related areas, at a level appropriate for an undergraduate degree program.

This major is designed as a two-year, upper-division B.S. degree program which assumes that incoming students have an adequate background in science and math.

The environmental science major requires:

A. Background preparation

In addition to those courses suggested as background for all Huxley majors, environmental science majors need the following:

- Biol 123
- One of the following three courses: Biol 210, 211, or 212
- Math 124
- Chem 122, 123
- Chem 251 or the organic chemistry sequence Chem 351, 352, and 354

B. Huxley common requirements 32 credits

- Envr 301, 302, 303, 401, 402 (18)
- Envr 498a or 498b (10-15)
- Envr 499 (4)

C. Environmental science core courses 26-28 credits

- Biol 325
- Envr 340 or Biol 340
- Envr 358 or 450
- Envr 365 or 462
- Envr 436
- One of the following three courses: Envr 321a, 361, or 430

D. Upper-Division Electives Chosen Under Faculty Advisement 30-32 credits

B, C and D above must total at least 90 credits.

Graduates of Huxley College who have completed the environmental science major have entered careers in environmental toxicology, watershed management, environmental

impact assessment, environmental health, air pollution control, and hazardous waste management, in both the private and public sectors. Many graduates choose to pursue advanced studies.

Science faculty advisers: David Brakke (limnology, watershed management); Tom Lacher (terrestrial and behavioral ecology); Robin Matthews (stream ecology and watershed management); Dick Mayer (water chemistry, groundwater studies); Bill Summers (marine ecology); Bert Webber (marine and estuarine biology); Ruth Weiner (air quality, energy, science policy); Ming-Ho Yu (environmental nutrition, biochemical toxicology).

Major — Environmental Policy and Assessment 88 credits

This major's goal is to give students understanding and skill in assessing the nature and magnitude of the economic, political and social changes which environmental problems appear to make necessary. Until about 30 years ago the impact of our rapidly expanding civilization on nature was still almost imperceptible to most people, and claimed very little of the attention of politicians and economists. Today this impact has grown so alarmingly that leaders of politico-economic systems, awakening to such world-wide dangers as resource depletion, desertification, climate change, population growth, and urban blight and congestion are beginning to realize that during the coming few decades great political and economic reforms may have to be made.

By providing students with the knowledge and tools for understanding the magnitude of the contemporary challenge, the concentration helps students to train themselves for the increasing variety of employment opportunities in environmental administration, policy formation and enforcement which will emerge in the coming decades; and to become

effective shapers of public opinion in whatever career field they may choose. The offered courses focus on domestic and foreign environmental policies, economics, social and environmental impact assessment, environmental design and risk management, and examine the philosophical and ethical issues which environmental constraint raises.

Many students completing the Environmental Policy and Assessment major go on to graduate study, and there is now an increasing selection of excellent graduate programs emphasizing environmental policy. Job placement has been high as well.

Major advisers: David Clarke (transformation, systems, environmental ethics); Ernst Gayden (human ecology, environmental design); Timothy McDaniels (risk management, environmental economics); Lynn Robbins (comparative environmental policies, social impact assessment); Ruth Weiner (environmental policy).

The major is based on two general objectives:

- The acquisition of general scientific, social and philosophical understanding of environmental problems
- The learning of skills and methods

To meet the requirements of the major it is necessary to complete the following:

- Huxley common requirements 32 credits
 - Envr 301, 302, 303, 401, 402 (18)
 - Envr 498a or 498b (10-15)
 - Envr 499 (4)
- Major requirements 30 credits
 - Envr 415, 418, 436, 464, 465, 490; Soc 315
- Electives under advisement from Huxley or other WWU colleges 20-22 credits

Recommended lower-division preparation for Environmental Policy and Assessment 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.

Major — Environmental Education

The general objective of the major 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. Two options have been developed within the program which will allow students with varied interests opportunities to work toward diverse career goals.

The major consists of several 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 major 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 — Outdoor Education and Interpretation 90 credits

The goal of this option is to prepare people to pursue environmental edu-

Huxley College

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)
- Seven courses (27 credits):
Envr 371, 372, 473, 474, 475, 476, 477
- Electives, under advisement (31 credit hours)

Option II — 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)
- Six courses (24 credits):
Envr 371, 372, 377, 466, 481, 482
- Electives, under advisement (34 credits)

Recommended preparation for Environmental Education: Interested students should seek advisement early in order to formulate a degree program within either of the above options.

Major adviser: Kim Freier (environmental/experiential education; interpretation), John Miles (environmental/experiential education; humanities in environmental studies)

Student/Faculty Designed Major

Students who wish to design their own majors in environmental studies should obtain information on guidelines from the Huxley College office (ES 539). The student-designed major must 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.

Combined Major Environmental Studies/Biology

Huxley students may elect programs in terrestrial ecology, marine biology or watershed studies through cooperative programs offered in conjunction with the Department of Biology. The programs lead to the B.S. degree in environmental studies. Students may obtain complete guidelines for these programs in the Huxley College office (ES 539).

Program in Terrestrial Ecology—Cooperative Program 100 credits

The program consists of the Huxley College common requirements (32 credits); specific required courses in environmental studies and biology (55-57 credits); and electives selected under faculty advisement (11-13 credits). Supporting courses in biology and mathematics at the lower-division level are required but not counted toward the 100-credit program.

Faculty adviser:
Thomas E. Lacher, Jr.

Program in Marine Biology—Cooperative Program 110 credits

The program requires background preparation in biology, chemistry, physics and math at the lower-division level before the student embarks on the 110-credit program. The major consists of 10 credits of specific lower-division biology courses; 32 credits of Huxley College common requirements; 14-15 credits of ecology core courses; 25 credits of marine biology courses; and 28-29 credits of electives under faculty advisement.

Faculty advisers: Herbert H. Webber; William C. Summers

*Program in Watershed Studies—
Cooperative Program* 100 credits

Background preparation (specific courses in biology, chemistry, math and geology at the lower-division level) is required but not counted toward the 100-credit major. The program consists of 32 credits of Huxley College common requirements; 21 credits of specific courses in biology and chemistry; 14-15 credits of ecology core; 17-18 credits of freshwater ecology courses; and 14-16 credits of electives under advisement in the areas of watershed processes, environmental chemistry and ecology.

Faculty advisers: David F. Brakke;
Robin Matthews

*Interdisciplinary Nutrition
Program*

The interdisciplinary 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 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 (676-3676) or Lou Kupka-Schutt (676-3373).

**BACHELOR OF ARTS —
ENVIRONMENTAL STUDIES**

*Major — Environmental
Studies* 72-78 credits

Huxley's Bachelor of Arts degree program gives insight into the historical, cultural and psychological roots of today's environmental predicament. Since the dawn of civilization humans have exploited the natural environment and built themselves artificial and cultural environments. Thus, among others, Greek, Roman,

Medieval, Renaissance, Industrial and Modern periods have created distinctive human environments, each having its particular virtues and problems, and each being the expression of a particular cultural world view. The program is based on the belief that much light can be shed on contemporary environmental problems by studying literature, cultural history and the forms of environmental problems in the major regions of the world today.

Students enrolled in the program must:

1. Complete Huxley environmental studies courses as follows:
36-40 credits

- Core courses: Envr 301, 302, 303, 401, 402 (18 credits)
- Seminars (4 credits)
- Electives, 300 and 400 levels only (14-18 credits)

2. Complete, under Huxley faculty advisement, coursework in only one of the following departments: anthropology, art, English, geography, history, liberal studies, political science, psychology, sociology (26 credits)

3. Complete one of the three options below, under Huxley faculty advisement (10-15 credits)

- Electives selected from any academic unit except the one chosen for (2) above (10-12 credits)
- A senior thesis (10-15 credits)
- One quarter of study abroad (10-12 credits) [credits earned here may not count under (1) or (2)]

*Combined Major —
Environmental Studies/
Journalism* 83 credits

A combined major is offered cooperatively by Huxley College and the Department of Journalism. In past years several students on their own initiative combined these majors and have moved on to productive careers in the field. Now an integrated pro-

Huxley College

gram equips professionals on a systematic basis.

The emphasis is on writing with a purpose: to present to the public sound data as the means of making wise, informed decisions on air quality, water quality, land use, wildlife conservation and other critical environmental issues.

The heart of the program encompasses courses from journalism in newswriting, copy editing, reporting, feature writing, photo-journalism and public relations. From courses at Huxley the environmental journalism student develops working knowledge of conservation history, basics of physical science, current issues and alternatives to them. Environmental studies background courses in biology, chemistry and mathematics are essential preparation.

Environmental Studies 37 credits

- Huxley core courses, consisting of Envr 301, 302, 303, 401, and 402 (18 credits)
- Envr 499 (4 credits)
- Electives from among Huxley courses: highly recommended are Envr 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.

Faculty adviser: Michael Frome

BACHELOR OF ARTS IN EDUCATION

Major — Environmental Studies 46 credits

This program fulfills the academic major requirement for elementary education candidates who wish to have a solid background in studies related to the environment. Although environmental studies itself is not an endorsable area, some of the courses might be counted toward endorsement in other areas. Students should talk with a faculty adviser for clarification of coursework applications.

- Prerequisites: Biol 121, Chem 115, Math 105
- Required courses (environmental studies core): Envr 301, 302, 303, 401, 402 (18 credits)
- Required course (environmental education) Envr 371 (4 credits)
- Environmental studies seminars: Envr 499 (4 credits)
- Environmental studies electives under advisement (20 credits)

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 graduate program with the Department of Biology leads to the Master of Science degree in environmental biology. The College also participates in cooperative programs with the Department of Chemistry, leading to the M.S. in environmental science or the M.S. in chemistry, and with the Department

of Political Science, leading to the M.A. in political science.

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 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

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—a 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 ongoing research projects and undertake senior-level thesis research and post-baccalaureate research through Huxley's graduate program in environmental science.

INSTITUTE OF WATERSHED STUDIES

Director: David F. Brakke

With offices and laboratories in the Environmental Studies building, the Institute for Watershed Studies 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 activities having to do with these resources. Analytical service and instrumentation is available to students and faculty for research and instructional purposes, including a newly-completed aquatic toxicology laboratory. Recent research activities of the Institute have centered on the chemistry of North Cascade lakes, watershed management, lake monitoring and acidic deposition.

THE CENTER FOR APPLIED HUMAN ECOLOGY/ APPROPRIATE TECHNOLOGY

This Center serves faculty and students 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. For more information contact Professor E.L. Gayden.

COURSE DESCRIPTIONS

Courses numbered X37, X97, 300, 400, 417, 445 are described on page 37-38 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)

Prereq: at least one GUR natural science course at the university level. 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: TOPICS IN MARINE SCIENCE (3)

Prereq: two quarters of college natural science courses and Math 102. Selected topics of scientific inquiry that demonstrate the unique nature of the marine environment. Topics include waves, tides, origin of the ocean's salt and water, ocean and global climate, evolution of marine life, deep sea physiology, marine mammal intelligence and divisions of the marine environment.

301 ENVIRONMENTAL SYSTEMS (3)

Prereq: two quarters of general biology. General systems theory; principles of natural systems; eco-systems structure, function and management. An environmental studies 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. An environmental studies core course.

303 HUMAN ECOLOGY (4)

Prereq: 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. An environmental studies core course.

309 ENVIRONMENTAL STUDIES: COMPUTER APPLICATIONS (3)

Prereq: CS 101; junior status. 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.

321b PHYSICAL OCEANOGRAPHY LABORATORY (2)

Prereq: Envr 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.

352 PRINCIPLES OF NUTRITION (5)

Prereq: general biology and one year of chemistry, or permission of instructor. Introduction to the discipline of food and nutrition and health. Includes dietary survey and application of nutrition principles to evaluation of individual diet.

358 EVALUATING TOXIC SUBSTANCES IN THE ENVIRONMENT (4)

Prereq: general biology, general chemistry; Envr 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, Envr 301 and 302 (Envr 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.

365 ENERGY AND ENERGY RESOURCES (4)

Prereq: general physics or general chemistry or Envr 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)

An introduction to environmental education and a review of current thinking and practices in this dimension of education. Focus on goals and principles, content, settings, methods and processes of environmental education through reading, discussion and project work.

372 THE ENVIRONMENTAL EDUCATION CURRICULUM (4)

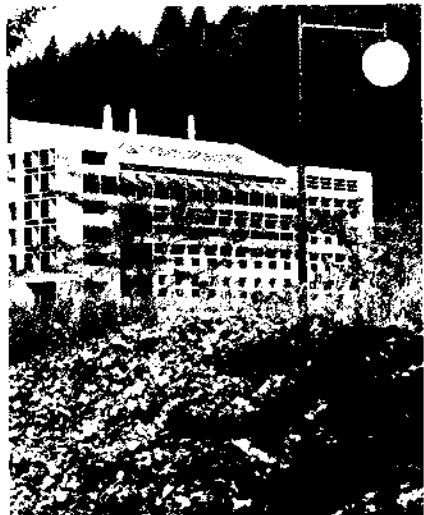
Prereq: Envr 371. Critical review of curricula that have been developed. The need for environmental education is assessed, learning objectives are examined and strategies for attaining these objectives studied. The qualities of the ideal environmental education curriculum are identified by students, based on their research into the matter.

376 THE HISTORY OF CONSERVATION IN AMERICA (3)

Prereq: junior status or permission of instructor. A review of the history of conservation in America from the colonial period to the present. Emphasis is on the development of ideas about land and natural resources in America—how they should be allocated, valued and used. What currents of thought and action led to the concept "conservation" in the late 19th century? How did this concept develop and appear in government policy, and how did policy and bureaucracy involving this concept evolve? These questions are explored through the writings of the principals involved.

377 ALTERNATIVE FUTURES (4)

Prereq: Envr 303 or two 200-level courses in the social sciences. 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. Taught in alternate years.



401 ENVIRONMENTAL ETHICS (3)

Prereq: Phil 112; Eng 201, 301 or 302; 300-level environmental studies 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. An environmental studies 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 environmental studies 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. An environmental studies core course.

410 ENVIRONMENTAL PROBLEMS IN AGRICULTURE (3)

Prereq: senior status. 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. Taught in alternate years.

411 ALTERNATIVE ENERGY SOURCES AND SYSTEMS (3)

Prereq: senior status. 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. Taught in alternate years.

412 APPLIED HUMAN ECOLOGY: SETTLEMENT DESIGN I (4)

Prereq: Envr 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. A studio course.

413 APPLIED HUMAN ECOLOGY: SETTLEMENT DESIGN II (4)

Prereq: Envr 303, 377, 411 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. A studio course.

415 ENVIRONMENTAL DESIGN: PROCESSES AND PROBLEMS (4)

Prereq: senior status. 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. Soc 315 recommended. 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, policy and public involvement.

420 POLITICS, ADMINISTRATION AND ENVIRONMENT (4)

Prereq: Envr 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.

421b FISHERIES MANAGEMENT LABORATORY (2)

Prereq: Envr 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 status. 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.

429 STREAM ECOLOGY (5)

Prereq: Envr 301 or Biol 325, Envr 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.

430 LIMNOLOGY (5)

Prereq: Envr 301 or Biol 325; Envr 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.

431 POPULATION ECOLOGY (5)

Prereq: Biol 325, Envr 340, Math 105. Covers the study of ecology at the population and community level. Lecture emphasizes the development of theory and models; computer lab emphasizes quantitative techniques.

433 WATERSHED PROCESSES AND MANAGEMENT (4)

Prereq: Biol 325; Envr 430; Geol 472 and Biol 404 recommended. Biogeochemistry of watersheds, emphasizing processes in forested catchments. Management of watershed units and analysis of disturbances to forested ecosystems.

436 ENVIRONMENTAL IMPACT ASSESSMENT (5)

Prereq: senior status, completion of analysis coursework within majors 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: Envr 301; Envr 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 Envr 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 OF CURRENT ENVIRONMENTAL ISSUES (4)

Prereq: Envr 302 or permission of instructor; Envr 401 recommended. Introduction to mediation and conflict resolution techniques as tools in environmental decision-making and for developing environmental policy. Evaluation of the role of conflict resolution in selected environmental case studies. Development of effective presentation techniques.

446 AQUATIC CHEMISTRY (4)

Prereq: Chem 122. The study of aquatic systems: precipitation, surface and groundwaters, chemical equilibria, free energy considerations, oxidation-reduction reactions, aquatic complexes, trace contaminants in water.

Huxley College

- 450 ENVIRONMENTAL PHYSIOLOGY AND BIOCHEMISTRY (4)
Prereq: Envr 302 and Chem 371 or permission of instructor. Physiological and biochemical effects of common pollutants found in our environment. Mechanism of action of individual pollutants, including cellular damage at molecular level.
- 451 ENVIRONMENTAL BIOCHEMISTRY LABORATORY (2)
Prereq: Chem 371, Envr 450 or equivalents. Experimental techniques involved in the analysis of various pollutants in tissues; study of biochemical effects of selected pollutants on living systems under laboratory conditions.
- 452 NUTRITIONAL BIOCHEMISTRY (4)
Prereq: Hux 352 and Chem 371. Chemistry and biochemical role of essential nutrients and their interrelationship; intermediary metabolism of nutrients.
- 453 FOOD ANALYSIS LABORATORY (4)
Prereq: Chem 251 and Envr 352, or equivalents. Basic laboratory techniques used in the analysis of various nutrients in food.
- 454 NUTRITION AND HEALTH (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.
- 456 ENVIRONMENTAL TOXICOLOGY (3)
Prereq: general biology; Biol 349, Chem 353, 371, Envr 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, Envr 302, 358; or permission of instructor. Methods of experimentation with toxic substances in various test systems.
- 458 WILDLIFE TOXICOLOGY (3)
Prereq: Chem 123, general biology, Envr 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: Envr 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.
- 464 UNITED STATES ENVIRONMENTAL POLICY (4)
Prereq: Pol Sci 101 or 250 or permission of instructor. Introduces students to United States national institutions, legislation, administrative procedures and regulations, with emphasis on explanations of processes that shape environmental policies. Some tools of policy analysis are also introduced.
- 465 COMPARATIVE AND INTERNATIONAL ENVIRONMENTAL POLICIES (4)
Prereq: Envr 303 or 464, or permission of instructor. A systematic comparison of the environmental policies of a sample of developed and lessor-developed nations such as Canada, Germany, Japan, Brazil and Mexico. The formations, applications, strengths and weaknesses of the policies will be analyzed and discussed.
- 466 SYSTEMS THINKING, GOVERNMENT AND ENVIRONMENT (4)
Prereq: Envr 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. Implications for politico-economic structural change. Also offered as Pol Sci 466.
- 467 POLITICS, TRANSFORMATION AND ENVIRONMENT (4)
Prereq: Envr 202 or permission of instructor. 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.
- 473 ENVIRONMENTAL INTERPRETATION (4)
Prereq: Envr 371 or permission of instructor. An overview of the field of environmental interpretation and how it relates to environmental education. Focus is on gaining an understanding of the basic elements of the interpretive process and on becoming familiar with interpretive approaches and methods. Design and technical components are introduced.
- 474 OUTDOOR EDUCATION (4)
Prereq: Envr 371 or permission of instructor; concurrent enrolment in 475, 476 and 477. 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.

- 475 ENVIRONMENTAL EDUCATION: ADVENTURE PROGRAMMING AND LEADERSHIP (4)
 Prereq: Envr 371 or permission of instructor; concurrent enrollment in 474, 476 and 477. Overview of philosophy, history and components of adventure education. Analysis of how adventure education has evolved as a means for individual and group development and for enrichment of educational processes. Theory and practice of leadership in adventure and wilderness education. Leadership styles and their application in adventure and wilderness education situations. Special fee.
- 476 EXPERIENTIAL LEARNING IN ENVIRONMENTAL EDUCATION (4)
 Prereq: Envr 371 or permission of instructor; concurrent enrollment in 474, 475 and 477. 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.
- 477 THE WRITINGS OF AMERICAN NATURALISTS (3)
 Prereq: Envr 371 or permission of instructor; concurrent enrollment in 474, 475 and 476. 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. 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 Continuing Education. It is not available to Huxley majors.* May be repeated for credit.
- 481 ENVIRONMENTAL JOURNALISM (4)
 Prereq: Journ 104; Envr 110 or 202; or permission of instructor. Goal is to equip students to report and write clearly, critically and constructively on environmental and natural resource issues. Emphasis on writing articles for publication. Involves reading, discussion and much research and writing.
- 482 ADVANCED ENVIRONMENTAL WRITING (4)
 Prereq: at least two courses in journalism and/or writing, or permission of instructor. Emphasis on writing for popular publications, with extensive exercise in outlines, query letters, leads and complete drafts, with critiques and rewrite.
- 490 ENVIRONMENTAL RISK MANAGEMENT (4)
 Prereq: Econ 203 or permission of instructor. Introduces students to risk analysis methods, and processes that shape risk management decisions in the public and private sectors. Focuses on environmental problems and health hazards, although parallels to other risk contexts are discussed.
- 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 economics 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 SENIOR THESIS (10-15)
 Prereq: permission of instructor. A special project carried out under the supervision of a faculty adviser and documented in thesis form according to guidelines supplied by the College. May reflect a single study topic or be part of a major investigation which may take the form of fieldwork, or laboratory, library or community research.
- 498b INTERNSHIP (10-15)
 Prereq: permission of instructor. Supervised work experience relevant to environmental studies and appropriate to the student's program. The one- to three-month experience is documented by a written report prepared according to guidelines supplied by the College. S/U grading.
- 499a SEMINAR (1)
 Prereq: senior status 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 status or permission of instructor. Student-faculty interaction. May be repeated for credit. S/U grading.

Huxley College

499c SEMINAR (1)

Prereq: senior status or permission of instructor. Student-faculty interaction on topics of general interest. May be repeated for credit.

499d SEMINAR (2)

Prereq: senior status or permission of instructor. Student-faculty interaction. May be repeated for credit.

Graduate Courses

Courses numbered 500; 517; 545; 597 are described on page 37-38 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 status. Presentation of approaches to and selected topics in environmental science.

503 ADVANCED HUMAN ECOLOGY (3)

Prereq: graduate status; previous undergraduate coursework in sociology, anthropology, psychology and/or geography. The study of human-environmental interactions based on an understanding of the unique psycho-physiology of the human species, and the evolution of human social institutions, technology and scientific understanding of the natural environment, followed by an assessment of the need for institutional changes to cope with the increasing scope of environmental problems.

529 STREAM ECOLOGY (5)

Prereq: Envr 430 or equivalent, or permission of instructor. Ecology and analysis of streams with emphasis on physical and chemical properties in relation to biotic communities. Course is offered concurrently with Envr 429. Graduate students are required to lead discussion groups in stream ecology in addition to the undergraduate requirements.

531 SAMPLING DESIGN AND ANALYSIS (3)

Prereq: Math 341, 342 or Envr 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.

533 LAKE RESTORATION AND MANAGEMENT (3)

Prereq: Envr 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 status, Envr 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 ECOLOGY OF FRESHWATER COMMUNITIES (3)

Prereq: Envr 430. Ecology of freshwater organisms and factors that regulate structure and dynamics of populations and communities. Offered alternate years.

536 ENVIRONMENTAL IMPACT ASSESSMENT PRACTICUM (4)

Prereq: graduate status. 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 status, Envr 456/556, or Psych 501, or permission of instructor. Assessment of the impacts of toxic environmental chemicals on various behavioral processes.

544 ADVANCED ECOLOGICAL METHODS (4)

Prereq: Biol 325, Envr/Biol 340, or equivalents. Covers advanced ecological methods for the study of plant and animal populations and communities. Emphasis on statistical and quantitative approaches. Lectures and independent group field projects.

546 ADVANCED AQUATIC CHEMISTRY (5)

Prereq: Chem 333 and 351. Structure and composition of aquatic systems with special emphasis on the chemistry of surface and groundwaters. Topics include chemical thermodynamics, equilibria in water, oxidation-reduction and water contamination. A laboratory and/or field project with a written report is required.

550 ENVIRONMENTAL PHYSIOLOGY AND BIOCHEMISTRY (4)

Prereq: Envr 302, 352, 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.

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.

556 ADVANCED ENVIRONMENTAL TOXICOLOGY (3)

Prereq: general biology; Biol 349; Chem 353, 371; Envr 302 and Envr 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, Envr 302, 358, or permission of instructor. Methods of experimentation with toxic substances in various test systems.

558 ADVANCED WILDLIFE TOXICOLOGY (3)

Prereq: Chem 351, Envr 301 or Biol 325, Envr 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 (4)

Prereq: analytical chemistry or permission of instructor. Two hours of lecture; four hours of laboratory per week. Theory and practice of gas chromatography and other analytical methods useful in understanding and solving environmental problems. Offered alternate years.

562 ADVANCED AIR POLLUTION (4)

Prereq: graduate status, Envr 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 AQUATIC TOXICOLOGY (3)

Prereq: Envr 302, 358, 361, 456; or permission of instructor; Envr 340 recommended. Evaluation of the effects of toxic compounds on aquatic organisms. Acute and chronic responses to aquatic toxicants. Current trends in organismal, community and ecosystem aquatic toxicology. Offered concurrently with Envr 564; lecture may be taken without laboratory.

564 AQUATIC TOXICOLOGY LABORATORY (3)

Prereq: Envr 302, 358, 361; or permission of instructor; Envr 340 recommended. Evaluation of the effects of toxic compounds through the use of aquatic bioassays. Use of bioassays in biological monitoring, bioassay systems design, species selection, and interpretation of bioassay results. Laboratory must be taken concurrently with lecture (Envr 563).

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.

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).

PROGRAMS AT THE URBAN CENTER

Only the School of Education offers programs at the center on a regular basis. 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 Education offers an M.Ed. in School Administration plus coursework 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

The social services and public management concentrations are two approved degree programs offered

through the Seattle Urban Center. Admission to these programs has been suspended indefinitely. Reference to the programs is found in the

1987/89 General Catalog. Readers are advised to consult with the Center director for any possible change to this policy.



University Personnel

BOARD OF TRUSTEES

Mary Kay Becker,
BEEd, JD Bellingham
Charlotte N. Chalker, BS, JD .. Tacoma
Martha C. Choe, BA, MBA Seattle
Craig W. Cole, BA Bellingham
Gordon Sandison, BS, PhD
(Hon) Port Angeles
Larry Taylor, BA Seattle
James C. Waldo, BS, JD Seattle

ADMINISTRATIVE OFFICERS

President
Kenneth P. Mortimer, AB, MBA, PhD
Vice President for Academic Affairs and
Provost
Les A. Karlovitz, BS, MS, PhD
Vice President for External Affairs
Albert J. Froderberg, BS, MS, PhD
Vice President for Business and Financial
Affairs
George A. Pierce, BA, MA, PhD
Vice President for Student Affairs
Saundra L. Taylor, BA, MA, PhD

Office of the President and Provost

Administrative Assistant to the President
Marva C. Glover
Administrative Assistant to the Provost
Rose Marie Kibbe
Affirmative Action Officer
Mary Robinson, BA, MA
Assistant to the President
Judith A. McNickle, BA, BEd
Director of Athletics
Lynda Goodrich, BA, MA
Special Assistant to the President for
International Programs
George F. Drake, BA, MA, PhD
Special Assistant to the President and
Presidential Intern
Sheila Edwards, BA, MA

Academic Affairs

Admissions and College Relations
Director, Richard J. Riehl, BAEd, MA
Associate Director and Coordinator
of High School Relations,
John M. Gear, BA, MEd
Associate Director and Coordinator
of College Relations,
Calvin E. Mathews, BA, MA
Arts and Sciences, College of
Dean, Peter J. Elich, BA, MEd, PhD
Assistant Provost
Roland L. DeLorme, BA, MA, PhD
Assistant to the Provost
John Havland, BS, MBA
Business and Economics, College of
Dean,
Dennis R. Murphy, BA, MA, PhD
Computer Center
Director,
Melvin G. Davidson, AB, PhD
Continuing Education/Conference
Services
Director,
Richard Harris, BA, BEd, MEd, EdD
Education, School of
Dean,
Lawrence W. Marrs, BS, MS, PhD
Fairhaven College
Dean, Marie D. Eaton, BA, MA, PhD
Fine and Performing Arts, College of
Dean, Robert Sylvester, BM, MS
Graduate Affairs and Research
Dean,
Maurice Schwartz, BA, MS, PhD
Huxley College of Environmental Studies
Dean, John C. Miles, BA, MA, PhD
Libraries
Director, Diane C. Parker, BA, MLS
Registrar
B. Eugene Omev, BA, MA
Associate Registrar,
Joseph St. Hilaire, BA, MA
Summer Session
Director, B. Eugene Omev, BA, MA
Testing Center
Director,
Robert M. Thorndike, BA, MA, PhD

External Affairs

Director of Development and Executive
Director of The Western Foundation
Director, Curtis Dalrymple, BA

Alumni Relations
Director, Chris Goldsmith, BA

Public Information Office
Director, Lynne Masland, BA, MA

Business and Financial Affairs

Administrative Assistant to the Vice
President
Linda Summers

Budget Office
Director, Jack E. Cooley, BA, MPA

Campus Security
Director, Dave Doughty

Fiscal Services
Director, Mary Carlson, BA

Human Resources
Associate Vice President,
Mary Robinson, BA, MA

Physical Plant
Director,
Peter R. Harris, PE, BS, MSSM

Student Affairs

Academic Advising/Tutorial Centers
Director,
Ronald W. Johnson, BA, MA, DA, PhD

Administrative Assistant to the Vice
President
Bobbie J. Coleman

Associate to the Vice President/
Student Life
Connie L. Copeland, BS, MEd

Career Planning and Placement
Director, Louis T. Lallas, BA, MEd

Counseling/Health Services
Director,
Nathan Church, BS, MS, PhD

Multicultural Services
Director,
Elizabeth P. Partolan, BS, MS

Student Financial Resources
Director, Ronald S. Martinez, BS, MA

University Residences
Director, Kathleen F. Rich, BA, MEd

Viking Union/Student Activities
Director, John J. Smith, BA, MA

EMERITUS FACULTY

HENRY L. ADAMS
Professor Emeritus of Psychology. BA,
MA, University of Kentucky; PhD, Univer-
sity of Illinois.

PHILLIP R. AGER
Associate Professor Emeritus of Music.
BAEd, Western Washington State Col-
lege; MA, University of Washington.

MARGARET H. AITKEN
Professor Emeritus of Physical Education.
BA, University of Washington; MA, EdD,
Teachers College, Columbia University.

ANGELO ANASTASIO
Professor Emeritus of Anthropology.
Diploma, The Juilliard School; AA, Boston
University; MA, PhD, University of
Chicago.

HERBERT L. BAIRD, JR.
Associate Professor Emeritus of Foreign
Languages and Literature. AA, Santa Ana
Junior College; AB, Pomona College; AM,
PhD, University of Chicago.

LUCILLE E. BARRON
Associate Professor Emeritus of Home
Economics. BA, Washington State Uni-
versity; MA, University of Washington.

GEORGE J. BECKER
Professor Emeritus of English. BA, MA,
PhD, University of Washington.

MARION BESSERMAN
Associate Professor Emeritus of Chemis-
try. BS, University of Washington; MS,
Purdue University; PhD, University of
Washington.

JOSEPH E. BLACK
Associate Professor Emeritus of Technol-
ogy. BA, Lehigh University; BME, Cooper
Union, New York; MME, New York Univer-
sity; PhD, Lehigh University. Registered
Professional Engineer, Washington and
California.

ELIZABETH BOWMAN
Associate Professor Emeritus of English.
AM, PhD, University of Chicago.

LAURENCE W. BREWSTER
Professor Emeritus of Speech. BA, Yank-
ton College; MA, PhD, University of Iowa.

University Personnel

A. CARTER BROAD

Professor Emeritus of Biology. BA, MA, The University of North Carolina, Chapel Hill; PhD, Duke University.

DONALD W. BROWN

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

Professor Emeritus of Psychology. BA, Hamline University; BS, MA, PhD, University of Minnesota.

WILLIAM A. BULTMANN

Professor Emeritus of History. AB, PhD, University of California, Los Angeles.

SENE R. CARLILE

Professor Emeritus of Speech. AB, BS, Fort Hays, Kansas State College; MA, Colorado State College; PhD, University of Wisconsin.

KATHERINE CARROLL

Associate Professor Emeritus of Education. BS, Salem State College; EdM, EdD, Boston University.

KATHERINE M. CASANOVA

Associate Professor Emeritus of Education. BS, MA, Teachers College, Columbia University.

MOYLE F. CEDERSTROM

Professor Emeritus of English. BA, MA, University of Minnesota; PhD, University of Washington.

EDNA E. CHANNER

Associate Professor Emeritus of Technology. BA, University of Washington; MA, University of Iowa.

NITA CLOTHIER

Assistant Professor Emeritus of Liberal Studies. BA, MEd, Western Washington State College.

ROBERT P. COLLIEF

Professor Emeritus of Economics. BA, Reed College; PhD, Stanford University.

HOWARD J. CRITCHFIELD

Professor Emeritus of Geography and Regional Planning. BA, MA, PhD, University of Washington.

STANLEY M. DAUGERT

Professor Emeritus of Philosophy. AB, MA, PhD, Columbia University.

JAMES W. DAVIS

Professor Emeritus of Political Science. BA, Valley City State College; MA, PhD, University of Minnesota.

LOWELL P. EDDY

Associate Professor Emeritus of Chemistry. BS, MS, Oregon State University; PhD, Purdue University.

IRENE ELLIOTT

Assistant Professor Emeritus of Education. BS, MA, Columbia University.

JOHN E. ERICKSON

Associate Professor Emeritus of Biology. BA, Omaha University; MA, Indiana University; PhD, University of Oregon.

EUNICE D. FABER

Associate Professor Emeritus of Foreign Languages and Literatures. AB, Howard University; MA, PhD, Catholic University of America.

DONALD A. FERRIS

Professor Emeritus of Education. BA, MA, University of Washington.

IONE FOSS

Associate Professor Emeritus of Art. BS, MAA, Montana State College; MFA, University of Oregon.

RICHARD J. FOWLER

Professor Emeritus of Technology. BA, MS, Washington State University; EdD, Texas A & M University.

THOMAS FRAZIER

Associate Professor Emeritus of Library Sciences. BA, MA, MLS, University of Washington.

MARIA GUADALUPE GARCIA-BARRAGAN

Professor Emeritus of Foreign Languages and Literatures. BA, Colegio Aquiles Serdan; BEd, Instituto America; MA, Escuela Normal Superior Nueva Galicia; PhD, Universite de Paris, III, Sorbonne.

HARVEY M. GELDER

Professor Emeritus of Fairhaven. BA, Colorado State College; MA, University of Missouri.

JEROME GLASS

Associate Professor Emeritus of Music. BS, New York University; MMus, University of Southern California.

BYRON E. HAGLUND

Associate Professor Emeritus of Accounting. BBA, MA, University of Minnesota; CPA, Washington, D.C., State of Washington.

HOWARD L. HARRIS

Professor Emeritus of Anthropology. BA, University of Iowa; MA, University of Missouri; M.Div., Hartford Theological Seminary.

HERBERT R. HEARSEY

Associate Professor and Librarian Emeritus. BA, EdM, Tufts College; BS in LS, MS in LS, University of Illinois.

PAUL E. HERBOLD

Associate Professor Emeritus of Speech. BA in Ed, Western Washington State College; MA, University of Washington; PhD, University of Minnesota.

MILDRED HERRICK

Associate Professor and Librarian Emeritus. BA, Michigan State Normal College; BA in LS, MA in LS, University of Michigan.

ARTHUR C. HICKS

Professor Emeritus of English. BA, MS, University of Oregon; PhD, Stanford University.

CLAUDE MAX HIGBEE

Professor Emeritus of Educational Curriculum and Instruction. BA, Simpson College; MS, Washington State University; PhD, State University of Iowa.

JAMES L. HILDEBRAND

Associate Professor Emeritus of Mathematics/Computer Science. BA, MA, North Texas State University.

HARLEY E. HILLER

Professor Emeritus of History. BA, Westmar College; MA, PhD, University of Minnesota.

HERBERT HITE

Professor Emeritus of Education. BA, MA, College of Puget Sound; EdD, Washington State University.

ROBERT E. HUFF

Professor Emeritus of English. AB, AM, Wayne State University.

ELVET G. JONES

Professor Emeritus of Psychology. BA, MA, University of British Columbia; PhD, University of Minnesota.

HENRY W. JONES

Assistant Professor Emeritus of Education. BS, North Dakota State University; MS, University of Wisconsin; EdD, University of California, Los Angeles.

HALLDOR C. KARASON

Associate Professor Emeritus of Education and Philosophy. BA in Ed, Western Washington State College; MA, PhD, University of Washington.

J. RUTH KELSEY

Associate Professor Emeritus of Art. BA, Washington State University; MA, University of California, Berkeley.

FRED W. KNAPMAN

Professor Emeritus of Chemistry. BA in Ed, Western Washington State College; MS, University of Washington; EdD, Teachers College, Columbia University.

EDWIN M. LABOUNTY

Associate Professor Emeritus of Music. AB, Yankton College; BM, MM, MusD, Indiana University.

GEORGE S. LAMB

Professor Emeritus of Educational Curriculum and Instruction. BA, Macalester College; MA, University of Washington; PhD, University of Minnesota.

CHARLES F. LAPPENBUSCH

Professor Emeritus of Physical Education. BS, MA, University of Washington.

EDITH B. LARRABEE

Assistant Professor Emeritus of Home Economics. BA, East Texas State University; MA, Colorado State University.

University Personnel

GOLDEN L. LARSEN

Associate Professor Emeritus of English. BS, MS, Utah State University; PhD, University of Washington.

JAMES R. LOUNSBERRY

Associate Professor Emeritus of Physical Education. BA in Ed, Central Washington State College; MS, EdD, University of Washington.

ROBERT A. McCracken

Professor Emeritus of Educational Curriculum and Instruction. BA, MA, PhD, Syracuse University.

DAVID McDONALD

Associate Professor Emeritus of Education. BA, Bethany College; MA, University of Southern California; EdD, University of Oregon.

HOWARD F. McGAW

Professor Emeritus of Library Science. BA, Vanderbilt University; MA, BS in Library Science, George Peabody College for Teachers; EdD, Teachers College, Columbia University.

RUBY D. McINNES

Associate Professor Emeritus of Education. BA, University of Washington; MA, Columbia University.

WILLIAM R. MACKAY

Associate Professor Emeritus of Psychology. BA, Brown University; MA, PhD, University of California, Berkeley.

STEPHEN C. MARGARITIS

Professor Emeritus of Education. BA, University of Athens; MA, PhD, University of Southern California.

JAMES S. MARTIN

Professor Emeritus of Biology. BS, MS, PhD, University of Washington.

EVELYN P. MASON

Professor Emeritus of Psychology. BA, Mills College; MA, PhD, Washington University.

MIRIAM S. MATHES

Associate Professor Emeritus of Library Science. BA, New York College for Teachers; MA, Teachers College, Columbia University; BLS, MLS, School of Library Science, Columbia University.

ERWIN S. MAYER

Professor Emeritus of Economics. AB, Hunter College; PhD, University of Washington.

MICHAEL K. MISCHAIKOW

Professor Emeritus of Economics. BA, School of Commerce and Finance; MBA Hochschule fuer Welthandel; MA, PhD, Indiana University.

HOWARD E. MITCHELL

Professor Emeritus of Economics. BA, Whitworth College; MA, PhD, University of Washington.

KURT W. MOERSCHNER

Associate Professor Emeritus of Foreign Languages and Literatures. BComm, BA, Sir George Williams University; MA (Psychology), MA (German), PhD, University of Colorado.

DONALD E. MOON

Associate Professor Emeritus of Technology. BS in Ed, California State College, California, Pa.; MA, Teachers College, Columbia University; EdD, Oregon State University.

KEITH A. MURRAY

Distinguished Service Professor Emeritus of History. BA, Whitworth College; MA, PhD, University of Washington.

FRANK A. NUGENT

Professor Emeritus of Psychology. BS, New Jersey State Teachers College; MA, Columbia University; PhD, University of California, Berkeley.

JAMES H. O'BRIEN

Professor Emeritus of English. BA, Seattle University; MA, PhD, University of Washington.

J. EVELYN ODOM

Associate Professor Emeritus of English. AB, Winthrop College; MA, Teachers College, Columbia University.

VILIS PAEGLIS

Assistant Professor Emeritus of Library Science. Mag. Phil., University of Latvia; MA in Library Science, University of Michigan.

HAROLD O. PALMER

Professor Emeritus of Business Education. BA, College of Emporia, Kansas; EdM, University of Oregon; EdD, Oregon State University.

ROBERT A. PETERS

Professor Emeritus of English. BA, Ohio State University; MA, Western Reserve University; PhD, University of Pennsylvania.

RJTH PLATT

Associate Professor Emeritus of Zoology. BS, MS, University of Washington; University of California.

HAZEL JEAN PLYMPTON

Associate Professor Emeritus of Art. PhD, University of Chicago; MA, Teachers College, Columbia University; Reed College; Portland School of Art.

LORRAINE POWERS

Emeritus Dean of Women. BA, University of Wisconsin; MA, University of Iowa.

AUGUST C. RADKE

Professor Emeritus of History. BA, MA, PhD, University of Washington.

DOROTHY E.A. RAMSLAND

Professor Emeritus of Home Economics. BS, University of Wisconsin; MS, PhD, Michigan State University.

CHARLES RANDALL, JR.

Associate Professor Emeritus of Physical Education. BA, Eastern Washington State College; MA, Washington State University.

FRANKLIN C. RANEY

Associate Professor Emeritus of Geography and Regional Planning. BS, University of Chicago; MS, Washington State University; PhD, University of California, Davis.

NICOLE B. RAPOZA

Associate Professor Emeritus of Foreign Languages and Literatures. BA, Long Beach State College; MA, PhD, University of California, Berkeley.

BERNARD W. REGIER

Professor Emeritus of Music. BSM, Kansas State Teachers College; MMus, University of Michigan; DMA, University of Southern California.

CHARLES M. RICE

Associate Professor Emeritus of Industrial Arts. BFA, MA, Washington State University; University of Washington; University of Oregon; Carnegie A.I.A. Art Sessions; EdD, Oregon State University.

J. ALAN ROSS

Professor Emeritus of Education and Psychology. BA in Ed, Western Washington State College; MA, PhD, Yale University.

MARJORIE RYAN

Professor Emeritus of English. AB, MA, University of Michigan; PhD, University of Minnesota.

LEONARD SAVITCH

Associate Professor Emeritus of Education. BS, Pennsylvania State; MA, Teachers College, Columbia University; PhD, University of Washington.

DAVID B. SCHAUB

Professor Emeritus of Music. BA, MusB, Lawrence College; MA, Harvard University; PhD, University of California, Berkeley.

ERHART A. SCHINSKE

Professor Emeritus of Speech Pathology/Audiology. BA, Hamline University; MA, PhD, University of Minnesota.

CARL U. SCHULER

Associate Professor Emeritus of History. BS, MA, PhD, University of Wisconsin.

BEARNICE S. SKEEN

Professor Emeritus of Education. BS, MS, University of Oregon; EdD, Washington State University.

ARTHUR L. SOLOMON

Professor Emeritus of Speech and Broadcast. BA, Antioch College; MA, University of North Carolina; PhD, Stanford University.

RICHARD O. STARBIRD

Professor Emeritus of Education. BA, Heidelberg College; MA, Columbia University; EdD, Teachers College, Columbia University.

PAUL H. STONER

Associate Professor Emeritus of Music. BM, University of Kansas; MA, University of Iowa, DMA, University of Southern California.

LEONA M. SUNDQUIST

Distinguished Service Professor Emeritus of the College. BA, MS, University of Washington; Teachers College, Columbia University.

University Personnel

ADA SWINEFORD

Professor Emeritus of Geology. SB, SM, University of Chicago; PhD, Pennsylvania State University.

HERBERT C. TAYLOR

Distinguished Service Professor Emeritus of Anthropology. BA, MA, University of Texas; PhD, University of Chicago.

ROBERT W. TESHARA

Associate Professor Emeritus of Geography/Regional Planning. BA, BA in Ed, Western Washington State College; PhD, University of Washington.

LESLIE J. THOMAS

Professor Emeritus of History. BA, St. Olaf College; MS, PhD, University of Wisconsin at Madison.

COLIN E. TWEDDELL

Professor Emeritus of Anthropology and Linguistics. BA, MA, PhD, University of Washington.

STEWART VAN WINGERDEN

Associate Professor Emeritus of Education. BA in Ed, Western Washington State College; MA, Colorado State College; EdD, Washington State University.

MANFRED C. VERNON

Professor Emeritus of Political Science. LLB, University of Cologne; JD, University of Berlin; PhD, Stanford University.

ADA L. WALTER

Assistant Professor Emeritus of Business Education and Economics. BS, Winthrop College; MBA, University of Denver.

MARY W. WATROUS

Professor Emeritus of Education. AB, University of Nebraska; MA, Gonzaga University; EdD, University of Washington.

EVELYN M. WELLMAN

Associate Professor Emeritus of Music. BA, MA, Western Washington State College.

JAMES W. WILKINS, JR.

Associate Professor Emeritus of Psychology. AB, MA, Kent State University; PhD, Michigan State University.

GEORGE E. WITTER

Associate Professor Emeritus of Computer Science. BA, MA, Miami University.

PAUL WOODRING

Distinguished Service Professor Emeritus of the University, Education/Psychology. BSEd, Bowling Green State University; MA, PhD, Ohio State University. Honorary degrees: LHD, Kalamazoo College; PhD, Coe College; LittD, Ripon College; LHD, Bowling Green State University; LLD, University of Portland.

JOHN J. WUEST

Professor Emeritus of Political Science. BS, MS, University of Southern California; PhD, University of California, Los Angeles.

FACULTY

Albers, James R. / Huxley
Alexander, Marian L. / Library
Alper, Donald / Political Science
Ames, Evelyn E. / Physical Education
Amundsen, Darrel W. / Foreign Languages
Anderson, Kathryn L. / Fairhaven
Arnett, M. Chappelle / Physical Education
Atkinson, Charles M. / Educational Curriculum & Instruction
Atneosen, Richard A. / Physics/Astronomy

Babcock, Randall S. / Geology
Balas, Robert S. / Foreign Languages
Barrett, W. Louis / Physics/Astronomy
Barthold, Bonnie J. / English
Beck, Myrl E., Jr. / Geology
Beldin, Horace O. / Educational Curriculum & Instruction
Benson, Earl D. / Finance, Marketing and Decision Sciences
Berg, Richard H. / Arts & Sciences
Bettis, Joseph D. / Fairhaven
Billings, Thomas / Educational Administration & Foundations
Blackwell, Leslie / Educational Administration & Foundations
Bornzin, Gary / Fairhaven College
Bouverat, Roberta A. / Educational Curriculum & Instruction
Boxberger, Daniel L. / Anthropology
Brakke, David / Huxley
Brilla, Lorraine / Physical Education
Brockhaus, Henrich / Foreign Languages
Brown, Edwin H. / Geology
Brown, Herbert A. / Biology
Brown, Robert D. / English
Bryant, William H. / Foreign Languages
Bryce, Wendy J. / Finance, Marketing & Decision Sciences
Buckley, Patrick H. / Geography
Burnett, Michael J. / Fairhaven

- Call, Donald J. / Sociology
 Campbell, Sarah K. / Anthropology
 Carmean, Stephen L. / Psychology
 Cary, Meredith B. / English
 Catrell, Dennis E. / Theatre/Dance
 Chalice, Donald R. / Mathematics
 Christelow, Stephanie E. / History
 Christman, Robert A. / Geology
 Clarke, David E. / Political Science/
 Huxley
 Clumpner, Roy A. / Physical Education
 Cobb, Mary / English
 Conton, Leslie / Fairhaven
 Covington, Richard J. L. / Educational
 Curriculum & Instruction
 Craswell, Keith / Mathematics
 Crook, Joseph R. / Chemistry
 Crow, Lowell T. / Psychology
 Curgus, Branko / Mathematics
 Cvetkovich, George T. / Psychology
- Dale, Carolyn / Journalism
 Dallas, Lee A. / Educational Curriculum &
 Instruction
 Darrow, Helen F. / Educational
 Curriculum & Instruction
 De Lorme, Roland L. / History
 D'ers, Carol J. / Psychology
 D'nnel, Dale L. / Psychology
 D'ttrich, William J. / Physics/Astronomy
 Donker, Marjorie J. / English
 Downing, Thomas E. / Philosophy
 Drake, George F. / Sociology
 Duemmel, James E. / Mathematics
 Easterbrook, Don J. / Geology
 Eaton, Marie D. / Fairhaven
 Eblen, Anna / Communication
 Eerkes, Gary L. / Computer Science
 Eklund, Donald D. / History
 Elich, Peter J. / Psychology
 Ellis, Elsie Vassdal / Technology
 Ellis, Ross C. / Geology
 Embrey, Robert D. / Technology
 Engebretson, David C. / Geology
 Eurich, Susan Amanda / History
 Evans, Howard M. / Educational
 Curriculum & Instruction
- Fairbanks, Diana / Technology
 Faulkner, Constance P. / Fairhaven
 Feinberg, Richard / Physics/Astronomy
 Fennimore, Flora / Educational
 Administration & Foundations;
 Educational Curriculum & Instruction
 Feringer, F. Richard / Educational
 Administration & Foundations
 Fewings, David R. / Finance, Marketing &
 Decision Sciences
 Filliman, Michael Paul / Mathematics
 Fisher, Michael H. / Liberal Studies
 Fleetwood, A. Hugh / Philosophy
- Flora, Charles J. / Biology
 Foisy, Maurice H. / Political Science
 Foley, Fred / Chemistry
 Fonda, Richard W. / Biology
 Ford, Paul / Educational Administration &
 Foundations
 Fox, Sheila / Educational Curriculum &
 Instruction
 Francis, Richard L. / English
 Freier, Kim / Huxley
 Froderberg, Albert J. / Mathematics
 Frome, Michael / Huxley
- Gallay, Alan / History
 Gamlen, Sara Jeanne / Mathematics
 Garcia, Joseph E. / Management
 Gayden, Ernst L. / Huxley
 Gerhold, George A. / Chemistry
 Gleeson, Madge / Art
 Glenn, Paul C. / Fairhaven
 Gossman, Charles / Sociology
 Grady, Thomas / Technology
 Gray, Neil R. / Mathematics
 Gregory, William A. / Theatre/Dance
 Grote, Frederick W., Jr. / Psychology
 Grover, Burton L. / Educational
 Administration & Foundations
 Gutchow, Monica C. / Theatre/Dance
 Gynan, Shaw N. / Foreign Languages
- Haag, Enid / Library
 Hackler, Clyde M. / Technology
 Hagen, Daniel A. / Economics
 Hamblin, Vicki L. / Foreign Languages
 Hammond, Joyce / Anthropology
 Hansen, Julia / Economics
 Hansen, Thor A. / Geology
 Hanson, Lawrence / Art
 Harder, K. Peter / Economics
 Harris, Lyle E. / Journalism
 Hartsfield, Nora A. / Mathematics
 Haug, Peter / Management
 Hayden, Davis C. / Psychology
 Hearne, James W. / Computer Science
 Heid, William H. / Fairhaven
 Helfgott, Leonard M. / History
 Hendryson, Mary Ann / Economics
 Henson, Steven / Economics
 Hildebrand, Francis H. / Mathematics
 Hill, Claude E. / Technology
 Hill, Ford D. / Music
 Hinchliff, Mark / Philosophy
 Hiraoka, Jesse / Foreign Languages
 Hitchman, James H. / History
 Hogan, Eugene J. / Political Science
 Hoover, Kenneth R. / Political Science
 Horn, Thomas C. R. / History
 Hovenier, Peter J. / Educational
 Curriculum & Instruction
 Howell, Kenneth W. / Educational
 Curriculum & Instruction

University Personnel

- Iglitzin, Karen / Music
Inniss, Kenneth B. / English
Inverarity, James / Sociology
Israels, Chuck / Music
Ives, Fred M. / Computer Science
- Jack, Dana C. / Fairhaven
Jack, Rand F. / Fairhaven
Jackson, Harry D. / History
Janson, Carol / Art
Jensen, Robert A. / Art
Jewett, Robert I. / Mathematics
Johnson, Ellwood, G. / English
Johnson, James Lee / Computer Science
Johnson, Jerry L. / Mathematics
Johnson, Vernon D. / Political Science
Johnston, Thomas A. / Art
Jones, Robert K. / Chemistry
Jongejan, Anthony / Educational
Administration & Foundations
Jusak, Debra S. / Computer Science
- Kaplan, Edward H. / History
Karlovit, Les A. / Mathematics
Kasprisin, Lorraine / Educational
Administration & Foundations
Keep, William C. / English
Keith, William / Communication
Keleman, Kenneth / Management
Keller, Robert H. / Fairhaven
Kelly, Samuel P. / Educational
Administration & Foundations
Kelsey, Harvey M. / Geology
Kikuchi, Louise S. / Foreign Languages
Kim, Robert H. / Educational
Administration & Foundations
Kimball, Linda A. / Anthropology
Kimmel, Arthur S. / Foreign Languages
King, Donald M. / Chemistry
King, Maxwell C. / Management
King, Rosalie Rosso / Home Economics
Kintz, B. L. / Psychology
Kitto, Kathleen L. / Technology
Klein, Marvin L. / Educational
Curriculum & Instruction
Kleinknecht, Ronald A. / Psychology
Knutzen, Kathleen / Physical Education
Kohn, Hubertus E. / Biology
Kozick, Stephanie / Educational
Curriculum & Instruction
Kraft, Gerald F. / Biology
Krieger, Milton H. / Liberal Studies
Kriz, George S. / Chemistry
Kupka-Schutt, Lou / Home Economics
- Lacher, Thomas E. / Huxley
Lampman, Gary M. / Chemistry
Larner, Daniel M. / Fairhaven
Lawson, Robert / Educational
Administration & Foundations
Lee, Lawrence L. / English
Levin, Richard G. / Mathematics
- Lewis, Arleen C. / English
Lewis, L. Floyd / Finance, Marketing and
Decision Sciences
Lewis, Merrill E. / English
Lindquist, Norman F. / Mathematics
Lindsay, Richard H. / Physics/Astronomy
Lippman, Louis G. / Psychology
Lippman, Marcia Z. / Psychology
Livingston, Morgan / Educational
Administration & Foundations
Lockhart, Julie A. / Accounting
Long, Boyde / Physical Education
Lonner, Walter J. / Psychology
Lookabill, Larry L. / Accounting
Lopresti, Robert / Library
Loucky, James / Anthropology
- McClendon, John C. / Fairhaven
McCormick, Patrick F. / Art
McDaniels, Timothy L. / Huxley
McInniss, Raymond / Library
McIntyre, Mary A. / Art
McLeod, Donald B. / Fairhaven
McRandle, Carol C. / Speech Pathology
& Audiology
Mahacek, Virginia L. / Geography
Mahoney, Eldon R. / Sociology
Mammitsch, Ulrich / Liberal Studies
Mancke, Elizabeth / History
Mariz, George E. / History
Marrs, Lawrence W. / Educational
Administration & Foundations;
Educational Curriculum & Instruction
Marsh, David F. / Art
Marshall, Robert C. / Anthropology
Mason, David T. / Fairhaven
Mason, John B. / English
Matthews, Geoffrey B. / Computer
Science
Matthews, Robin A. / Huxley
- Mayer, J. Richard / Huxley
Mazur, D. Peter / Sociology
Meade, Robert D. / Psychology
Meier, Robert C. / Finance, Marketing
& Decision Sciences
Menninga, Larry D. / Computer Science
Merrifield, David E. / Economics
Merrill, Reed B. / English
Miles, John C. / Huxley
Milicic, Vladimir / Foreign Languages
Miller, Gerson F. / Journalism
Miller, John A. / Chemistry
Miller, Laurence P. / Psychology
Mills, Perry / Theatre/Dance
Miner, Ralph E. / Political Science
Monahan, Robert L. / Geography
Montague, Phillip / Philosophy
Mookherjee, Debnath / Geography
Moore III, James E. / Physical Education
Moore, John S. / Finance, Marketing and
Decision Sciences

- Mork, Theodore A. / Educational Curriculum & Instruction
 Morris, Jack / Music
 Morton, Todd / Technology
 Moskowitz, Steven M. / Technology
 Mosley, Lee / Educational Curriculum & Instruction
 Muldrow, George M. / English
 Murphy, Dennis R. / Economics
- Nelson, David M. / Economics
 Nelson, Karna L. / Educational Curriculum & Instruction
 Nelson, Philip A. / Computer Science
 Neuzil, Edward F. / Chemistry
 Nickell, R. Hunter / Educational Administration & Foundations
 Nickelson, Aiden L. / Educational Curriculum & Instruction
- Olmstead, Marvin L. / Communication
 Olney, Thomas J. / Finance, Marketing & Decision Sciences
 O'Reilly, Maureen E. / Theatre/Dance
 Olsen, Fred A. / Technology
 Osborne, Martin L. / Computer Science
 Owens, Eugene / Management
- Packer, Donna / Library
 Panek, David M. / Psychology
 Parakh, Jal S. / Biology
 Param, Charles / Foreign Languages
 Park, Douglas / English
 Park, Tongkyu / Management
 Paulsen, H. Neil / Accounting
 Pavia, Donald L. / Chemistry
 Payton, Rodney J. / Liberal Studies
 Perez, Samuel A. / Educational Curriculum & Instruction
 Petersen, Lois E. / Management
 Pielstick, Norval L. / Psychology
 Pinney, Robert H. / Educational Curriculum & Instruction
 Plumlee, E. Leroy / Management
 Polen, Samuel B. / Speech Pathology & Audiology
 Price, Diana / Economics
 Price, Kay / Educational Curriculum & Instruction
 Prim, Merle M. / Psychology
 Prody, Gerry A. / Chemistry
 Pullan, C. Bruce / Music
 Purtil, Richard L. / Philosophy
- Quigley, Robert J. / Physics/Astronomy
- Rangel-Guerrero, Daniel / Foreign Languages
 Raudebaugh, Robert A. / Technology
 Read, Thomas T. / Mathematics
 Reay, John R. / Mathematics
 Rees, Earl R. / Psychology
- Reisser, Linda / Educational Administration & Foundations
 Rhoads, James B. / History
 Rice, Karen B. / Library
 Richardson, Cynthia / Library
 Richardson, John G. / Sociology
 Richardson, Larry S. / Communication
 Rieck, Robin E. / Finance, Marketing and Decision Sciences
 Riffey, Meribeth M. / Biology
 Riggins, Ronald D. / Physical Education
 Ritter, Harry R., Jr. / History
 Ritter, Marian B. / Library
 Robbins, Lynn A. / Huxley
 Roberts, Jane E. / Home Economics
 Robinson, Walter L. / Foreign Languages
 Roley, Paul L. / History
 Ross, June R. P. / Biology
 Rupaal, Ajit S. / Physics/Astronomy
 Russo, Salvatore / Chemistry
 Rutan, Gerard F. / Political Science
 Rutschman, Carla J. / Music
 Rutschman, Edward / Music
 Rystrom, David S. / Finance, Marketing and Decision Sciences
- Safavi, Farrokh / Finance, Marketing and Decision Sciences
 Sailors, William M. / Accounting
 Savey, Ronald N. / Accounting
 Scandrett, Robert L. / Music
 Schlotterback, Thomas / Art
 Schneider, David E. / Biology
 Schwartz, Maurice L. / Geology; Educational Curriculum & Instruction
 Schwartz, Sy / Educational Administration & Foundations; Educational Curriculum & Instruction
 Schwarz, Henry G. / History/East Asian Studies
 Schwemmin, Donald J. / Biology
 Scott, Bert G. / Accounting
 Scott, James W. / Geography
 Seal, Michael R. / Technology
 Seilo, Michael T. / Speech Pathology & Audiology
 Senge, Steven V. / Accounting
 Senger, Clyde M. / Biology
 Shaffer, Ronald W. / Psychology
 Shaw, Albert C. / Music
 Shen, Yun-Qiu/Mathematics
 Simpson, Carl H. / Sociology
 Singleton, William R. / Accounting
 Skinner, Knute / English
 Sleeman, Allan G. / Economics
 Slentz, Kristine L. / Educational Curriculum & Instruction
 Slesnick, Irwin L. / Biology
 Smeins, Linda E. / Art
 Smith, Alden C. / Communication
 Southcott, Marvin A. / Technology
 Spanel, Leslie E. / Physics/Astronomy

University Personnel

Sprague, Donald L. / Physics/Astronomy
Springer, Mark C. / Management
Stannard, R. E., Jr. / Journalism
Steffens, Peter S. / Journalism
Stephan, G. Edward / Sociology
Stephens, Kathleen J. / Library
Stevenson, Joan C. / Anthropology
Stewart, James E. / Physics/Astronomy
Stoeber, William K. B. / Liberal Studies
Stoops, Robert F., Jr. / Liberal Studies
Suzcek, Christopher / Geology
Sue, David / Psychology
Summers, William C. / Huxley
Sylvester, Charles D. / Physical Education
Symes, Dal S. / Library
Symes, Ken M. / English

Talbot, James L. / Geology
Taylor, Christopher J. / Psychology
Taylor, Ronald J. / Biology
Taylor, Sandra J. / Psychology
Templeton, David E. / Art
Terey-Smith, Mary / Music
Terich, Thomas A. / Geography
Thompson, Richard W. / Psychology
Thoreson, Hubert N. / Management
Thorndike, Robert M. / Psychology
Tomlonovic, Kathleen / Foreign Languages
Tonjes, Marian J. / Educational Curriculum & Instruction
Towner, John C. / Educational Curriculum & Instruction
Trent, Carol / Biology
Trimble, Joseph E. / Psychology/
Educational Administration & Foundations
Truschel, Louis W. / History
Tyler, Vernon O., Jr. / Psychology

Underwood, John H. / Foreign Languages
Ural, Saim / Computer Science
Urso, Robert A. / Art
Utendale, John F. / Educational Administration & Foundations

Vajda, Edward J. / Foreign Languages
Van Den Bosch, Peter N. / Computer Science
Vander Velde, Philip B. / Educational Administration & Foundations
Vander Yacht, Douglas R. / Theatre/
Dance
Vawter, Richard D. / Physics/Astronomy
Veit, J. Joseph / Physics/Astronomy
Vernacchia, Ralph A. / Physical Education
Vike, Gene E. / Art
Vogel, Richard F. / Technology

Wallace, David / Music
Wallace, William L. / Liberal Studies

Walter, Eileen L. / Educational Curriculum & Instruction
Ward, Thomas E. / Theatre/Dance
Warner, Daniel M. / Management
Waterman, C. Fred / Library
Watkins, Gavin G. / Mathematics
Webb, Loren L. / Speech Pathology & Audiology
Webber, Herbert H. / Huxley
Weiner, Homer A. / Ar:
Weiner, Ruth F. / Huxley
Weir, Sara J. / Political Science
Weiss, Rudolf / Foreign Languages
Wenos, Jeanne M. / Physical Education
Werstler, David / Technology
Weyh, John A. / Chemistry
Whayne, Jeannie M. / History
Whitmer, John C. / Chemistry
Wicholas, Mark L. / Chemistry
Williams, Don C. / Biology
Wilson, H. William / Chemistry
Wodzicki, Antoni / Geology
Woll, John W. / Mathematics
Wonder, Bruce D. / Management
Wright, Evelyn C. / English

Ypma, Tjalling J. / Mathematics
Yu, Ming-Ho / Huxley
Yunghans, Charles E. / Technology
Yusa, Michiko / East Asian Studies

Zalubowski, Sonya / Journalism
Zeine, Lina / Speech Pathology & Audiology
Ziegler, David W. / Political Science
Zoro, Eugene S. / Music
Zurfluh, Linda / Educational Curriculum & Instruction

WILSON LIBRARY

DIANE C. PARKER (1984) Director of Libraries. BA, University of California, Berkeley; M.L.S., University of Washington.

Librarians

MARIAN L. ALEXANDER (1970) Associate Professor and Head Catalog Librarian. AB, Occidental College; MLS, University of California, Los Angeles.

ENID HAAG (1975) Associate Professor and Education Librarian. BS, University of Nebraska; MA/Ed, MS/Librarianship, University of Denver.

- ROBERT LOPRESTI (1987) Assistant Professor. BA, Juniata College; MLS, Rutgers, The State University.
- RAYMOND G. McINNIS (1965) Professor and Head Reference Librarian. BA, University of British Columbia; MLS, University of Washington.
- DONNA E. PACKER (1982) Assistant Professor and Head of Acquisitions. BA, BLS, University of British Columbia; MBA, Western Washington University.
- KAREN B. RICE (1989) Assistant Professor. BS, University of Wisconsin; MSLS, University of North Carolina at Chapel Hill.
- 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.
- KATHLEEN J. STEPHENS (1972) Associate Professor and Science Librarian. BA, Western Washington State College; MLS, University of Washington.
- DAL S. SYMES (1987) Assistant Professor. BS, MA, Utah State University; MA, University of Denver; PhD, University of New Mexico.

- C. FRED WATERMAN (1967) Assistant Professor and Business Librarian. BS, MLS, University of Pittsburgh.

DEGREES AND CERTIFICATES

Degrees granted from August, 1987, to June, 1988, inclusive:

Master of Education	120
Master of Arts	62
Master of Science	43
Master of Music	9
Master of Business Administration	20
Bachelor of Arts in Education	250
Bachelor of Arts	1,113
Bachelor of Science	321
Bachelor of Fine Arts	1
Bachelor of Music	21
Bachelor of Nursing	13
Total	1,973

Recommended for certification to the State Superintendent for Public Instruction — August 1987, to June, 1988, inclusive:

Initial Teacher Certificate	304
Continuing Teacher Certificate	135

Appendices

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 discrimination giving rise to the grievance. (See Appendix H.)

The Affirmative Action Office is located in Old Main 335, telephone 676-3336. 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 Officer. 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

Appendices

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 freedom 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 516-22-035 Alcohol/Drug Policy Violations. Substance abuse by members of the University community impacts the quality of the educational experience of all students. Two or more violations of alcohol/drug policies or a single substantive violation including, but not limited to, the sale of illegal substances or violence to others while under the influence of alcohol/drugs shall make the student subject to disciplinary action

Sanctions available to the University through its judicial structure are Disciplinary Probation, Disciplinary Suspension or Disciplinary Expulsion.

WAC 516-22-040 Harassment of Peers. A quality educational experience can only occur in an environment free of harassment and exploitation. A student shall be subject to disciplinary action if he/she engages in harassing behaviors including any act that creates an intimidating or hostile environment for another member of the University community including, but not limited to, those of a physically threatening, religious, sexual or racial nature.

Sanctions available to the University through its 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

Appendices

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 recording 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.

Conditions congruent with the nature of the charge can be added to these sanctions, included but not limited to: restitution for damages, attendance at educational programs, University community service, restriction of access to designated areas of campus. Failure to

comply with sanctioned conditions can result in further action under the provisions of the Code.

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 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.

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, which is presenting as one's own in whole or in part the ideas, language, creations, conclusions, or scientific data of another without explicit acknowledgment. Examples include, but are not limited to:
 - (1) Submitting a paper purchased from a term-paper service.
 - (2) Substituting synonyms for words in another's writing and claiming the writing to be one's own.
 - (3) Claiming credit for someone else's artistic work, such as a musical composition or arrangement.
 - (4) Using someone else's lab report as a source of data or results.
 - (5) Collaborating with others in a required assignment without the approval of the instructor

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 and the Registrar. 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, 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

Appendices

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.
- (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;

Appendices

- (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 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 Fairhaven), 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

Appendices

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 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.

Appendices

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 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 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, Suite 400
Seattle, WA 98101
Phone: (206) 464-6500

Department of Education,
Office of Civil Rights
915 Second Avenue
Mail Code 10-9010
Seattle, WA 98174-1099
Phone: (206) 442-1635

Appendices

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.

Use of alternative means of transportation is encouraged. The city of Bellingham has an excellent transit system which has convenient runs through campus. Hours of operation (subject to change) are 7 a.m. to 7 p.m. Monday through Saturday. In addition, a shuttle service, operated by the Office of University Residences, runs seven nights a week from 7 to 11 p.m. For commuters, carpool ride matching is available through the Washington State Department of Transportation. Applications are available at the University Parking Office.

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. These rates are subject to change. 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 satisfactory 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 a student must be making satisfactory progress toward a degree or certificate regardless of whether s/he has previously received financial assistance. The standard of academic progress must include a student's total academic history at Western. 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.

The Department of Student Financial Resources is responsible for establishing and monitoring the **minimum** level of progress acceptable for this policy.

Monitoring of Satisfactory Progress

Normal Academic Progress is defined as satisfactory completion of 15 credit hours per academic quarter for undergraduate and 12 credit hours per quarter for master's degree candidates.

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 80 percent satisfactory completion of credits attempted will be eligible to be considered for financial aid.

Minimum credit requirements for current students. 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. Full-time undergraduate students must complete a minimum of 12 credit hours per quarter in order to be considered in good standing. For master's degree candidates the requirement is 10 hours quarterly.

In an attempt to allow 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 aca-

ademic year. As long as the student does not drop below 6 credit hours of satisfactorily completed course work in any one quarter (5 hours for master's degree candidates), s/he may continue to be considered for student financial aid. At the close of spring quarter, students will be monitored against the minimum credit requirements.

Maximum time frame. A student will be allowed to attempt credit hours equal to 125 percent of the minimum credit hour requirement for the degree or certificate program in which the student is enrolled. Once the student has attempted 125 percent s/he is no longer eligible to receive assistance for this degree or certificate granting program.

Part-time students. Satisfactory academic progress of part-time students will be based on a minimum credit requirement and a maximum time frame requirement as with full-time students. Part-time students must satisfactorily complete a minimum of 6 credit hours each term in order to continue to be eligible for assistance. Once the part-time student has attempted 125 percent of the minimum credit hour requirement for his or her degree program, the student will have exhausted eligibility for assistance.

Consequences of Unsatisfactory Progress

Probation

Probationary students may continue to receive financial aid. Students not completing 80 percent of normal academic progress on a quarterly basis may be continued on aid if at least 6 (5 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.

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.

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

By Petition

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.

By Additional Academic Progress

Any full-time 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 master's candidate). 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, the student could then submit an additional petition for reinstatement to good standing.

A part-time student whose petition for reinstatement is denied may return to good standing by completion of 6 credit hours in one quarter.

By 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 was not received for the summer quarter attendance, all credit hours satisfactorily completed may be credited toward making up the deficit.
2. If financial aid is received for attending summer quarter, the student will be required to complete an additional 12 credit hours (10 for

Appendices

master's degree candidates) to remain in good standing. Any credit hours completed beyond 12 may be credited toward making up the deficit.

Definitions

Hours Attempted

Total hours attempted are defined as:

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.

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.

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.

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.

Undergraduate Student

For purposes of this policy, an undergraduate student is one who has not received a baccalaureate degree or is pursuing a second undergraduate major.

Post-Baccalaureate Student in a Certification 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.

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

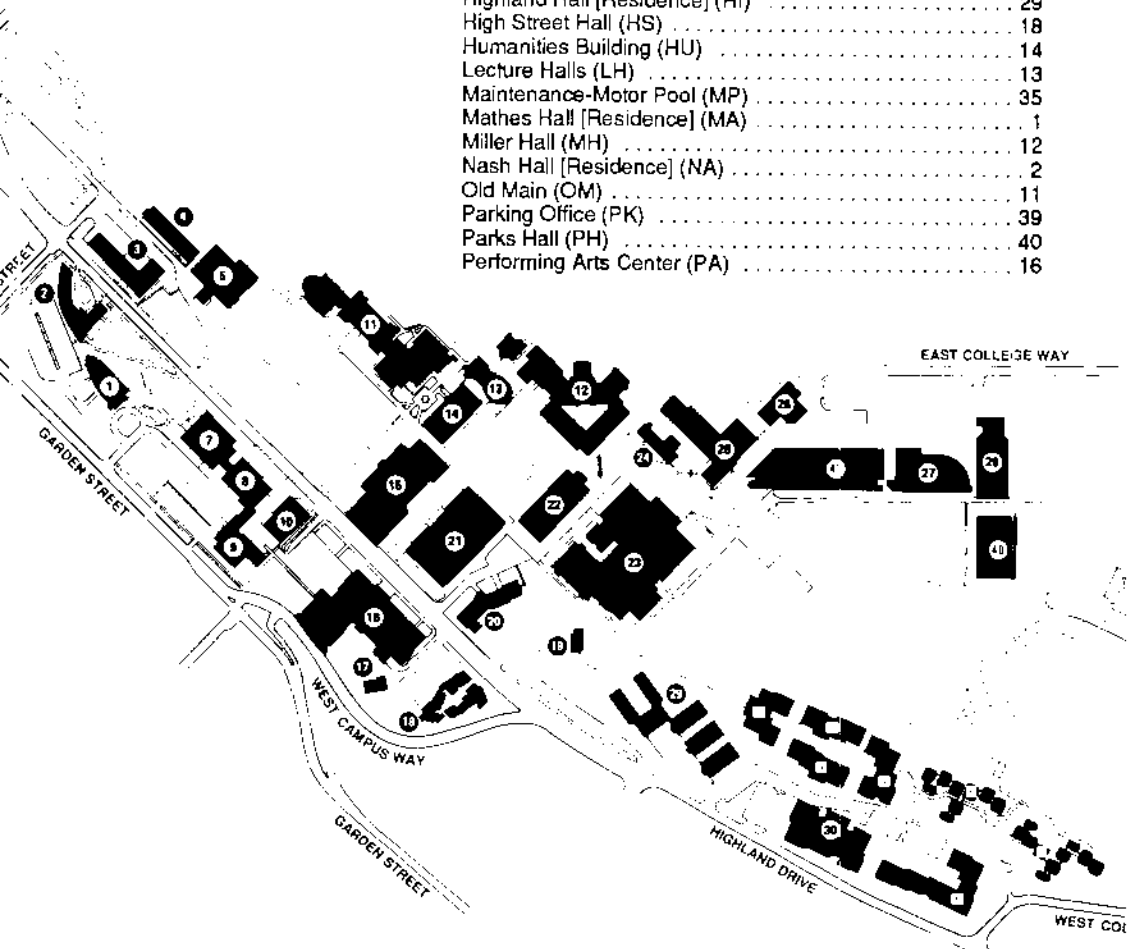
Western Washington University is committed to assuring that all programs and activities are readily accessible to all eligible persons without regard to their race, color, religion, national origin, sex, age, marital status, or the presence of any physical, sensory or mental handicap. The laws under 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.

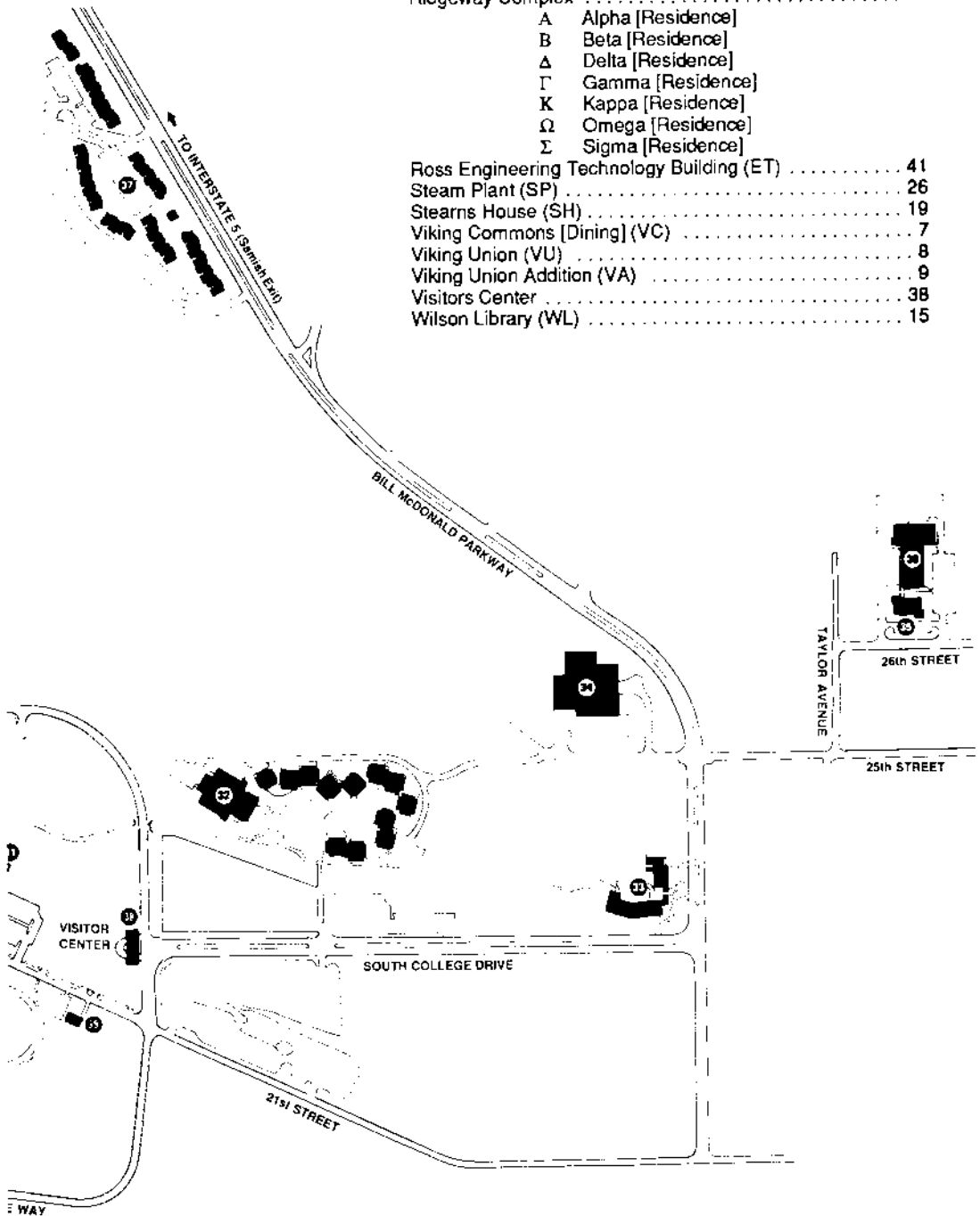
Persons having questions regarding University policies relating to these laws should contact Mary Robinson at the Affirmative Action Office, Old Main 335. (206) 676-3306.

Map Key

Arntzen Hall (AH)	27
Art Annex (AA)	24
Birnam Wood [Residence] (BW)	37
Bond Hall (BH)	22
Bookstore (BK)	10
Buchanan Towers [Residence] (BT)	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
Environmental Studies Center (ES)	28
Fairhaven College (FC)	32
Fine Arts (FI)	25
Haggard Hall (HH)	21
Higginson Hall [Residence] (HG)	3
Highland Hall [Residence] (HI)	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
Parking Office (PK)	39
Parks Hall (PH)	40
Performing Arts Center (PA)	16



Physical Plant (PP)	36
Public Safety Building (PS)	31
Ridgeway Complex	30
A Alpha [Residence]	
B Beta [Residence]	
Δ Delta [Residence]	
Γ Gamma [Residence]	
K Kappa [Residence]	
Ω Omega [Residence]	
Σ Sigma [Residence]	
Ross Engineering Technology Building (ET)	41
Steam Plant (SP)	26
Stearns House (SH)	19
Viking Commons [Dining] (VC)	7
Viking Union (VU)	8
Viking Union Addition (VA)	9
Visitors Center	38
Wilson Library (WL)	15



Index

Academic Advising Center	28	Course Numbering System	37
Academic Dishonesty Policy	462	Creative Writing	87, 152
Academic Facilities	4	Credits, Definition of	38
Academic Grievance Policy	467	Credits, Transfer Policy	13
Academic Policies	36	Dance	417
Academic Probation	45	Daycare Facilities	32
Academic Programs	4, 110, 306, 338, 390, 427	Degrees Granted, 1987-88	457
Academic Progress, Satisfactory	472	Degrees Offered	4, 110, 306, 338, 390, 427
Accounting	310	Dental Hygiene (professional)	59
Accreditation of University	4	Dentistry (professional)	59
Administrative Officers	446	Deposit, Enrollment	11
Admission, Freshman	11	Deposit, Housing	25
Admission, Undergraduate	10	Disability/Handicapped	30
Admission, Graduate	67	Dyslexic	28
Admission, Transfers	12	Early Childhood	364, 375
Admission to Teacher Education	357	East Asian Studies	246, 296
Advance Placement	36	Economics	314
Affirmative Action - Equal Opportunity Policy		Educational Administration and	
Against Discrimination	458	Foundations	81, 340
Student Grievance Policies	467, 470	Educational Curriculum and	
American Cultural Studies	294	Instruction	84, 353
Anthropology	73, 114	Education, School of	337
Apparel Design	197	Electronic Engineering Technology	279
Apartments, On-campus	26	Elementary Education	360
Appendices	458	Employment, Part-time	22
Application Deadlines	10	Engineering (professional)	59
Architecture (professional)	58	English	86, 151
Archives/Records Management	91	Entrance Tests	11
Art	74, 393	Environmental Science	92, 429
Art History	394, 401	Environmental Journalism	204, 433
Arts & Sciences, College of	110	Environmental Studies	428, 433
Assistantships, Graduate	66	Ethnic Minority Services	27
Astronomy	239	Examinations, Final	41
Athletics	34	Faculty	452
Attendance Requirements	39	Faculty Emeritus	447
Auditors	15, 18, 39	Faculty Ethics Code	469
Bachelor Degree Requirements	46	Fairhaven College	197
Biology	74, 121	Fashion Marketing	377
Biology/Ecology	125	Fees	17
Blue Book	27	Field Experience	55
Botany (see Biology)		Finals Preparation Week	40
Business & Economics, College of	306	Finance, Marketing & Decision	
Business Administration	327, 332	Sciences	320
Business Education	335	Finances	17
Calendar, Official	7	Financial Aid	21
Campus Map	476	Satisfactory Academic Progress	472
Canadian-American Studies	246, 295	Fine & Performing Arts, College of	390
Career Planning	29	Fisheries (professional)	60
Certificates Issued, 1987-88	457	Food Services	25
Certification	354, 355, 363, 365, 366	Foreign Languages & Literatures	87, 161
Challenge, Course	36	Foreign Study	56, 161
Changes in Registration	16	Forestry (professional)	61
Chemistry	77, 132	Former Students Returning	15
Child Development	375	French	165
Chinese	165	Full-time Status	39
Classical Studies	165	General University Requirements	48
Communication	139	General Science	298
Computing Facilities	5	Geography & Regional Planning	88, 171
Computer Science	79, 145	Geology	88, 178
Conference Services	55	German	167
Continuing Certification	366	Grading System	41
Continuing Education	55	Graduate School	66
Counseling Center	30	Graduation Fees	19
Courses (see individual subjects)		Graduation Requirements	46
		Grants	21

Greek	168
Grievance Policies, Student	459, 467, 470
Health Education	226
Health Center	30
History	90, 186
Home Economics	195
Honors Program	56
Housing	25
Humanities	208
Human Services	347
Huxley College of Environmental Studies	92, 424
Ir complete Grades	42
Independent Studies	55
Industrial Arts	282
Industrial Design	280
Industrial Technology	281
Interdisciplinary Programs	294, 375, 379
Interior Design	196
International Students	15
Internship, Teaching	365
Intramurals & Athletics	34
Japanese	168
Journalism	204
Latin	169
Latin American Studies	299
Law (professional)	61
Learning Disabled	28
Leaves of Absence	39
Liberal Studies	207
Librarians	456
Libraries	5
Library Science	351
Linguistics	299
Living Costs	26
Loans, Student	21, 23
Major, Self Designed	109, 112, 207, 304, 379, 432
Management	326
Manufacturing Engineering Technology	281
Marine Biology	76, 125, 432
Mathematics	95, 211
Mathematics/Computer Science	216, 221
MBA	77, 332
Medical Technology (professional)	61
Medicine (professional)	62
Minority Services	27
Museum Training	396
Music	96, 403
Natural Science/Science Education	98
Non-Discrimination Policy	458, 475
Non-Resident Candidates	17
Nursing (professional)	62, 222
Nutrition, Interdisciplinary	198, 433
Occupational Therapy (professional)	63
Office Administration	331
Optometry (professional)	63
Orientation	27
Parking & Traffic	472
Parking Fees	19
Part-time Employment	22
Pass/Fail Grading	42
Pharmacy (professional)	64
Philosophy	223
Physical Education, Health and Recreation	99, 226
Physical Therapy (professional)	64
Physics & Astronomy	239
Placement Services	29
Political Science	100, 245

Prerequisites	38
Probation, Academic	45
Professional Transfer Programs	58
Psychology	101, 253
Reading	375
Re-admission	15
Recreation	226
Refund of Fees	19
Registration	16
Reinstatement	45
Repeating Courses	43
Required Entrance Exams	11
Research	4
Reservations, Room	25
Residence Halls	25
Residence Status	17
Russian	169
Scholarships	21
Scholarship Standards	44
Science Education	300
Sculpture Collection	5, 396
Secondary Education	360
Sexual Harassment of Students, Policy	459
Shannon Point Marine Center	5
Social Studies Education	302
Sociology	105, 265
Spanish	169
Special Education	362
Special Students	15
Speech Pathology & Audiology	106, 273
Student Activities	32
Student Affairs	27
Student-Faculty Designed Majors (self-designed majors)	109, 112, 207, 304, 379, 432
Student Records Policy	465
Student Rights/ Responsibilities	460
Student Teaching	365
Study Abroad	56, 161
Teacher Certification	354
Technology	278
Termination of Enrollment	40, 45
Terrestrial Ecology	125, 432
Tests, Entrance	11
Theatre/Dance	108, 417
Transcripts	11, 19
Transfer Programs	58
Transfer Students	12
Trustees, Board of	446
Tuition & Fees	17
Tutorial Center	28
University Personnel	446
Urban Center	444
Urban & Regional Planning	173
Veterans	24
Veterinary Medicine (professional)	65
Visual Communication	283
Watershed Studies	126, 435
Western Gallery/Outdoor Sculpture Collection	5, 396
Wildlife Toxicology	435
Withdrawal from Courses/University	40
Women Studies	305
Writing Proficiency Requirements	47
Zoology (see Biology)	

Western Washington University
Bellingham, Washington 98225