

WESTERN WASHINGTON STATE COLLEGE BULLETIN

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CATALOG  
1970 1971



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*Cover Photo: "Sky Viewing Sculpture," a 7½-ton work by sculptor Isamu Noguchi, is pictured lighted at night on Western's campus. The sculpture, made of steel plate, is located in the academic quadrangle.*

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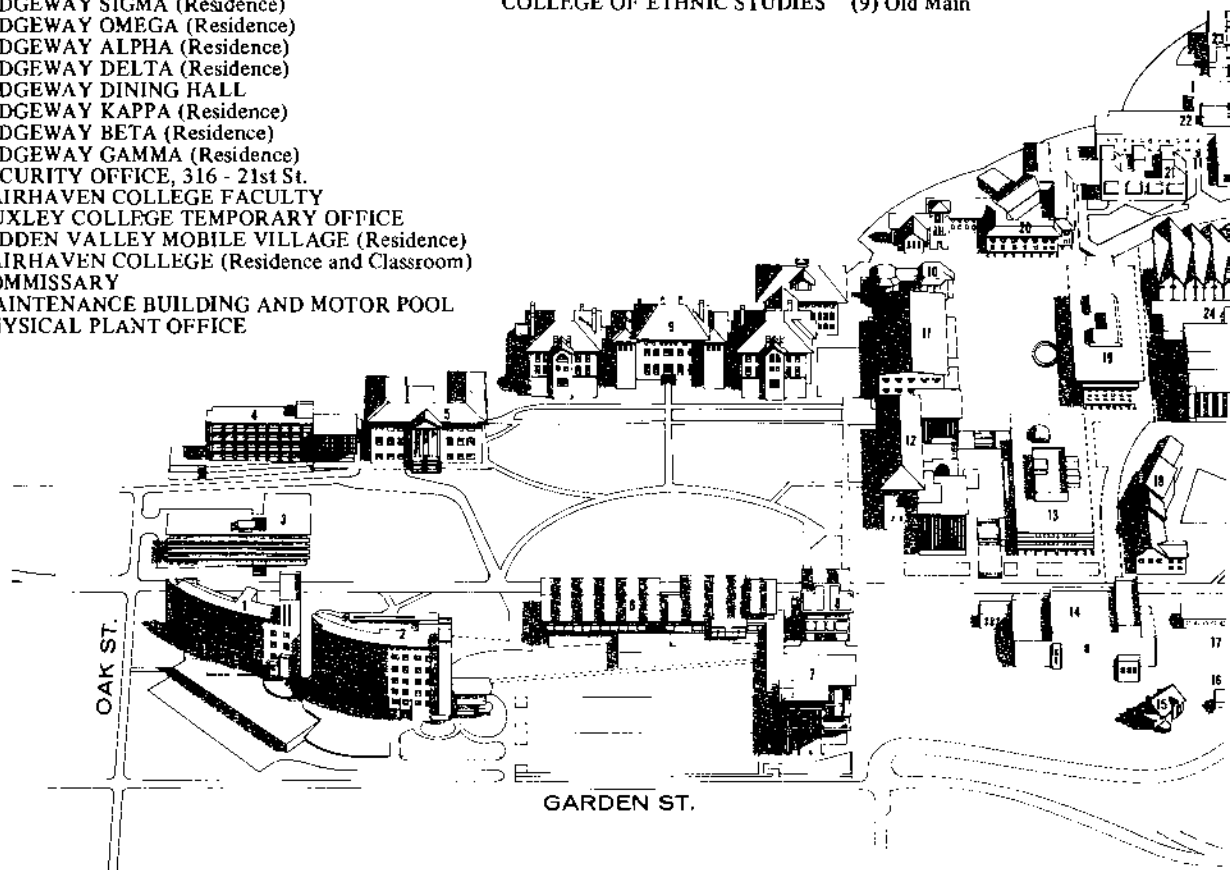
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## MAP KEY

1. NASH HALL (Residence)
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3. HIGGINSON HALL (Residence)
4. EDENS ANNEX
5. EDENS HALL NORTH
6. VIKING COMMONS
7. VIKING UNION
8. BOOKSTORE
9. OLD MAIN
10. LECTURE HALLS
11. HUMANITIES BUILDING
12. WILSON LIBRARY
13. HAGGARD HALL
14. AUDITORIUM-MUSIC BUILDING
15. PRESIDENT'S HOUSE
16. STUDENT RESIDENCE
17. HIGH STREET HALL
18. COLLEGE HALL
19. BOND HALL
20. MILLER HALL
21. ARTS BUILDING
22. ART-INDUSTRIAL ART, GALLERIES
23. HEATING PLANT
24. CARVER GYMNASIUM
25. STEARNS HOUSE
26. HIGHLAND HALL (Residence)
27. RIDGEWAY SIGMA (Residence)
28. RIDGEWAY OMEGA (Residence)
29. RIDGEWAY ALPHA (Residence)
30. RIDGEWAY DELTA (Residence)
31. RIDGEWAY DINING HALL
32. RIDGEWAY KAPPA (Residence)
33. RIDGEWAY BETA (Residence)
34. RIDGEWAY GAMMA (Residence)
35. SECURITY OFFICE, 316 - 21st St.
36. FAIRHAVEN COLLEGE FACULTY
37. HUXLEY COLLEGE TEMPORARY OFFICE
38. HIDDEN VALLEY MOBILE VILLAGE (Residence)
39. FAIRHAVEN COLLEGE (Residence and Classroom)
40. COMMISSARY
41. MAINTENANCE BUILDING AND MOTOR POOL
42. PHYSICAL PLANT OFFICE

## DEPARTMENTS

- ART (25-26) Art-Industrial Art  
 BIOLOGY (13) Haggard Hall  
 CHEMISTRY (13) Haggard Hall  
 CONTINUING STUDIES (22) College Hall  
 ECONOMICS AND BUSINESS (9) Old Main  
 EDUCATION (24) Miller Hall  
 ENGLISH (11) Humanities Building  
 FOREIGN LANGUAGES (11) Humanities Building  
 GENERAL STUDIES (24) Miller Hall  
 GEOGRAPHY (9) Old Main  
 GEOLOGY (13) Haggard Hall  
 HISTORY (11) Humanities Building  
 HOME ECONOMICS (9) Old Main  
 LIBRARY SCIENCE (12) Wilson Library  
 MATHEMATICS (23) Bond Hall  
 MUSIC (14) Auditorium-Music Building  
 PHILOSOPHY (11) Humanities Building  
 PHYSICAL EDUCATION, HEALTH EDUCATION AND RECREATION (28) Carver Gym  
 PHYSICS (23) Bond Hall  
 POLITICAL SCIENCE (17) High Street Hall  
 PSYCHOLOGY (24) Miller Hall  
 SOCIOLOGY/ANTHROPOLOGY (9) Old Main  
 SPEECH (22) College Hall  
 TECHNOLOGY (26) Industrial Arts
- COLLEGE OF ETHNIC STUDIES (9) Old Main



INTERSTATE 5  
NAM WOOD RESIDENCE HALLS

TAYLOR AVE.  
26th ST.

25th ST.  
COLLEGE PARKWAY

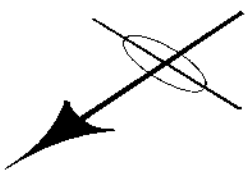
COLLEGE WAY

SOUTH COLLEGE DRIVE

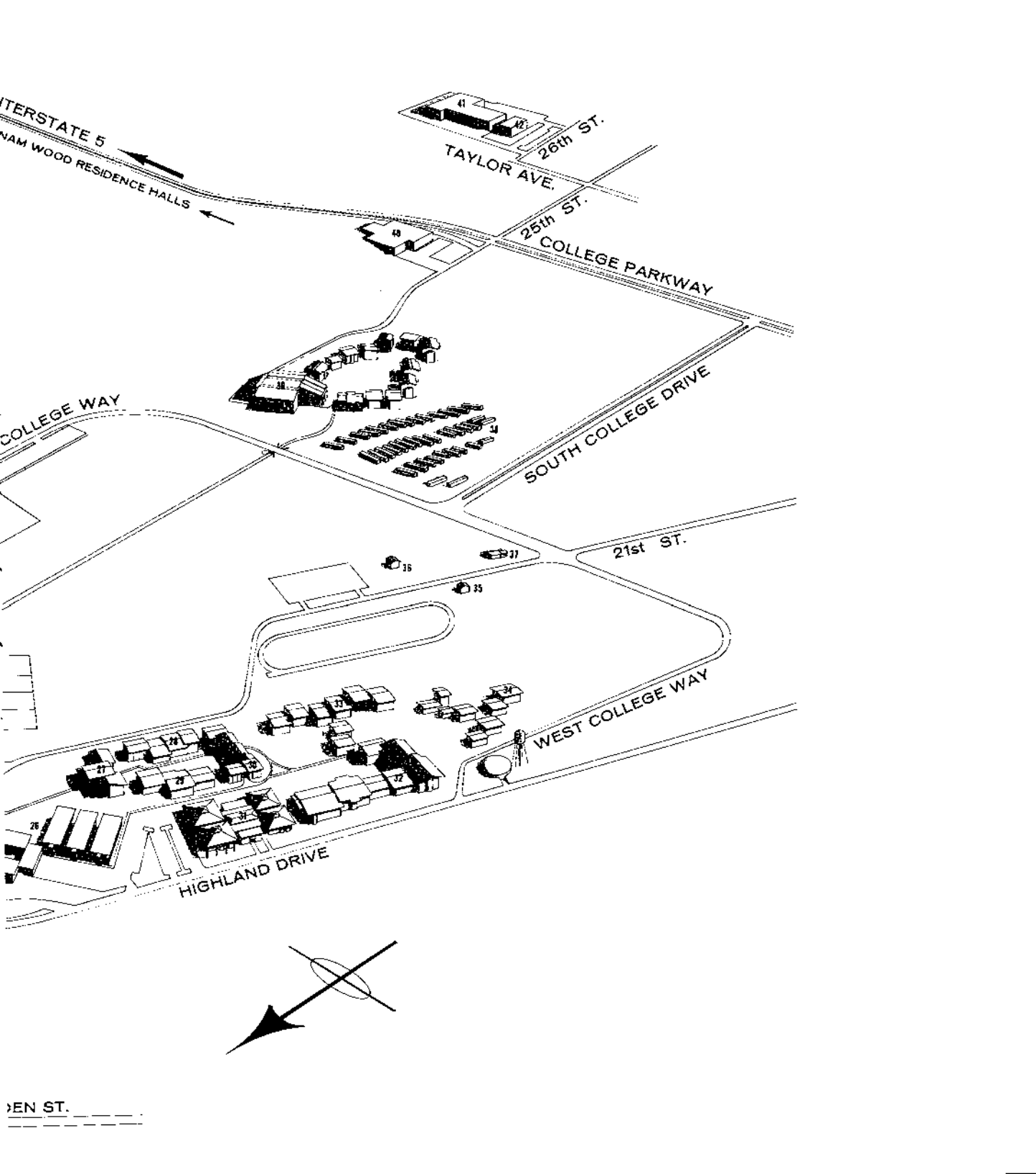
21st ST.

WEST COLLEGE WAY

HIGHLAND DRIVE



EN ST.



# 1970 -1971 COLLEGE CALENDAR

## 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			

## DECEMBER

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27	28	29	30	31		

## OCTOBER

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## JANUARY

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31						

## NOVEMBER

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29	30					

## FEBRUARY

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14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

### *Fall Quarter, 1970*

August 1

Last day to apply for admission

September 27, 7:30 p.m.

Convocation for New Freshmen

September 29

Registration of returning students

September 30, 8:00 a.m.

Classes begin

November 11

Veteran's Day Holiday

November 25, noon–November 30,

8:00 a.m.

Thanksgiving Recess

December 14-18

Final Examinations

### *Winter Quarter 1971*

January 4

Registration

January 5, 8:00 a.m.

Classes begin

February 15

Washington's Birthday Holiday\*

March 15-19

Final Examinations

*Spring Quarter, 1971*

March 29  
Registration

March 30, 8:00 a.m.  
Classes begin

May 31  
Memorial Day Holiday

June 4-10  
Final Examinations

June 11  
Commencement

MARCH						
S	M	T	W	T	F	S
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14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

JUNE						
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13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

*Summer Quarter, 1971*

June 21-July 30  
Six-Week Session

June 21-August 20  
Nine-Week Session

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	

JULY						
S	M	T	W	T	F	S
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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

*Fall Quarter, 1971*

September 27  
Quarter Opens

MAY						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
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23	24	25	26	27	28	29
30	31					

AUGUST						
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22	23	24	25	26	27	28
29	30	31				

\*By new State law effective 1971





# THE COLLEGE

Western Washington State College is one of four state colleges which, along with the two universities and a score of community colleges, comprise the state supported higher educational system in Washington. These institutions have individual governing boards but work together through voluntary associations and committees to coordinate their planning and efforts to provide adequate higher education for the rapidly growing college population of the State.

Western Washington State College is located in Bellingham, a city of 40,000 in the northwestern corner of the State near the Canadian border. Its historical antecedent was the State Normal School established by act of the legislature in 1893, with actual operations commencing in the fall of 1899. From a normal school, the institution evolved to a degree granting institution in 1933, the College of Education in 1937, and to the State College in 1961.

The College is a multipurpose institution offering degree programs in the arts and the sciences and professional education for teachers at both the undergraduate and graduate levels. The College recently received authorization from the Legislature to initiate study programs for the Ph. D. Degree in Education in 1971.

Preprofessional studies are available for transfer to universities and professional schools.

## *Accreditation*

The College is fully accredited by the Northwest Association of Secondary and Higher Schools and by the

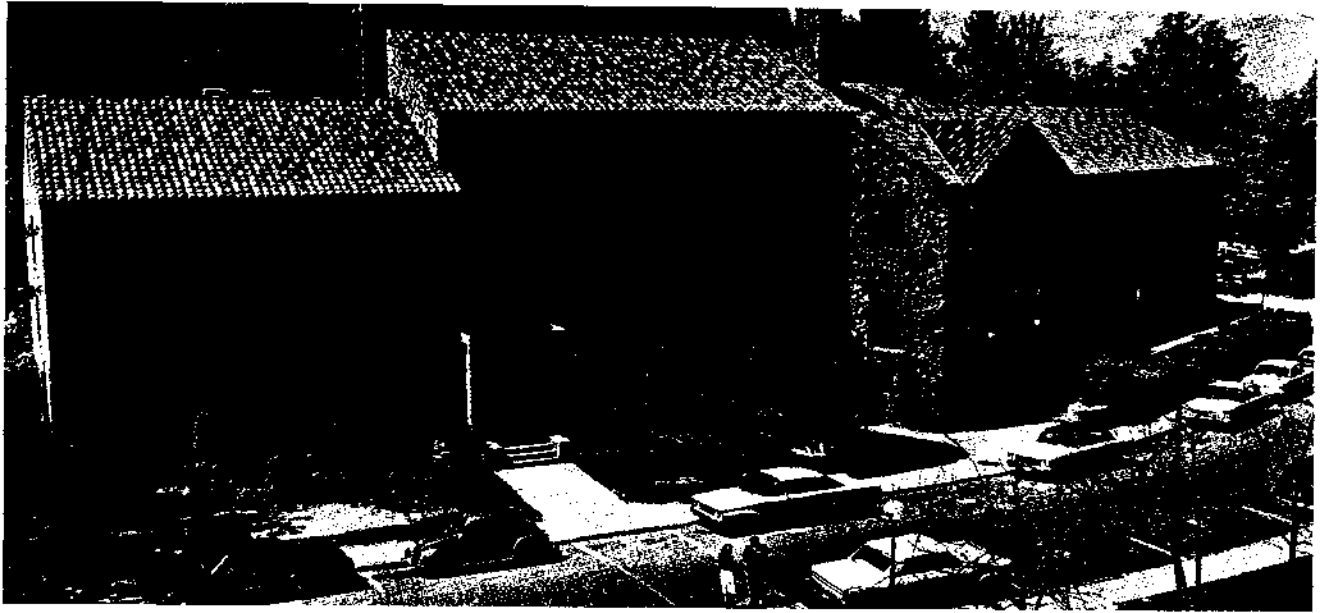
National Council for the Accreditation of Teacher Education to offer work at the bachelor's and master's degree levels. The College holds membership in the Council of Graduate Schools in the United States.

## **POLICY OF NONDISCRIMINATION**

It has never been the policy of Western Washington State College to discriminate in any way among persons because of race, color, or national origin. The College has given assurance to the Federal Government of compliance with Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which provides that "no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any programs or activity receiving Federal financial assistance."

## **OBJECTIVES**

Western Washington State College strives to provide its students with the opportunity and the incentive for gaining a higher education which will develop their intellectual powers, enlarge their understanding and appreciation of man's heritage, and stimulate their abilities to create and to share ideas. This spirit of inquiry is appropriate to the development of citizens in a free society. It provides a sound basis for any vocational pursuit, and should continue long beyond the termination of formal college study.



The College provides a broad general education, studies in depth to develop scholarly competence, and professional education for those who are preparing to teach in the public schools. Graduate studies leading to advanced degrees in education and in a variety of fields of the arts and sciences are offered for students who wish to extend their education to greater depth. Those who plan to transfer to professional schools at the universities find appropriate programs within the arts and science offerings of departments.

Western Washington State College is a community of scholars. Students work with members of the faculty in the search for truth, wisdom, and beauty.

The College recognizes its responsibility to extend man's knowledge through the active participation of faculty and students in research, and to contribute to the advancement of the humanities, the sciences, and the arts through creative endeavor. Its intellectual resources are made available as a service to the community—local, state, national.

#### *Aims of the General Education Program*

(a) To broaden and intensify the student's understanding of significant aspects of man's cultural heritage;

(b) To introduce the student to the methods and tools of thought and expression;

(c) To assist the student in integrating his knowledge;

(d) To assist the student in developing his powers of aesthetic enjoyment and creativity;

(e) To stimulate the student in formulating a philosophy of life based upon knowledge and reflection.

#### *Aims of Studies in Depth*

Subject matter specialization, an essential part of all degree programs offered at the College, is designed

(a) To educate students in the methods and tools of thought, expression, and research in a particular discipline;

(b) To provide a depth of subject matter appropriate for careers in teaching, in business and industry, and in government service;

(c) To develop a sound basis for pursuing further and more advanced study in a specialized field in graduate or professional schools.

### *Aims of the Professional Programs for Teachers*

- (a) To develop an understanding of the functions of the school in society;
- (b) To promote an interest on the part of the student in developing his own philosophy of education;
- (c) To develop an awareness of individual differences in the process of growth and learning in children;
- (d) To provide opportunity for the development of skill in planning and implementing instruction;
- (e) To stimulate critical thinking about the instructional process and a willingness to pursue innovation;
- (f) To promote the ability to work cooperatively with children, colleagues, parents, and others in the community.

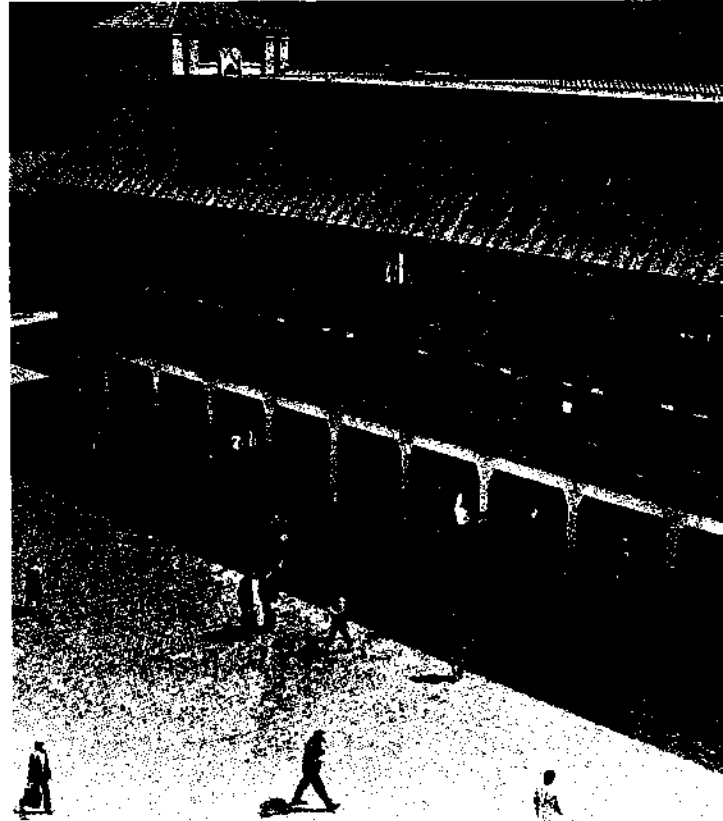
### **THE CAMPUS**

Over the past decade the campus has been the scene of continuous growth and development to meet the changing demands and functions of a rapidly growing institution of higher education. To meet the needs of student enrollment, the college campus environment has seen the construction of more than half of the major academic buildings during this period. The college community is housed in 37 buildings, which include 90 classrooms and 69 teaching laboratories. Recent additions include the development of the Square area, which includes Bond Hall, housing the Departments of Physics, Mathematics, and the Computer Center, as well as Miller Hall, where the Education and Psychology Departments are located. This past year has seen the completion of Fairhaven College, a separate and distinct academic and residential unit. Housing in the campus vicinity has been purchased and utilized as temporary quarters for expanding departments.

Modernizing of existing facilities continues at an expanding rate to better utilize present structures. Additions are in the planning stages for the Mabel Zoe Wilson Library, Old Main, the Music Auditorium, and

Carver Gymnasium. In the planning stages are the Northwest Environmental Studies Center and a Social Sciences Building, and at Shannon Point, Anacortes, a Marine Laboratory on a saltwater site. Additional academic buildings are also being planned for anticipated construction in 1971-74.

Student facilities, dormitories, and dining halls are being expanded. This past year has seen the completion of an addition to the Student Union, creating much needed dining space, a shopping mall, an art gallery, and additional student activity area. Western is an institution that does not remain static; built as any living organism, it changes with the demands made upon it to achieve its purpose and goals.



## THE LIBRARY

The Mabel Zoe Wilson Library is the information center of the College. At present it houses 235,000 volumes and microforms; with the more than 100,000 additional holdings in federal and state documents, special collections of pamphlets and catalogs, education-curriculum materials, maps, and the 3,000 current periodical subscriptions, the total collection numbers more than 330,000. It provides reading and study areas, carrels, and seminar rooms easily accessible to open stacks. There are Reference, Periodical, and Reserve Book rooms, and Education-Curriculum Research Center, and a room for the collection and viewing of microfilm materials.

Construction on an addition to more than triple the present facility is under way. In addition to enlarging the areas named above, it will include a general reading room, a small auditorium, and expanded reader service areas.

## RESEARCH

Faculty research and the training of students in scientific and scholarly methods and techniques have received considerable impetus through recent foundation and government grants. In addition to an Institutional Grant for Science awarded the College by the National Science Foundation for the purpose of assisting young scientists who are just beginning their research careers, awards have been made by a wide range of institutions and agencies. Among them are the Atomic Energy Commission, the Office of Economic Opportunity, the Ford Foundation, the Rockefeller Foundation, The ESSO Foundation, the Department of the Interior, the Department of Commerce and Economic Development of the state of Washington and the city of Bellingham. During 1966 and 1967 the Departments of English, Mathematics and General Science received awards through the Department of Health, Education and Welfare, under the Higher Education Act of 1965, for the training of fellows in these fields. Additionally, the college was awarded supplemental funds under this Act for increasing library holdings in research materials and readings in those disciplines which have recently begun master's programs. The Bureau for Faculty Research has been established to encourage and coordinate faculty research

in all departments. The Dean for Research and Grants, who directs this Bureau, obtains funds for curricular development programs and for research, and administers these programs.

A manuscript typing service is maintained by the Bureau to aid in the preparation of articles and books by faculty members; and some assistance is available for publication and reprint costs. A staff artist is available for preparation of illustrations, charts and graphs, and a research assistant is on call for library research incident to publication.

The Computer Center maintains an IBM 360/40 computer with large-scale disk facilities and telecommunications capability. Equipment serves faculty, student, and administrative needs; staff consulting services are available. Grants from the National Science Foundation were received in 1962 and again in 1968 to aid the College in providing computing services.

With the aid of a grant from the National Science Foundation, the College purchased a neutron generator, and research is going forward apace. A Carbon 14 laboratory is in operation, dating materials on an interdisciplinary basis for the departments of Geology, Biology, Chemistry, and Sociology/Anthropology.





# THE STUDENT

## ADMISSION

The College makes every effort to provide an opportunity for higher education to all qualified applicants. Candidates are accepted, on the basis of criteria described below, as applications are received. Should enrollment capacity be reached at any time before the application deadlines, the College may be forced to defer admissions until a later term or to select from among remaining applicants those students most likely to succeed at Western.

### *Time of Application*

Applications and credentials for the Fall Quarter are accepted after December 1 and not later than August 1; application by April 1 is desirable. Completed applications must be on file by December 1 for Winter Quarter, March 1 for Spring Quarter, and June 1 for Summer Session.

Students may apply for admission while still enrolled in high school or other colleges. An offer of admission made on the basis of incomplete records is granted with

the understanding that the student will later furnish completed records which indicate that he has satisfied all admission requirements as set forth below.

### *Confirming Application*

Each undergraduate student who is admitted will be asked to confirm his intention to enroll by submitting a nonrefundable payment on tuition and fees. This payment should not be made until requested by the College when notification of admission is sent. Additional procedural instructions are then sent to those students who confirm their intention to enroll by submitting the advanced payment. This payment is not required of graduate students.

### *Health Examination*

A health examination is required of all entering students prior to registration. Necessary forms are sent to each student who accepts an offer of admission. The form must be completed and returned to the College by a licensed physician. The report is to be based on an examination made within 90 days of enrollment.

The protection of immunization is strongly urged. A requirement of immunization at student expense may be instituted at the discretion of the Health Service.

### *Required Entrance Examinations*

The Washington Pre-College Test is required of all entering freshmen and it should be completed by all interested students during the junior year of high school when it is given throughout the State of Washington. Nonresidents of Washington and others unable to take the test while still enrolled in high school will do so during orientation.

*Nonresident* candidates for freshman admission must also take the Scholastic Aptitude Test of the College Entrance Examination Board. The results of this test must be received by the Admissions Office before the candidate's eligibility for admission can be determined.

All undergraduate transfer students must also present results on the Washington Pre-College Test or complete an alternate examination during orientation.

### *Admission of Freshmen*

*Graduates of Washington State high schools* are ordinarily admitted if their high school records indicate: (a) a cumulative grade average of at least 2.50; or (b) rank in the upper half of the graduating class. Students who fail to satisfy either of these criteria may seek additional consideration from the Admissions Committee by submitting such additional evidence as requested by the Director of Admissions. If space permits, the College may grant admission to a limited number of students who, in spite of inability to satisfy the normal standards, appear to have the ability and maturity to succeed in an academic program.

*Graduates of high schools in other states* are ordinarily admitted if they meet the minimum achievement standards for resident students described above, provided they also submit satisfactory scores on the Scholastic Aptitude Test of the College Entrance Examination Board. The results of this test (normally taken in December of the senior year in high school) should be sent directly to the Admissions Office by the C.E.E.B.

*Non-graduates of high school* may be considered for admission if they are over 21 years of age. Such persons must contact the Director of Admissions for an interview and will normally be expected to complete appropriate examinations, such as the GED or SAT. Experience in other than formal educational institutions is also considered.

*The application for Admission to Washington Higher Institutions* is required of all freshman candidates. It may be obtained from any Washington high school or college, or from the Admissions Office. Precise instructions for application are included on the form.



## *Admission of Transfer Students*

The College grants advanced standing for college-level work (except sectarian religious study) completed at other accredited institutions. Students contemplating transfer are urged to study carefully the academic program of their interest in the succeeding sections of this catalog in order to plan carefully for appropriate course selection. Guides to parallel courses or appropriate substitutions have been supplied to advisement officers at the community colleges in Washington.

Transfer credit is accepted within the limits of an institution's accreditation. College level credits earned at a junior-community college are acceptable until a student has earned 96 quarter hours, including any four-year college credits earned prior to or during the period of junior college attendance. (Rare exceptions to this limitation may be made upon petition to the Admissions Committee. Such petitions are to be filed with the Registrar after enrollment.) Transfer students should note degree requirements and recognize that such requirements, including minimum residence, must be met in order to obtain a degree, regardless of the amount of previous credit accepted at this College.

A transfer student who is in good standing at the last institution attended is ordinarily admitted if he: (a) satisfies requirements for freshman admission (above) and has attained a cumulative grade average of 2.00 (C) in college level study; or (b) does not satisfy freshman admission requirements but has achieved a cumulative grade average of 2.00 based upon at least 40 transferable credits, or 2.50 on at least 25 transferable credits. The grade average used for admissions purposes is struck by counting all grades earned in transferable courses.

Exceptions to these standards are made only when extenuating circumstances are the cause of low academic achievement, and when evidence of academic aptitude can be furnished. A personal interview may be required.

The *Application for Admission With Advanced Standing* is available from any Washington community college or from the Admissions Office. Candidates for admission as transfer students must submit this form in advance of the deadlines published above, under *Time of*

*Application*, and must also request that an official transcript be forwarded directly to the Admissions Office by each higher institution they have attended. A high school transcript is also required of candidates who have earned fewer than 40 transferable credits.

## *Admission to Cluster Colleges*

Fairhaven College, Huxley College, and the College of Ethnic Studies are divisions of Western Washington State College. Each selects from among admission candidates on an individual basis. Interested students should consult the Cluster College section of this catalog or the individual college bulletins for information regarding admission.

## *Admission of Foreign Students*

Canadian students who qualify for admission to major universities in their home province are considered for admission under the same general procedures as are citizens of the United States.

A limited number of students are accepted from other countries. Such students, to be eligible, must have completed the university preparatory program in their own country and give evidence of ability to succeed in college study. They must also demonstrate competence in the use of the English language and be able to pay the cost of each year they plan to study at the College. Letters from sponsors, family members or banking officials are required in order to demonstrate that sufficient finances are available and the Test of English as a Foreign Language (TOEFL) is normally required of candidates from countries in which English is not the language in general use.

## *Admission of Graduate Students*

For admission to graduate standing as a candidate for a master's degree, see *Graduate Bulletin*. Candidates for fifth year study for a standard teaching certificate or for teacher certification through special programs for graduate students, will make application through the Office of Teacher Education Advisement and Certification.





### *Special Students and Auditors*

A limited number of persons who have not been admitted to the College as degree candidates may be allowed to enroll as special students or auditors. Permission for such enrollment must be obtained from the Director of Admissions in advance of the application deadlines. Ordinarily, permission to enroll as a special student or auditor will be granted only to persons who satisfy normal admission requirements, but who do not plan programs leading to a degree. Only the Admissions Committee may authorize enrollment of persons who do not meet normal requirements.

Permission to enroll as a special student or auditor is granted for one term at a time; continued enrollment requires a new application. Permission to enroll as a special student or auditor implies no commitment, on the part of the College, regarding later admission to a degree program.

### **READMISSION**

All students who leave the College for one or more quarters (except summer quarter) must apply for readmission well in advance of the expected date of re-enrollment. Application forms are available upon request from the Office of the Registrar.

Acceptance of transfer credit earned subsequent to the student's initial admission to Western Washington State College is governed by regulations applicable to transfer students as outlined above.

### **MUTUAL RESPONSIBILITY AGREEMENT**

The acceptance of a student for admittance and enrollment at Western Washington State College constitutes an agreement of mutual responsibility. The student's part of this agreement is to accept established College rules and policies, to respect the laws of the city and the state, and to act in a responsible, mature manner appropriate to these laws, rules, and policies. The College's part is to fulfill its obligation for an appropriate atmosphere which will provide participation and representation for students in those matters with which they are directly concerned. The College recognizes that the majority of students accept and fulfill their part of

the agreement. Disciplinary action on the part of the College must be taken when it has been established that a student has violated this agreement.

## REGISTRATION

The first day of each quarter is normally reserved to complete registration procedures. A special schedule for advisement and program planning is provided in the fall for entering students.

### *Registration During the College Year*

During the fall, winter, and spring quarters, students in attendance are given the opportunity to register for the following quarter. This customarily begins about mid-term. After registration, the student will be mailed a statement for the amount of his fees and tuition; payment must be received at a specified date prior to the opening of the quarter.

Reservations of class sections are held until the first day of classes, but are subject to cancellation if registration is not completed and Admit to Class cards are not presented to instructors at the first meeting of the class.

See *Academic Regulations* for rules pertaining to changes of registration and withdrawals.

### *Late Registration*

Students may not enter or register for classes after the first week of instruction. Students registering or paying late, or failing to meet a registration appointment at the scheduled time pay a penalty fee of \$10.

## FINANCES

### *Tuition and Fees*

Checks and money orders for fees or for living expenses should be made payable to Western Washington State College.

### *Quarterly Charges – Full-time Students*

(Students registering for seven or more credits pay full fees)

*Resident of the State of Washington . . . . .	\$ 120.00
Non-Resident of Washington . . . . .	240.00

These charges include a tuition fee of \$24 for residents and \$95 for non-residents.

Funds derived from the other fees, \$96 and \$145 respectively, are used to finance certain non-instructional aspects of the College program, including (a) student activities, such as athletics and publications, not to exceed \$14 per student; (b) a student health program; (c) bond redemption for student residences and the Union Building; (d) the student bookstore building; (e) the purchase of designated supplies and laboratory materials.

\*Students who have been domiciled in the state of Washington at least one year immediately prior to the date of their registration are classified as residents for tuition purposes. Also included are children and spouses of federal employees residing within the state and children and spouses of staff members of the College. The domicile of a minor is ordinarily that of his father or legal guardian.





### *Quarterly Charges—Part-Time Students*

(Students enrolling for a maximum of six credits)

For each credit \$15.00\*  
 (The minimum fee is \$30\*)

#### *Auditors (without credit)*

One or more courses, per quarter \$30.00\*

Full time students may audit a course without an additional fee; part time students may audit courses by paying the auditor's fee additionally.

\*As the catalog went to press, these fees were \$12 and \$24 respectively. A change to \$15 and \$30 as listed above is anticipated by Fall 1970.

### *Continuing Studies*

Courses taken by extension or in home study, per credit \$15.00\*

### *Miscellaneous Service Charges*

#### *Parking (per quarter)*

On campus parking	\$ 18.00
Peripheral parking	8.00
Motorcycle parking	1.50

*Late Registration* A fee of \$10 is charged if a student fails to (a) advance register, (b) register after the appointed time, or (c) meet the payment deadline indicated on his fee billing notice.

**Test Service** A fee of \$7 is required of those who have not taken the entrance tests prior to enrollment.

**Special Examination Charge** Those who seek college credit through examination pay \$2 per credit.

**Graduation Fee** A fee of \$8 is payable for the receipt of any degree. This fee covers initial registration at the Placement Offices.

**Music Rentals** Pipe organ, other instrument, or practice space rental costs \$2 per quarter.

**Transcripts** A reasonable number of transcripts will be issued free of charge. Orders are requested one week in advance of need.

**\*Off Campus Study** (a) Matriculated students doing part-time or independent study entirely off campus (6 credits or less during a quarter) will not be required to register or pay fees (other than those charged for Continuing Study courses), but may receive credit for such study in a subsequent fall quarter. (b) Students who pursue off campus work and/or travel study with departmental or college approval involving 7 or more credits shall register for the quarter and pay appropriate fees. (c) College support for instructional cost of independent off campus study involving 7 or more credits per quarter shall not be available for recompensing cost of travel or living expenses off campus.

### **Refund Of Fees**

In ordinary circumstances, a student who withdraws prior to the sixth day of instruction in a quarter will receive a full refund of tuition and fees except that the initial registration deposit of new students is not refundable.

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

### **Change in Student Status**

Students who have paid part-time fees who add classes bringing their total to 7 or more credits will pay the balance between fees already paid and the full-time fee. A full-time student who drops classes so that his remaining total is 6 or fewer credits will receive a refund of (a) the difference between full and part-time fees if the change is made before the sixth day of instruction; (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.

### **Changes In Fees**

The College reserves the right to change the above charges moderately should conditions so require. The College will continue its policy of holding costs to a minimum commensurate with effective services.

### **Estimate Of Total Costs**

The total estimated expense for three quarters, including tuition and fees and cost of books and supplies as well as a moderate allowance for incidentals, is as follows:

	<i>Minimum</i>	<i>Average</i>
If rooming and boarding	\$1,600.00	\$1,800.00
If housekeeping	1,500.00	1,700.00
If living at home or working for room and board	700.00	900.00

### **FINANCIAL ASSISTANCE**

It is the position of the College that the limited funds available for student aid programs are most legitimately used, not as an inducement to attend this institution, but as an aid to assist needy students when their attendance seems to be an educationally sound course of action and when, for financial reasons, it would otherwise not be possible.

The College expects that every student will supply part of his own funds through savings from summer

employment and that parents will contribute in proportion to their financial ability.

The College will make every effort to provide financial assistance to eligible applicants commensurate with indicated need. This assistance may take the form of loan, work, scholarship, or grant, or a combination thereof, designed to best meet the needs of the individual student.

### *Federal Programs*

Federal financial aid programs are designed specifically to benefit students from low income families. A student must demonstrate financial need to qualify.

In the utilization of Federally funded programs, the College adheres to policies and guidelines established by the Department of Health, Education and Welfare. The Parents' Confidential Statement prepared by the College Scholarship Service is used in assessing financial need.

### *National Defense Student Loan (NDSL)*

To be considered for a National Defense Student Loan, a student must be enrolled full-time (12 quarter hours or more). The size of the loan granted will depend on the student's financial need and on the funds available. The College approves the loans and is responsible for collections. An agreement with the Federal Government requires an "exit interview" for all loan holders. It is the responsibility of the student to request such an interview with the Scholarship and Loan Accounting Office before he leaves the College.

### *Educational Opportunity Grants (EOG)*

Grants are available to a limited number of students who demonstrate exceptional need as established by the Parents' Confidential Statement. Grants are awarded as "gift aid" with repayment not required. The individual grants range from \$200 to \$800 and may not exceed more than one-half of the total assistance given the student. Grants must be matched with institutionally

administered loans, scholarships, or guaranteed employment. To be considered, a student must be enrolled on a full-time basis (12 quarter hours or more) and be making normal progress toward a degree.

### *College Work-Study Program (CWSP)*

Students, particularly those from low income families, who need a job to help pay for college expenses are potentially eligible for employment under the College Work-Study Program.

Part-time jobs are available both on and off campus. Earnings from these positions range from \$300 to \$800 for a school year.

Full-time summer positions are also available under the College Work-Study Program. To qualify for summer employment, the applicant must be enrolled at WWSC for the following academic year. Students working full-time during the summer are expected to save a substantial portion of their earnings to be applied toward meeting college expenses.

### *Institutional Scholarships*

Each year a number of scholarships are made available through gifts, grants, and bequests from alumni and friends of the College to the Western Washington State College Foundation. Scholarships are one-year awards from \$100 to \$300 and are made in two categories: Academic Scholarships and Special Ability Awards. Special Ability Awards are given to students who demonstrate outstanding performance in art, athletics, speech, drama, or music.

Note: To be eligible for either of these Institutional Scholarships, students must also be able to demonstrate financial need.

### *Application Procedure*

To be considered for financial aid, all appropriate application forms must be on file in the College Student Financial Aids Office by March 1. Applications should

cover the academic year, October 1—June 15, or any quarter thereof. A new, complete application is required for each academic year.

The application forms include a College Financial Aid Application and the Parents' Confidential Statement. The College application may be obtained by writing the Student Financial Aids Office. The Parents' Confidential Statement may be acquired from high school and community college counselors. Send the PCS directly to the College Scholarship Service in Berkeley, California. Return the College Financial Aid Application to the Student Financial Aids Office.

### *Other Financial Aid*

#### *Federally Insured Student Loan (FISL)*

All graduate and undergraduate students are eligible to borrow through this program, provided they are enrolled or have been accepted for enrollment at least half-time. Entering freshmen may also apply, contingent upon admission to WWSC.

Loans are made upon application *by the student* to participating banks or credit unions. Students may borrow up to \$1,500 per year, or a combined total of \$7,500 for all years, depending upon the amount of money available for such loans. Repayment does not begin until nine months after the borrower leaves school and may be deferred while the student is in graduate school, the Armed Forces, Vista, or the Peace Corps.

Application forms may be obtained from a participating bank or credit union or from the WWSC Financial Aids Office. This loan program differs from the National Defense Student Loan (NDSL) in that it is not administered by the College. Application for this loan is made by the student to the lending institution of his choice.

### *Part-Time Employment*

All students who are in good academic standing and carrying 12 quarter hours of credit are eligible to work on campus. There are job openings in many college departments and offices throughout the year. Employment is usually obtained through direct contact with these campus agencies.

### *Private Scholarships*

A limited number of private scholarships in specified areas of study are awarded to students. For specific information consult the Student Financial Aids Office. Entering freshmen are urged to explore scholarship opportunities from hometown organizations with the aid of their high school counselors.

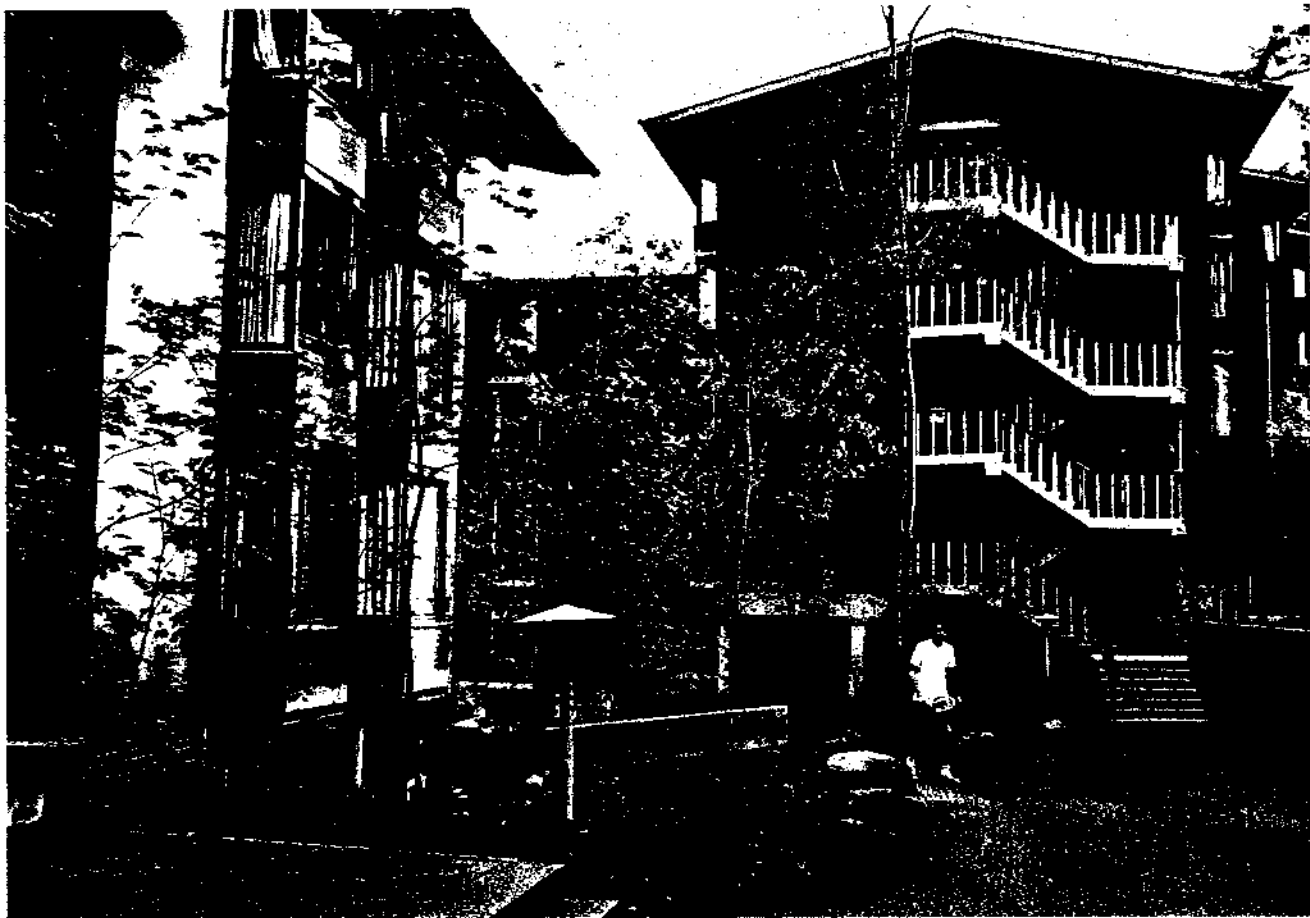
### *Departmental and Graduate Assistantships*

Each department has funds available for assistantships to qualified undergraduates. Recipients are awarded a quarterly stipend of \$262.50. For information and application, see department chairmen.

A limited number of graduate assistantships in departments of the College are available to qualified students. Stipends range from \$2,250 to \$2,700 yearly, depending upon the nature of the duties assigned. Upon re-application, a graduate assistantship may be extended to a total of two years. Graduate assistants may not be enrolled for more than 12 quarter hour credits but must be registered for at least one three credit course. Inquiries should be addressed to the Dean of the Graduate School.

Further information concerning financial aid may be obtained from:

Director, Student Financial Aids  
Western Washington State College



## STUDENT LIVING

The College considers group living an important phase in the total college experience and is therefore directly concerned in maintaining high standards in its housing accommodations. Residence halls for men and women, and a large number of inspected homes provide accommodations for students. Types of housing available include college operated housing (residence halls, single apartments and married student apartments) and off-campus housing.

Assignments to on-campus housing are made without reference to race, creed or color.

The College does not list off-campus housing accommodations unless the operators agree to the above non-discrimination clause.

### *Housing Regulations*

The College does not maintain regulations as to where students must live. However, they are encouraged to investigate housing accommodations thoroughly to assure themselves against conditions which would interfere with their academic and personal development.

### *College Residence Halls*

Rooms are furnished with a single bed, mattress and pad, desk, desk lamp, wardrobe or closet, pillow and sheets and a pillow case for each student. The occupant furnishes blankets, towels, alarm clocks and other personal necessities. Rooms are generally for double occupancy. Kitchenette and laundry facilities are provided in central areas. Electric open-element appliances

are not permitted in student rooms. A recreation room, a reception area, small area lounge, special study rooms, vending machines, and extra storage space for trunks are provided in each hall.

Three dining halls are located close to the residences. Students living in residence halls must also take their meals in the dining halls. All dining halls are coeducational and serve twenty-one meals per week.

*Reservations* for accommodations in the residence halls are made by sending a completed application to the Director of Housing, Western Washington State College, Bellingham, Washington 98225. *No deposit is required with the application.* Applications will be accepted only if the student meets one of the following conditions:

1. He has been admitted to the College as a new student and has prepaid the advance registration fee.
2. He is presently enrolled or has previously been enrolled at Western Washington State College.

Space in the residence halls is assigned according to the date of receipt of the application for room in a hall. The room assignment is made when the student moves in. Official assignments are made by June 1st for fall quarter and one month prior to the beginning of other quarters. Students making application and later deciding they do not want accommodations must cancel reservations by notifying the Director of Housing prior to acceptance of a residence hall assignment.

In accepting an assignment to a residence hall each assignee must agree to the Conditions of Occupancy and make a deposit of \$50. Deadlines for the payments are July 1st for fall quarter, or two weeks after the assignment is made. The \$50 deposit will be retained by the College as a damage and/or reservation deposit.

Once the payment of deposit is made, cancellation of a reservation cannot be made without penalty. Cancellations received after the payment is made, but prior to August 1st for fall quarter, December 1st for winter quarter, and February 15th for spring quarter will result in a forfeiture of \$20. Cancellations made between August 1st and September 15th for fall quarter, between

December 1st and December 20th for winter quarter or between February 15th and March 5th for spring quarter will result in a forfeiture of \$40. Cancellations made after the above stated deadlines will result in forfeiture of the entire \$50 deposit unless, due to unusual circumstances, a refund is granted by the Director of Housing.





Charges for damage or loss of residence hall property in the custody of the student or for damage to the hall premises will be billed to the student or withheld from any refund due him.

If a student is found ineligible for admission to the College, his entire deposit will be refunded.

Residence halls are closed during vacation periods.

### *Apartments for Single Students*

*Hidden Valley Village* is located on a three-acre site on the south end of the campus. The Village accommodates 42 mobile homes for 168 women students. All basic furniture and utilities are provided including telephone. Occupants may prepare their own meals or take them in the dining halls.

Each mobile home has a living room, kitchen-dining-study area, bathroom, two bedrooms, wall-to-wall carpeting and drapes.

*Birnam Wood* consists of 132 apartments for 532 students on a seven acre site at 2901 College Parkway. Each apartment has a living room, dining room, kitchen, two compartment bath, storage room and two bedrooms, furnished for four students with the usual furnishings, drapes and wall-to-wall carpeting. Utilities are provided as well as telephone service.

Assignments to the single apartments are made by date of application; preference is given to older students, those with advanced class standing, those who are presently living on campus and groups of four persons. A \$50 deposit is required from each student when assignments are made.

### *Married Student Housing*

Sehome Manor, three blocks from the College at 255 N. Forest, is leased by the College to provide housing for married students. Sixty-two apartments include 4

efficiency units, 45 one-bedroom, and 13 two-bedroom apartments, and a recreation room. All have wall-to-wall carpeting, drapes, ranges and refrigerators. Laundry facilities and parking are provided. A \$50 deposit is required when a student accepts an assignment. Written notice must be given 30 days prior to termination of occupancy.

## LIVING COSTS

*Residence Halls:* Room and board rate for multiple occupancy for students who live in the residence halls for the entire 1970-71 academic year is \$900.

Room and board is charged from the official date of the opening of the quarter.

*Single Apartments:* Rent per student is \$50 per month.

*Sehome Manor* rentals are:

Efficiency Units	\$ 70 - \$ 75
One-bedroom Apartments	\$ 90 - \$ 120
Two-bedroom Apartments	\$ 124 - \$ 145

### *Adjustments*

Since housing depends upon full occupancy, rent is not refundable for absences from the unit. Board charges are adjusted for students who are compelled to be away from Bellingham for five or more consecutive days due to extenuating circumstances.

### *Payments*

Room and board payments are assessed on a quarterly basis, but may be paid monthly according to the payment schedule issued to the students. Payments are due on the first day of each quarter or the day after the student checks into the residence. Monthly payments are due the first business day of each month. Room and board payments may be made by students at the residence hall where they reside or at the Housing Office.

### *Delinquent Accounts*

A fine of 10 per cent of the amount due (not to exceed \$5) will be assessed in the case of delinquent accounts. Permission for late payment may be granted by the Housing Office provided the request is made prior to the due date.

### *Off-Campus Housing*

A number of privately owned houses, apartments, rooms and duplexes are available for rent in the city. These facilities will accommodate single or married students, faculty and staff. The properties are listed as the owner describes them; the College assumes no responsibility for their condition or suitability.

Cost of rentals depends upon the number of bedrooms, location, facilities and furnishings provided.

A rental service is operated by the Associated Students in the Viking Union, Room 227. Lists are not published for mail distribution because of the constant change of availability. Since the office does not make individual rental agreements, it will be to the student's advantage to arrive in Bellingham prior to the beginning of the quarter to locate suitable housing. Available rentals are always in great demand.

### *For Information*

Further information concerning all types of housing, together with application forms, may be obtained from:

Director of Housing  
Western Washington State College  
Bellingham, Washington 98225

### *Health Services*

The Health Service assists students in maintaining the good health essential to college success and is charged with health protection for the College community. The Health Center has available the services of physicians on a part-time basis while school is in session. In addition, there are registered nurses and licensed practical nurses on the Health Center staff. The College physicians perform necessary minor medical, surgical, and

diagnostic treatment for students who have been screened by the Health Center nurses. It is expected that major surgical and major medical or diagnostic problems will be referred to physicians in the community or in the student's home town. The College maintains an Infirmary on the campus to accommodate for a limited time students with minor illnesses not requiring specialized hospitalization. The Infirmary is in operation twenty-four hours a day during the school year. This service is provided without cost for a maximum of five days in any one academic year. Thereafter, a per diem charge is made.

Students requiring a formal absence excuse for reasons of health must have the illness reported immediately and must report in person to the Health Center before resuming class attendance.

During the evening hours and on weekends and holidays, the College has a contractual agreement with one of the local hospitals. Emergency cases are to be referred to the Hospital Emergency Service during the above times.

In addition to the Health Services, the College sponsors a Health and Accident Insurance Plan available to students on an optional basis. This group policy with a national company provides broad coverage and liberal benefits for a modest premium. Students who do not already carry adequate health and accident insurance are urged to take advantage of this plan.

### *Parking and Traffic*

Parking currently available on campus is not adequate to cover the needs of the college community. To maintain existing parking and to create and maintain additional parking, it has been necessary to increase parking fees substantially this past year. It is recommended that vehicles not be brought to the campus unless absolutely necessary.

The administration of parking and traffic regulations is under the direct supervision of the Campus Security Officer. All students who utilize parking facilities on campus are required to purchase a parking permit and

register their car (or cars), motor bike, or motorcycle, at the time of official registration. Failure to do so may lead to disciplinary action.

No students who have less than 40 quarter hours of college or university credit or the equivalent shall possess or operate a motor vehicle on the college campus or in the city of Bellingham, except: married students, and students over 21, students living outside the college community who need the vehicle to commute to regular classes, students needing the vehicle for business or employment, students with health or disability problems.



## STUDENT PERSONNEL SERVICES

Each student is recognized as a unique individual with his own pattern of abilities, circumstances, and needs. Through a broad spectrum of programmed individual and group guidance, the College endeavors to assist students toward better self-understanding and maximum self-realization. The College does not consider that its responsibility to students ceases with the provision of good instruction and instructional facilities. There is a keen awareness that all aspects of the student's college experience relate to his development as an increasingly effective person.

The faculty as a whole, participating as it does in giving direction to the entire college program, determines the extent and complexion of Student Personnel Services. While special responsibilities are assigned to some, the entire faculty contributes a major share of these services.

### *Orientation*

New students are inducted into the academic and extra-curricular life of the College immediately prior to the opening of the fall quarter. In order to develop a thorough understanding of curricula, services, and facilities of the College, the program of individual and group conferences extends well into the student's first quarter.

### *Freshman Counseling*

During his first year each student is teamed with a member of the faculty. These faculty advisers assume special responsibility for assisting freshmen to meet

effectively the initial problems of adjusting to college, to develop an intelligent career plan, and to select the program of studies most appropriate to that plan.

The aim of all counseling at Western Washington State College is to develop in the student himself the capacity and skills necessary for self-guidance.

### *Academic Advisement*

As the student completes his freshman year, consisting largely of prescribed general education courses, he is

referred to the academic departments for continued personalized advisement in planning and selecting his courses of study. Faculty within each department share responsibility for counseling students electing concentrations in their area.

### *Student Personnel Offices*

*The Dean of Students* has responsibility for planning and coordinating the out-of-class program and the guidance services of the College, developing an effective relationship between all student personnel services, and administering the faculty counseling and advisement programs.

*The Dean of Men and Dean of Women* attend to the general welfare of the college community, counsel students, and cope with infractions of college regulations.

*The Registrar's Office* encompasses admissions, enrollment procedures, administration of academic regulations, and the maintenance of complete student records. The Registrar assumes a major role in the guidance of students.

*The Admissions Office* administers the admissions policies of the College as regulated by the faculty, corresponds with and counsels prospective students and assists in their enrollment.

*The Office of College Relations* maintains liaison with other colleges of the state and cooperates in developing programs of mutual interest as well as advising transfer students.

*The Financial Aids Office* administers awards and scholarships, loans, and student employment.

*The Student Activities Office* encourages sound student government and coordinates the extracurricular program.

*The Director of Residence Hall Programs* coordinates programs and other matters pertaining to these halls and their members.

*The Counseling Center* provides services to undergird the counseling and advisement carried out by the entire faculty. Students seeking special assistance in career planning or the solution of personal problems are encouraged to use the resources of this office.

*The Testing Center* has primary responsibility for psychological and achievement testing and the interpretation of test data.

*The Housing Office* coordinates the housing of students in college residences and assists other students in finding off-campus living quarters.

*The Placement Offices* assist graduates and prospective graduates in finding full-time positions appropriate to

their training and abilities. Placement service is also rendered to graduates who may register for promotion or change of position.

*The Health Service* provides consultation in cases of illness or accident and is available for guidance in all health matters.

### *Student Activities*

A total college experience encompasses much that occurs outside the classroom. The program of student activities at the College is planned and coordinated through the office of the Director of Student Activities to provide maximum opportunity for student participation in a wide range of genuinely profitable experiences. Student activities are in no sense incidental in the plans of the College; rather, they are an integral and highly important phase of the total range of experiences aimed at helping students become well-integrated, effective persons.

Student activities and organizations in large measure are administered by the students themselves with faculty advisement and within the framework of general college policy. The student handbook, *The Navigator*, outlines in detail the frame of reference within which student organizations and activities operate.

*The Viking Union* is the community center of the College. Offices for many student activities, including



the Associated Student Body, publications, and the activities staff are located in the Union. The Director of Student Activities and the Union-Facilities Committee administer the facilities and services. Meeting rooms, lounges, shops and work areas, together with the organization and program, represent a well-considered plan for the community life of the College.

*Living group organizations* provide an important opportunity for personal growth. The residence halls are organized for self-government and sponsor activities within their individual halls.

*Student groups* provide an educational and social experience not always available to students in the ordinary classroom situation. Within the stated educational objectives of the College, and under the guidance of the Director of Student Activities and faculty advisers, these

organizations sponsor programs and activities common to the interests of the membership.

Although a few student organizations are open only to students with a particular departmental affiliation or skill, most are open to any interested student. Students are encouraged to become involved in some aspect of the out-of-class activity program. A list of all student organizations and their purposes is published in *The Navigator*.

*Political activities* are open to all students through local chapter organizations of major parties. Although these groups do not represent an official action of the College, students are able to develop and further their own political ideas and to find expression for them in these groups.



*Religious activities and organization* are open to all students through interdenominational groups not directly a part of the College program. See *The Navigator* for a complete listing of these organizations.

*Intercollegiate Athletics* play an important part in the College's program. Students interested, either as spectators or participants, in intercollegiate sports can choose from football, basketball, baseball, track, cross country, swimming, tennis, golf, wrestling and crew. The College participates as a member of the Evergreen Conference.

*Intramurals* The comprehensive intramural schedule includes practically all group and individual sports. All students are encouraged to participate and reap the

benefits, not only of healthful recreation but also of increased physical skill.

*The Club Sports Program* of the Associated Students provides an opportunity for all members of the community to compete in intercollegiate soccer, rugby, sailing, and parachuting. The number of teams competing in each sport is determined by the number of people interested in participating. Persons interested in organizing intercollegiate competition in sports not yet enjoyed by members of the community are encouraged to do so within the Club Sports Program.

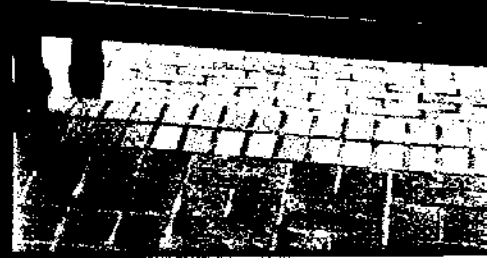
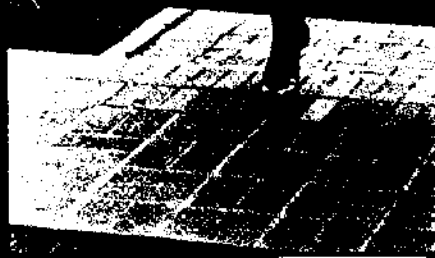
*The Outdoor Program* is an unorganized group of people involved in a variety of outdoor experiences. Activities include mountaineering, canoeing, ski-touring, hiking, kayaking, sailing, scuba diving, conservation, learning and enjoyment. It enables people of varying degrees of outdoor experience to come together for the mutual benefit and enjoyment of all concerned. The Outdoor Program Center is a focal point for Western outdoorsmen. People go there to find others with whom to enjoy the Pacific Northwest outdoors.

*Debate and drama* offer broad opportunities for the development of new interests and skills. Debate is a field in which the College has won considerable eminence. With the facilities of a regulation theater-size stage, students have an excellent opportunity for both acting and production.

*Music organizations* include band, orchestra, choir, various quartets, string ensembles, and other performance groups.

*Publications* include a news weekly, *The Western Front*, a college yearbook, the *Klipsun*, and certain minor publications.

*Recreational facilities* operated by the College, include Viqueen Lodge, a thirteen-acre tract on Sinclair Island owned by the Women's Recreation Association, and Lakewood, a nine-acre tract on Lake Whatcom owned by the Associated Students. Kulshan Cabin, a lodge at Mt. Baker, is owned jointly by the College and the Mt. Baker Club of Bellingham.



# ACADEMIC REGULATIONS

## MATHEMATICS DEFICIENCY

Proficiency in mathematics is expected of entering students. It is prerequisite to all college level mathematics courses. They must meet certain minimum requirements as measured by the Washington Pre-College Test. Those who enter with a deficiency are required to remove that deficiency prior to enrollment in a fourth college quarter.

Students failing to meet minimum mathematics standards on the Washington Pre-College Test may remove their deficiency by obtaining a satisfactory score on a re-test offered prior to fall quarter and at the close of each quarter. The Office of Continuing Studies offers a non-credit review course in mathematics for those who need additional preparation for a re-test.

Transfer students with credit in any college level mathematics course are considered to have satisfied this entrance requirement.

## CREDITS AND LOAD

The "quarter hour credit" represents one class hour per week throughout a term (quarter) of eleven or twelve weeks. Laboratory courses normally meet for additional hours. Courses generally carry credit ranging from one to five units or "hours" according to the number of class meetings per week. Sixteen credits on this basis constitute the work of a quarter, and forty-eight credits that of the regular academic year of three quarters.

*Correspondence and extension credit earned* through a fully accredited college or university may be accepted toward the bachelor's degree up to a maximum of one-fourth of the credits required. Students in residence may not register for these courses except by special permission from the Registrar.

*The standard load* for undergraduates is sixteen credit hours, including physical education. During the first quarter of residence, students are limited to this amount. Thereafter any program in excess of 17 credits must be approved by the Registrar.

To be permitted to carry an overload, a student must have met the following grade point standard during the previous quarter or in all previous work done in this institution:

18-hour load	2.8
19-hour load	3.0
20-hour load	3.2

The maximum allowable undergraduate load is twenty hours. A somewhat lesser load limit is in effect during the summer sessions.

A student doing extensive outside work is expected to reduce his scholastic program accordingly.

Class load regulations for master's degree students are detailed in the *Graduate Bulletin*.

*Full-time and part-time* status are determined by the number of credit hours which a student is taking.



*Full-time* status required for on-campus employment, eligibility for student offices, etc., is defined as enrollment in twelve or more quarter hours. However, veterans or students deferred by the Selective Service System are expected to carry loads adequate to constitute normal progress toward a degree. (Graduate students should consult the Dean of the Graduate School for a definition of "normal progress.") *Full-time* status in terms of fee payment is defined as enrollment for seven or more credits. *Part-time* students in terms of fee payment are those carrying not more than six credits in a given quarter. They pay a lesser fee but do not share in certain student body privileges.

*Auditors* are those mature persons desiring to attend classes without credit. Admission to a class as an auditor requires prior approval of the instructor as well as official registration. A fee of \$30 per quarter entitles a student to audit any number of courses. Regularly enrolled full-time students do not pay an additional fee for auditing.

*Class attendance* is required at the discretion of the instructor. Excuses may also be granted by the Health Service, the Registrar, or other authorized college personnel.

## GRADING AND GRADE REPORTING

*The system of grading* is as follows:

A	Superior	S	Satisfactory
B	High	P	Passing
C	Average	NP	Not Passing
D	Low Passing	K	Incomplete
F	Failure	U	Unsatisfactory
		W	Withdrawn

Credit is given in courses graded A, B, C, D, S and P. However, the grade of D represents poor work which is not acceptable in the major, minor, English composition, professional education and educational psychology courses required for a degree or certificate nor for Fifth Year courses. Work of D caliber is not acceptable as passing in the pass-fail grading system.

The grade of S is used in student teaching courses, and at the option of the department in course challenge examinations.

The grades of P and NP are used in "Pass-Fail" courses (see below). A course in which a student failed must be repeated if credit is desired.

A grade of F is assigned if a student fails to carry out the prescribed procedures when withdrawing from a course or from the College or if he fails to clear a grade of K in the prescribed time.

The grade of K indicates that work is satisfactory as far as completed. It permits the student after consultation with the Registrar to complete the work within a reasonable period in the way prescribed by the instructor. The grade of K is given only in cases of illness or other extenuating circumstances which make it impossible to complete all work by the close of the quarter.

If the student remains in college, the incomplete must be cleared during the quarter immediately following receipt of the grade; otherwise a grade of F is assigned automatically. In special circumstances, the Registrar may extend the period for removal of the incomplete. The privilege of clearing an incomplete lapses after five years whether or not the student is continuously enrolled.

*Grade reports* are mailed to all students at the close of each quarter to the address supplied by the student at the time of registration.

*Mid-term deficiency reports*, although not recorded, are sent directly to the student and his adviser in the event of unsatisfactory class work (evaluated at less than "C").

*Grade points*, serve as a means of objectively stating a given level of scholarship. A point value is assigned for each grade: A, 4 points; B, 3; C, 2; D, 1; F and U, 0. The number of grade points earned in each course is computed by multiplying the number of credits by the grade point value of the letter indicated. Thus, a 3 credit course with a grade of B is assigned 9 points. The grade point average is the result of dividing the total number of grade points by the total number of registered hours.

A grade average of 2.0 represents a letter standard of C. Grades of S, P, and NP, and the credit involved in such courses do not enter into the computation of grade point average.

For most purposes, e.g., application of scholastic standards, honors, admission to teacher education, student teaching, and graduation, the grade average takes into account only work completed at Western Washington State College.

*Students may repeat courses* in which a failing or low passing (D) grade has been received. When courses are repeated, the original grade and credit hours are ignored in computing grade averages and total credits. This regulation became effective in fall quarter 1969; it is not retroactive to courses repeated prior to that quarter.

If a transfer student, in order to progress in his major or minor, is required to enroll in a course that may be a repeat of work transferred, he will be allowed credit for both courses.

*Pass-Fail grading* is available on an optional basis to students.

(a) in courses taken to fulfill general education requirements;

(b) in electives not required for the major, minor or supporting courses, or undergraduate professional requirements.

Regulations pertaining to pass-fail courses are as follows:

1. The student at the time of registration must designate the courses for which he wishes to receive a pass-fail grade; he may change this designation by the regular change of registration procedure through the fifth day of instruction.
2. Prerequisites, work required, and credit allowed are not affected by election of the pass-fail option.
3. In computing grade averages, neither the P nor NP grade in pass-fail courses will be counted.
4. Courses applying to a major (including supporting courses) or minor normally must be taken on the

standard grade system. Should a student change his major or minor, the academic departments involved will be the sole judges of the acceptability of any pass-fail courses already completed in the newly chosen concentrations.

*Final examinations* are to be given during the last week of each quarter. As a matter of College policy, individual students are not permitted to take early final examinations. Failure to take the final examination in any course normally results in a grade of "F." When, for emergency reasons, a student is unable to appear at a final examination at the scheduled time, he may arrange in advance with the instructor to receive a grade of "K" (incomplete). This privilege is extended only to students whose achievement in the course is satisfactory. Removal of the "K" grade is to be achieved early in the following quarter.



## CHANGES IN REGISTRATION

Students may not enter new classes after the first week of instruction.

*Formal withdrawal from any course* must be made in the Registrar's office. Students leaving a class without formal withdrawal will receive a failing grade. Students may withdraw from a course during the first six weeks of instruction in any quarter with no penalty attached other than the loss of credit. After the sixth week of instruction withdrawal from a course will normally result in a grade of "F" (failure). Exceptions to this regulation may be made if such withdrawal is requested by the College, in cases of serious illness, or other highly extenuating circumstances.

*Formal withdrawal from the College* may be made at any time prior to the final two weeks of a quarter. Students who leave the College without official withdrawal will receive failing grades. After the sixth week of instruction withdrawal from the College will normally result in grades of "F" as provided above.

### *Military Withdrawal*

A student who has been called to extended active military duty and is required to withdraw from the college may be considered for credit as follows:

1. Withdrawal during the first third of the quarter - no credit; full refund.
2. Withdrawal during the second third of the quarter— one-half credit, to the nearest whole credit, if course work is satisfactory, without letter grade and with course unspecified; one-half refund. Applicability of such credit to meet requirements will be determined by the department concerned.
3. Withdrawal during the last third of the quarter full credit if course work is satisfactory with or without letter grade at the discretion of the instructor; courses specified.
4. A student required to withdraw during his final quarter before obtaining the baccalaureate degree may

be granted the degree if approved by the Academic Dean, his major department, and, if in Teacher Education, the Department of Education.

## LOW SCHOLARSHIP

*Enrollment is terminated* at the end of the third quarter of college attendance (including quarters at any other colleges) or any subsequent quarter

(a) if a student's cumulative grade average and his grade average for the quarter just completed both fall below 2.0;

(b) if a freshman student receives grades of NP in two courses amounting to at least 5 credits;

(c) if after the freshman year, a student receives NP grades in two courses in any one term.

Students whose enrollment is terminated may normally petition the Scholastic Standing Committee for reinstatement unless they are on final probation (see below).

In computing grade point average, only work taken at Western Washington State College (with the exception of courses in which grades of P, NP, or S are received) is taken into account.

*Warning is given* to students who are not dropped under the above regulations but who receive less than a 2.0 grade average during any given quarter, or to freshman students who receive an NP grade in either of their first two quarters; they are notified of the faculty's concern and encouraged to take advantage of all available assistance. Such warning becomes a matter of permanent record.

*Academic probation* is the status assigned to (1) a freshman who fails to achieve a grade average of 2.0 in each of his first two quarters (at the end of his first quarter he is sent a warning notice if his average is below 2.0 and he is required to consult his faculty sponsor during the first week of the ensuing quarter); (2) students other than first or second quarter freshmen when subject to scholastic warning for two consecutive quarters or when admitted or readmitted to the College by action of the Scholastic Standing Committee.



A student placed on *final probation* by the Scholastic Standing Committee must thereafter meet minimum scholarship standards and may not petition for reinstatement if he fails to do so.

*Certain restrictions govern students on academic probation.* They are not eligible for remunerative employment on campus; they may not hold an elective or appointive office in any student organization nor appear in any performance before the student body at any conference or as a member of any team or organization.

Probationary status is terminated when a cumulative grade point average of 2.0 has been attained. This applies also to those on final academic probation, except that in the event of subsequent failure to maintain this standard the student may not petition for reinstatement.

## ACADEMIC COMPLAINTS

It is the policy of the College that a student should be heard when he has what he considers a legitimate complaint about grades, a course, or instructional procedures. Often a frank discussion of his problem can clear up what may be a misunderstanding and improve the learning process in his case. The student normally discusses his complaint with the instructor concerned. Failing satisfaction at this level, he then takes it to the department chairman. Complaints related to grades will follow these steps to the extent necessary to achieve agreement:

1. The student appeals to the instructor presenting any relative evidence.
2. Appeal is made to the department arbiter, a faculty member appointed for the case at hand by the department chairman, who attempts reconciliation and reports his decision in writing to the instructor, the student, and the department chairman.
3. Either party may appeal the decision to a committee composed of the department chairman, one other faculty member in the department chosen by the instructor involved, and a third person chosen by the student involved. This third member may be a student who is a major in the department, or another faculty

member. This committee should review the evidence and if necessary, hold a hearing. The decision is reported in writing to the concerned parties.

Academic complaints not resolved by the departmental procedures outline above may in rare instances be referred to the Dean of Western for final decision.

## ADVANCED PLACEMENT AND COURSE CHALLENGE

A regularly enrolled full-time student may apply to challenge any college course (except physical education activities) and if achievement commensurate with the expectations of a given course is demonstrated, receive credit for the course. Such achievement may be demonstrated by:

*College Entrance Examination Board Advanced Placement Examinations* in certain subjects. (The department concerned will determine the minimum acceptable score.)

*One quarter of successful performance in an advanced course* in a sequence which is developmental in nature can, upon departmental recommendation, qualify the student for credit for 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 College Examiner by the fourth week of the quarter. A fee of \$2 per credit is charged. The time and procedure to be followed in completing the evaluative process will be announced by the Examiner.

2. The results of the challenge shall be recorded as "Satisfactory" or "Unsatisfactory" on the student's permanent record; the results will not be used in computing grade point averages.

3. The challenge application may 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 college;
- c. if the student has previously failed the course;
- d. if the student has previously challenged the course and failed;
- e. if, in the judgment of the College Examiner, in consultation with the department concerned, the challenge procedure is inappropriate.

## VETERANS

Each veteran enrolling at this College for the first time on the G. I. Bill must make application for education benefits with the Veterans Administration or transfer his authorization from the last college attended. This should be done well in advance of the quarter for which he wishes to attend, to insure that all allowances will be received on time.

All veterans should make certain that the objective they are planning to pursue is the one for which they are specifically 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.

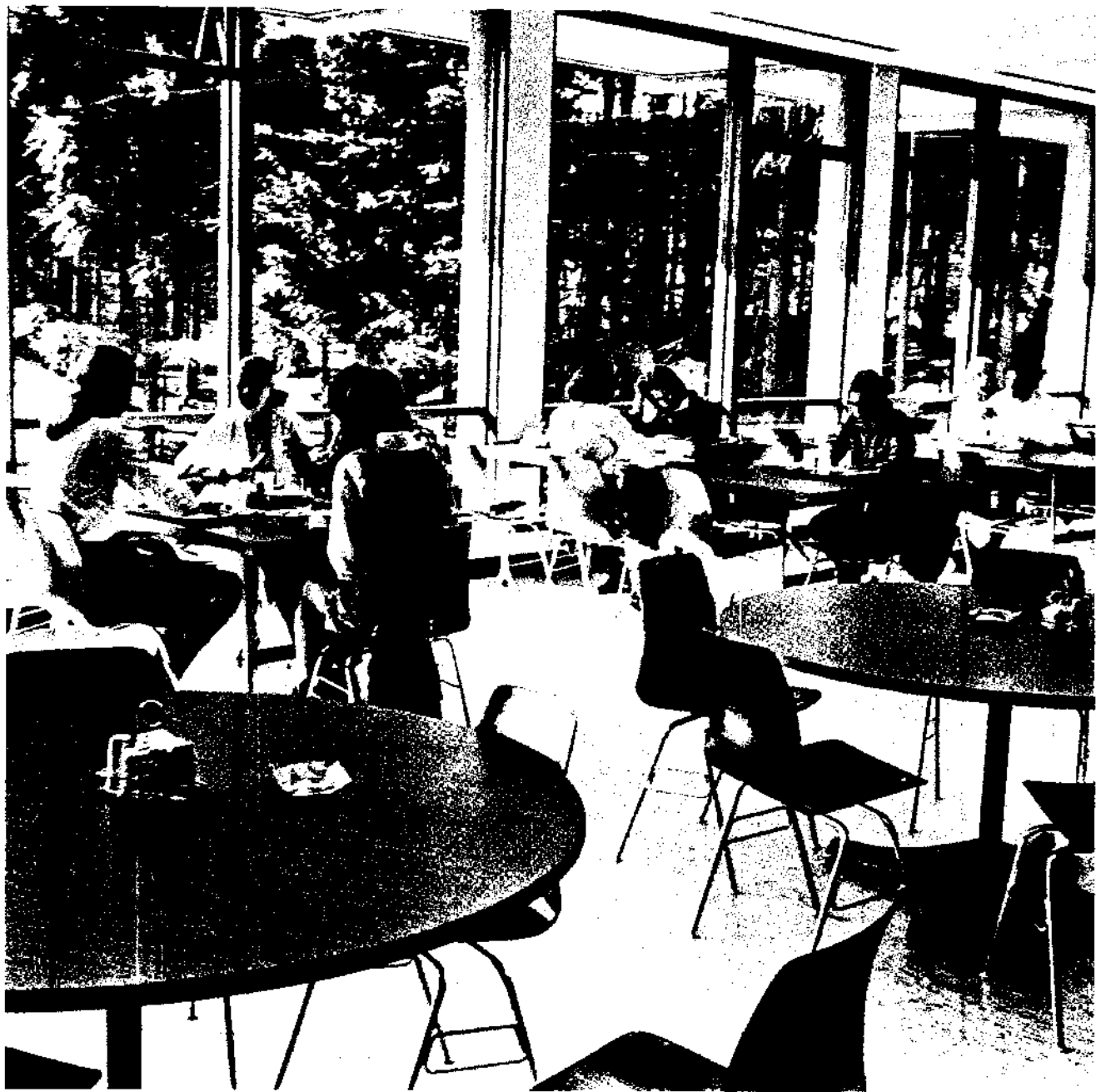
The veteran should be prepared to pay his own expenses for at least two months.

### *Military Credit*

Credit for military service to a maximum of 30 undergraduate quarter hours is allowed under the following conditions:

1. Credit for service schools attended as recommended by the American Council on Education publication—"A Guide to the Evaluation of Educational Experiences in the Armed Services."

2. Three credits in physical education for those who have completed six months of active duty.



# CLUSTER COLLEGES

The cluster college concept grew out of the pressures that accompany massive growth. With burgeoning enrollments, there has been concern that the intimacy in student-faculty relationships possible in a smaller institution would be lost in the struggle to provide educational opportunities for ever larger numbers of students. Western Washington State College is determined that students and faculty may continue to work together as a community of scholars and that the advantages of the smaller institution be preserved.

The first of the cluster colleges at Western was organized during the 1967-68 college year and began full scale operations in the fall of 1968. As new facilities were completed late in 1969, Fairhaven College moved into its permanent home as a residential college where a maximum of 600 students will live and work together as they pursue their goal of a liberal education in close association with a faculty dedicated to the same purpose.

The next two cluster colleges were organized along somewhat different lines, motivated more by common educational goals that have not well been served by traditional college departmental organization. They are not residential colleges. Huxley College is devoted to environmental studies with the attendant problems of

human ecology so significant in today's world. Courses are being offered by this college beginning in the fall quarter of 1970. The College of Ethnic Studies, also opening its doors to students in the fall of 1970, offers a program centering upon the political, religious, social and cultural experiences of Mexican-Americans, American Indians and Afro-Americans.

The three cluster colleges have the autonomy to develop their own distinctive programs and their own forms of instruction. At the same time, they constitute units of Western Washington State College, and students have access to the libraries, laboratories, and activities of the larger student body. In most instances, they will take a portion of their studies in Western classes, and those who graduate will receive their degree from Western Washington State College.

All students in Western Washington State College, including its cluster colleges, are matriculants of the institution. However, a student may only be a matriculant of one cluster college. Any student may, of course, seek admission to any other division of Western.

# COLLEGE OF ETHNIC STUDIES

The College of Ethnic Studies (CES) was established by the Board of Trustees of Western Washington State College on October 9, 1969, with two major goals in sight: to provide an academic setting in which minority cultures and histories are studied and to create instructional procedures that enable the student to assume a greater responsibility for the direction of his studies and the ultimate shaping of his educational experience.

The College of Ethnic Studies seeks to create an intellectual discipline which centers upon the political, religious, social and cultural experiences of Mexican-Americans, American Indians and Afro-Americans.

While the program's emphasis will be on the American experience as the shaping force, historical and cultural forces which may not be American or even Western will be traced and explored.

## BASIC ASSUMPTIONS OF THE PROGRAM

American education needs an intellectual discipline which seeks to explore the act of self-definition as it has taken place in America. Ethnic Studies is that discipline. It embraces the cultural and racial pluralism of this country and seeks to re-define the American experience.

Administrative and instructional decentralization in higher education will help to humanize learning for all students.

Minority studies programs must not be established along traditional or narrow lines but rather within a structure that will encourage students to know and to come to terms with the inclusive nature of their worlds and their society, including its conflicts, tensions and possible resolutions.

Higher education must eliminate the kind of competition that puts the student at a disadvantage.



## ETHNIC STUDIES OBJECTIVES:

- To provide a learning situation which encourages direct contact between students and faculty.
- To give students primary responsibility for the emphasis and direction of their learning.
- To build maximum opportunity for incidental learning into the formal and informal learning situation.
- To make appraisal of the student's learning a continuing process; to reduce confusions and misunderstandings that accompany all learning; and to provide supportive instruction in weak skill areas.
- To give undergraduates those educational experiences that create a critical and imaginative intellect, such as presenting public lectures and publishing papers and lectures in the College house journal. Activities of this kind will also teach the rigors and responsibilities of scholarship.
- To provide students with work-related experiences on Indian reservations, with state and federal agencies, and with business and industry. These experiences will balance the theoretical with the practical.



## ADMISSION

A student seeking admission to the College of Ethnic Studies must first be admitted to Western Washington State College. While making application for admission to Western, the candidate should let it be known by appropriately marking his application that he desires to apply for admission to the College of Ethnic Studies. Having been accepted by Western, the candidate will be supplied a very brief application form, which when completed, will enable him to be interviewed by the Committee on Admission, consisting of three faculty members and three students. The Committee on Admission is interested in those students who desire to study in and to contribute to a new discipline, who are willing to assume an active role in directing their studies, and who want to participate in the on-going development of an instructional program.

## THE PROGRAM

The instructional program within the College of Ethnic Studies will make up one half of the student's course work; the other half of his studies will be taken at Western. The student is expected to play the central role in giving direction to his studies and developing and following his interests within the field of ethnic studies. Since each student will spend approximately fifty percent of his time in ethnic studies, he will have a concentration of academic experiences within the discipline. Consequently, he will have enough credit hours to arrange a traditional major or minor to satisfy those institutions that require such designations. Students are strongly encouraged to acquire a concentration of study outside of the CES, which will provide them with a broader understanding of the American experience thereby enhancing their appreciation of the role played by minority groups in shaping it.

The College of Ethnic Studies structures the first year of study around a theme. With student suggestions, the faculty selects a general theme for the academic year. The general theme for 1970-71 is *The Land Question*.

The faculty is interdisciplinary, representing the fields of American history, English literature, sociolinguistics, anthropology, and Indian history.

Each instructor meets each day with two or three students for a two-hour tutorial. During these tutorial sessions, assigned and recommended readings are discussed and short critical papers are assigned. All students registered for the theme within a given program meet for a seminar once a week. The tutorial sessions, papers and seminars provide excellent opportunities for assessment of the student's progress by both student and instructor.

Following the first year, the student, with his adviser's assistance, will select seminars and design independent study programs to be taken within the CES and work out a tentative program of study at Western. Upon approval of the adviser, the student's program of study is submitted to the Committee on Academic Affairs for approval. Once approved, the program of study becomes the student's official program and the one he is expected to follow during his stay in the CES. The student may revise his program as he desires; each revision must be approved by the Committee.

## GENERAL EDUCATION REQUIREMENTS

The instructional program within the CES meets the general education requirements of Western in the humanities and social sciences. Students, however, must meet the general education requirements in the physical sciences, mathematics, communication, and physical education.

Although the College of Ethnic Studies is an independent entity, it has strong points of articulation with Western Washington State College. Western students are admitted to some of the courses, some of which will be taught by faculty members from Western.



## ETHNIC STUDIES COURSES 1970-1971

All course registration requires prior approval from the College of Ethnic Studies unless otherwise indicated.

- 201 THE LAND QUESTION: AFRO/AMERICAN (9)  
202 THE LAND QUESTION: INDIAN/AMERICAN (9)  
203 THE LAND QUESTION: MEXICAN/AMERICAN (9)  
301 SEMINAR: CONTEMPORARY AFRICAN NOVEL (3)  
302 LECTURE: PRE-COLUMBIAN INDIANS OF NORTH AMERICA (3)  
(Open to all students without prior approval)  
303 SEMINAR: THE MEXICAN AND MEXICAN-AMERICAN LITERARY TRENDS (3)  
311 LECTURE: THE BLACK NOVEL (3)  
(Open to all students without prior approval)  
312 SEMINAR: HISTORY OF WHITE-INDIAN RELATIONS (3)  
313 SEMINAR: SOCIOLOGY OF LITERATURE DEALING WITH THE IDENTIFICATION CRISIS (3)  
321 SEMINAR: THE NEGRO IN RADICAL POLITICS (3)  
322 SEMINAR: CONTEMPORARY INDIANS OF THE UNITED STATES (3)  
323 LECTURE: INDIAN AND/OR THE BLACK IN HISPANIC LITERATURE (3)  
(Open to all students without prior approval)

## COSTS AND FINANCIAL ASSISTANCE

Tuition, fees and other costs are the same for all divisions of Western Washington State College. Consult appropriate sections of this Catalog for details.

For more information, consult:

The Office of the Dean  
College of Ethnic Studies  
Western Washington State College  
Bellingham, Washington 98225



## FAIRHAVEN COLLEGE

*A Division of Western Washington State College*

Fairhaven College represents an exciting, imaginative approach to higher education. It is a concept intended to ease the pressures on today's students that are inherent in large institutions.

This section of the catalog explains the application of the cluster college concept to Fairhaven and the environment in which it works.

## PURPOSES OF FAIRHAVEN

Fairhaven has been established to:

- Recapture the best features of a small college while making full use of the facilities of a much larger institution. According to this first criterion, Fairhaven's enrollment will not exceed 600 students.
- Provide a superior quality of liberal education at a cost no higher to either students or taxpayers than that of a conventional education in a state institution.
- Create an atmosphere conducive to experimentation with curricula, teaching procedures, staffing arrangements, group and independent study off campus as well as on, and the new educational technology. Imagination and innovation are high-priority qualities at Fairhaven.
- Enable students to make a greater contribution to educational planning, and give them a greater sense of participation. A number of them are continually involved in planning the curriculum and other features of Fairhaven.

## OPERATION OF FAIRHAVEN

Fairhaven College operates under the jurisdiction of the President and the Board of Trustees of Western Washington State College. Its Dean reports directly to the Provost of Western. Students are members of both the Fairhaven and Western student bodies and therefore are eligible to take part in all activities of both. Funds are provided to Western by the State Legislature; however, support for special programs is being sought from private, foundation, and federal sources. To date, both the Carnegie Foundation and the Educational Facilities Laboratory have made grants to Fairhaven.

For legal purposes, Fairhaven is a division of Western. Funds available to Western are allotted to Fairhaven on

the same basis as to other academic divisions. Graduates will receive their degrees from Western Washington State College.

The total enrollment of Fairhaven is set at 600 students who will live in a cluster of small residence halls (50 students in each) located in Hidden Valley near the main campus. This complex includes an academic building with seminar and conference rooms, classrooms, reference library, and faculty offices; residence and dining halls; and social and recreational facilities.

Fairhaven students receive instruction from both the Fairhaven faculty and the departmental faculties of Western. The former work closely with the students throughout their undergraduate years and are responsible for advising students and teaching a sequence of studies which includes conferences, seminars, field work, and independent study along with formal courses. All Fairhaven students participate in this program which, for them, replaces the Western general education requirements and provides a common background of knowledge and understanding. They also have access to science laboratories, library and recreational facilities of Western.

The small size of Fairhaven enables students and teachers to become much better acquainted than possible in a large institution and makes the faculty more responsive to student opinion. Students participate in planning and revising the program, in formulating college policy and in evaluating the results. This participation is accomplished through committees composed of students and faculty working together. The present boards and standing committees are as follows:

- Policy Board
- Admissions Committee
- Faculty Hiring Committee
- Curriculum Committee I
- Curriculum Committee II
- Faculty Re-hiring, Tenure and Promotion Board
- Judiciary Board
- Fairhaven Committee
- Cultural and Recreational Activities Committee
- Communications Committee

The Fairhaven residential requirement encourages an educational environment bringing together beginning and advanced students from many walks of life. A central feature of the program is living and learning together; students have primary responsibility for the governance of residence hall living.

Since Fairhaven College has a residential requirement, it may be helpful to describe more fully the type of residence halls that all Fairhaven students must occupy during their enrollment. The Fairhaven Campus is located in a small valley one-half mile south of the main campus of Western Washington State College. Within this tree-surrounded valley there are 12 residence halls that accommodate 50 students each.

The first floor of each of these four-story structures offers a large lounge, a small seminar room (where most of the classes meet) and an apartment for residence hall staff. The second and fourth floors contain a four-student apartment with cooking facilities, several two-student rooms with adjoining bath, and one single room. The third floor contains several two-student rooms with adjoining bath and private living room.

## FACULTY-STUDENT CONTACT

A basic assumption of Fairhaven College is that skillful teachers and intellectually curious students can construct courses, seminars, field trips and other educational experiences that hold more relevance and interest to both than do conventional courses.

A second assumption is that maximum flexibility must be allowed in the planning and execution of such activities. Only with such flexibility can the talents, skills and capacities of students and teachers be most effectively utilized. Motivated students learn more effectively; interested teachers teach more effectively. Learning is not confined to lecture halls, laboratories and 50-minute periods. Whenever it is clear to both the student and his instructor that a normally required course is not appropriate for that student, the course will be waived or some other activity or course substituted. In addition to the Fairhaven Elective Program, there are many courses offered on the Western campus which may be elected.

The student's close contact with his faculty tutor allows the latter to work with the student in planning activities of the Fairhaven Elective Program. These may include discussions following special lecture and cultural events, involvement in creative activity, travel, work, participation in political activities, student government, and individual research projects. The tutor is responsible both for the evaluation of the student's activities in these areas and the amount of work and time involved in them. The quarter-hour credit system, described elsewhere in the Catalog, is appropriate for courses the student takes on the Western campus. Work at Fairhaven is equated to quarter-hour credit and grades, if necessary, for the student's admission to graduate school or to another institution.

When it has been successfully completed, the student's Fairhaven course work is recorded on his official academic record. Traditional grades (A, B, C, etc.) are not used. His Western course work, however, is recorded in similar manner as for other Western students.

Students are required to finish at least 24 credits of work by the close of the second quarter, unless special arrangements have been made with their tutor.

## THE CURRICULUM

Besides required and elective courses and seminars, the curriculum is comprised of a series of educational opportunities and responsibilities outside the context of the classroom. Since the conventional course-credit system is an ineffective framework for many Fairhaven learning experiences, a more realistic structure is used for a substantial portion of the curriculum. Specific activities are varied according to the opportunities that arise.

Independent study also is an integral part of the Fairhaven Program. Work in any of the formal courses may lead to the planning of a trip in which a group of students, working with faculty, can observe and study a given situation first hand. For example, the significance of artistic and cultural events can be examined more fully by observing live performances than by dealing with them only in the classroom and library. Students

will attend a variety of events and these will be followed by discussions in which faculty members aid the student in analyzing the experiences. Time spent in this way is considered part of the Fairhaven curriculum and the student is "credited" when an analysis of his time and progress is made.

The opportunities for close contact with faculty members and other students at Fairhaven are distinctive and varied. The entire architectural development of Fairhaven College has been made to encourage informality and to establish an atmosphere that is conducive to intellectual discussion.

## AREA REQUIREMENTS

Liberal education is that education which is truly relevant to an understanding of the human condition. It is designed to liberate the individual from the restrictions imposed upon him by ignorance, prejudice,



and provincialism. It helps the individual to understand himself, the people around him, the world around him, and to see it all in historical perspective in order that he may prepare himself to live in a changing world that is the natural consequence of its history. Liberal education is not directly concerned with making a living or with adjusting the individual to the world as it is—it is preparation for living in a changing world.

To insure that students have an experience of sufficient depth, Fairhaven proposes course offerings that reflect the culture imperative of our heritage, raise questions universal to mankind in general, and which will acquaint them with the common language of a liberal education. Instead of requiring specific courses Fairhaven makes general area requirements: Humanities, Sciences, and Social Sciences (including education). The curriculum in these areas consists of courses that reflect our commitment to interdisciplinary study and many Fairhaven courses will cover material in more than one area.

Equally important in a Fairhaven liberal education are the opportunities for widely varied, student-designed programs of independent study. Presently, students are carrying out such programs of independent study in England, Germany, Greece, and Japan. A Fairhaven program has been established in Mexico and several students are studying there. Other students have used the independent study program to become engaged with concerns of mankind and his environment—field work in environmental problems, race relations, education. A number of students are engaged in a depth study of their major field of interest, both on and away from campus.

## CREDIT REQUIREMENTS

Sciences .....	12 credits
Social Sciences .....	12 credits*
Humanities .....	20 credits
Composition .....	3 credits
Fairhaven Elective Seminars, Independent Study Program and/or further study in an area .....	27 credits

\*including Education

The three credits of composition will be assigned by the individual's tutor, upon written evidence from faculty members concerned. Of the twelve credits in the Sciences, four credits in the history of physical sciences are required.

Because Fairhaven offers no set courses year after year, this catalog can only suggest what kind of courses *might* be offered for area credit in a particular quarter. For instance, a course on Mexican Society and Culture might be offered for those interested in spending a quarter in Mexico; the instructor would perhaps offer the course for five credits, and give students the option to apply those credits either to Social Sciences or Humanities. A course on Deviant Behavior might be given for Social Sciences credit, one on Shakespeare's tragedies for Humanities, and one on Ecology and Pollution for Science credit. A course on the Renaissance might approach that period from many vantage points the arts, politics, literature, economics, science—but might be given for Humanities credit only. Or, if the same course focused more on the dynamics of social interrelationships during the Renaissance, it could be given solely for Social Sciences credit.

## ELECTIVE SEMINAR PROGRAM

As much as one-third of a student's program at Fairhaven may consist of independent study and elective seminars. The latter are determined each quarter when students and faculty submit course proposals to an elective seminar committee.

The ability to freely and spontaneously create new courses within, between, and beyond the traditional disciplines has been one of the most popular characteristics of Fairhaven and was an important factor in the revision of the original curriculum.

A listing of past elective seminars gives an indication of their scope and content. Some will be repeated; others proved deadly duds to be forgotten none too soon:

**1968-69:** Beginning Piano . . . Sense of Self . . . Psychic Phenomena . . . Logic . . . Revolution and Violence . . . Creative Writing . . . American Indian History . . . New Ballad Poets . . . Dance Work-

shop . . . The Political Boss . . . Human Ecology . . . Drugs . . . Human Sexual Behavior . . . Vista Tutoring . . . Organized Crime . . . Economics and the Novel . . . Art Workshop . . . Chamber Music . . . Community School . . . Life and Thought of William O. Douglas . . . Mountaineering . . . Building a Harpsichord . . . History of Film . . . Dirty Dan . . . Vancouver Trip . . . European Revolutions . . . Economic Aid and Foreign Policy . . . Magazine Editing . . . Pacifism . . . Contemporary Christian Ethics . . . Thoreau . . . Portrait Drawing . . . International Cookery . . . Radical Political Novel . . . Melville . . . Computer Programs . . . Dylan Thomas . . . Migrant Labor . . . The Good . . . Ballet . . . Spanish . . . Asian Music . . . Nooksack Tutoring . . . Modernity and Government . . . Ceramics . . . James Thurber . . . Greek Culture . . . Granfalloon . . . Frontier Literature . . . Freedom and Culture . . . Hiking . . . Middle Earth . . . Ecological Action . . . Stone Tool Technology . . . Mexican Society and Culture . . . The Mannekins . . .

## PROFESSIONAL EDUCATION

Fairhaven, being primarily a liberal arts-general education institution, should rely on the Western Department of Education to teach and administer the program which has been developed jointly by Fairhaven and Western faculty and students.

It is possible to fulfill the Professional Education courses in a variety of ways. Five options are now in existence and others are being developed. Those students who are interested in working out an individualized program which would better meet their needs are encouraged to do so. The Fairhaven Education Committee exists to help advise students, provide a channel of communication between Western and Fairhaven in education matters, and to develop courses and experiences aimed at improving the Education program.

The present program which is offered by Western's Department of Education meets the standards approved by the State Board of Education. An elementary major is an option in 1970-71.

## Area of Concentration

In most instances, this will be comprised of a major and minor taken at Western. Programs are similar to those pursued by Western students. Hence, Fairhaven students will enjoy the advantages of a large institution with its many specialized scholars. The full range of majors and minors is available for the Bachelor of Arts, the Bachelor of Arts in Education, or the Bachelor of Science degrees. Occasionally a tutor and a student may work out a new concentration which can be made up of both Western and Fairhaven activities.

## Three-Year Bachelor's Degree Program

The Fairhaven student also should consider the advantages of taking his bachelor's degree in three rather than four years. The flexibility of the Fairhaven Program makes such a plan feasible for most areas of concentration. The possibility of a work-study quarter off campus will allow a student to use one summer for credited travel and work away from the campus. With an additional one or two summers spent on campus, the degree requirements can be fulfilled. A student contemplating a three-year program should seek consultation soon after being admitted.

## CULTURAL AND RECREATIONAL OPPORTUNITIES

### Visitor's Program

One goal of the Fairhaven program is to expose students to many more diverse viewpoints and personalities than exist on the campus and to do this in a way which is personal and direct. These guests meet with classes, join students for informal discussions and meals, live in the dormitories, and offer courses.

The assumptions behind the Visitor's Program are that it benefits students to meet diverse individuals beyond the faculty and that this meeting should occur in a direct, personal, and relaxed setting. Fairhaven visitors seldom

lecture from a podium; instead they spend much time conversing, listening, and answering questions.

In 1969 the major Fairhaven visitor was Justice William O. Douglas of the U.S. Supreme Court. Other visitors that year included poets John Logan, Sy Kahn, Elizabeth Bartlett, Diane Wakowski, and Ben Cary. Also on campus were sculptor George Tsutakawa, former WWSC President James L. Jarrett, businessman Guy Frazier, social activist Stephanie Koontz, *Afro American Journal* editor Keve Bray, and persons involved in American Indian affairs such as Vine Deloria, Jr., Alvin M. Josephy, Alvin Ziontz, and Kahn-Tienta Horn. Jerold Zaslove from Simon Fraser University taught a five session seminar on comparative literature and Thomas Ball of the State Department met with students for several days.

Among the visitors for the past year have been Larry Abraham (John Birch Society), N. Scott Momaday (winner of the 1969 Pulitzer Prize for his novel *House Made of Dawn*), Dixie Lee Ray (Pacific Science Center), Elizabeth Sewell (founder of Bensalem College), William Stafford (poet), Herbert Aptheker (American Communist Party), Leslie Fiedler (literary critic), Janet McCloud (Indian activist), Robert Hughes (filmmaker), Al Swift (KVOS-TV), Dale Van Pelt (farm labor organizer), Edison Fisk (Senatorial candidate). During Fall Quarter, 1970, Paul Dorpat, founder of *Helix* and multi-media specialist, will be artist in residence.

### Cultural and Recreational Activities

The Recreational and Cultural Committee this year sponsored a trip to Stanley Park in Vancouver, B.C., and a ski and hike trip up to the Mt. Baker Ski Resort. Several plays, an opera, and current movies were presented along with dances and an all college art show.

The community also participated in celebrating Davali, a Hindu religious observance, through several activities including paintings, eating Indian food, and a candlelight celebration.

Fairhaven students are eligible to participate in all activities of both Fairhaven and Western, including plays, concerts, athletics, and membership in a variety of clubs and organizations.

## ADMISSION

Fairhaven students not only must meet the standards of Western Washington State College but they must possess certain other qualities as well. Primary among these is evidence of initiative and self-discipline required for independent study and participation in new and different educational activities. They also include a willingness to contribute, actively and continuously, to the overall Fairhaven program.

Much of Fairhaven's success will depend on the quality of students it attracts. Consequently, it will admit only those students whose ideals, attitudes, and perspectives reflect the nature of the College itself. This does not mean that all Fairhaven students will be cast from the same mold; on the contrary, the student body will be comprised of young men and women with a wide variety of interests and backgrounds. It does mean, however, that admission will be selective and it will be based on many other factors besides high school achievement.

Candidates for admission to Fairhaven College should submit a regular freshman or transfer application form to the Admissions Office of Western Washington State College. On the application should appear the clear notation, "Fairhaven College of Western Washington State College." This will cause the Admissions Office, after determining the candidate's status at Western Washington State College, to forward other materials which are needed by the Admissions Committee at Fairhaven College. These materials include forms on which the candidate will be asked to have letters of recommendation provided and a form on which the candidate is to write his own statement to the Admissions Committee. Other materials, such as descriptions of science projects, literary works, artistic works, and other evidence of creative capacity, will be welcomed by the Fairhaven Admissions Committee. In some cases, an interview may be required.

Candidates for admissions to Fairhaven should send all admissions materials directly to the Office of Admissions, Western Washington State College. Fairhaven College officials will maintain liaison with that office.

### *Transfer to Fairhaven From Other Colleges*

It is anticipated that most Fairhaven students will enter as freshman in order that they may participate in the complete Fairhaven program. However, a few transfer students will be accepted, in most cases at the beginning of their sophomore year. Transfer students, in addition to the normal application forms, will be asked to:

- A. Submit a detailed analysis of their previous college experience, to give reasons why they wish to change institutions, and to explain how they believe Fairhaven might provide a better education for them.
- B. Have an on-campus interview with members of the Fairhaven Community.

Applications will be accepted during the months of March, April, and May; final acceptance will be contingent upon enrollment levels and therefore applicants may not be notified of their status until after July 1.





## COSTS

Tuition fees and other costs are the same for Fairhaven students as for Western students. See pages 16-18 of this Catalog for details.

An amount for incidentals, travel, and clothes should be added as indicated by the individual's tastes and circumstances. While the average is about \$300 a year, the need for extra money is minimal since the student activity program is in large part already financed.

## FINANCIAL ASSISTANCE

The Financial Aids Office assists students in finding employment and administers a variety of loans, work-study programs, and student scholarships. For more detailed information regarding financial assistance, consult the appropriate section of this Catalog or apply to the Director of Financial Aids.

For more detailed information consult the Fairhaven College Bulletin.

## THE STUDENT AND THE COLLEGE

1. Fairhaven students must play an active part in designing their study programs and also bear responsibility for personal behavior. Consequently Fairhaven is not a place for those who are immature.
2. It is not a good place for those who prefer to live at home or off-campus during their college years.
3. Although Fairhaven students enjoy a large amount of personal freedom, this is not the place for those who wish to engage in illegal activities such as the use of illegal drugs.
4. Fairhaven students have an active interest in social and political affairs. Dissent and peaceful protest is welcome. But this is not a place for those who are more interested in overthrowing the system or the establishment than in getting an education. Fairhaven is primarily an *educational* institution.



# HUXLEY COLLEGE

The Board of Trustees of Western Washington State College approved the formation of Huxley, a cluster college, in 1968 with the charge to focus on the environment. Environmental studies are to be given the widest possible definition, recognizing that man's environment includes the physical and biological entities, the social structure and the cultural heritage that molds his response. The focal point is on ecology—the study of man and his environment.

The study of the relationship between organisms and their environment has been neglected to the point where we face multiple and ecological crises in the areas such as air and water pollution, over-population, hunger, misuse of natural resources, decaying cities and many problems in the areas of physical and social environment.

Man, although part of the natural environment, has divided and conquered within his environment with little thought of the consequences. The future of the human race may now be in serious jeopardy.

A strong interdisciplinary approach is imperative to solve man's continually changing relationship to himself, his cultural surroundings and his natural environment. Huxley College contends it has a responsibility to develop curricula and to provide training and leadership in environmental sciences. It has presently been established as a two-year college and students will be accepted at the junior level.

Huxley was formed recognizing the very special geographical and educational advantages Western has of being located near salt water environments of great variety and unexplored value; of fresh water lakes and rivers vital to the economy and growth of the State of Washington; of mountain and glacial environments of changing ecology; of developing cities and urban environment; of expanding agriculture and industries necessary to our economy which change the environment in ways which must be understood.

## COLLEGE ORGANIZATION

Huxley operates under the jurisdiction of the Board of Trustees of Western Washington State College. For legal purposes it is a division of Western; students will receive their degrees from Western Washington State College.

Huxley students are members of the Western student body, eligible to take part in all student activities. They have full access to all library, academic and recreational facilities of Western.

## ACADEMIC ORGANIZATION

The Huxley College structure is based on general areas of environmental studies called concentrations. The areas are broad enough to allow either social or natural science programs within a particular concentration. A concentration constitutes a focus on a general problem area that may involve studies in a number of disciplines. The number of concentrations may be decreased or expanded depending on faculty and student interests.

Huxley incorporates selected aspects of the liberal arts disciplines with certain applied or professional emphases. A coordinated program of undergraduate and graduate studies, research, and community involvement programs is being initiated. The concentrations of study are problem oriented, but students may supplement their Huxley program with an option in a professional discipline.

Huxley is designed to direct the philosophy of students and act as a catalyst to give all people an understanding of their environment. Its students will understand the relationship between man and his environment: natural, social and technological. Graduates of Huxley, irrespective of their area of concentration, will have a relevant education and understand the threat to the environment and be equipped to do something about it. A fusing of the natural and social sciences will develop graduates with broad grounding in both areas.

A graduate program will not be offered in 1970-71, but will be initiated in the future through the Graduate School. Freshmen are encouraged to prepare themselves for admittance to Huxley by incorporating tool subjects

into their freshman and sophomore years. Advisement and coordination of the programs of potential Huxley students are provided by Huxley staff in cooperation with community colleges and other institutions of higher learning.

Huxley, operating now in temporary quarters, will move into its own academic housing in early 1972. In addition, facilities of the Fresh Water Institute, the Marine Center at Shannon Point and various outdoor laboratories are available for research and teaching. The programs of some of these units will be coordinated with the overall Huxley program. Enrollment will be limited to 100 in 1970. Its total enrollment when fully developed is set at about 700. A faculty of about 40 in multi-disciplinary areas is projected for full development.

Students will receive instruction from faculty members of both Huxley and the departments of Western.

## ADMISSION REQUIREMENTS

Students transferring to Huxley in the junior year should have completed most of the Western general education requirements. Freshmen should contact Huxley early for help in program planning and for assistance in later selection of an area of concentration.

## CONCENTRATIONS

By the end of the first quarter a student should select an environmental problem in a concentration area. The concentrations are broad problem-oriented areas that would allow considerable flexibility in program planning. In addition to the concentrations students may select an option in a specific discipline such as biology or sociology. The concentration-option requires a total of 50 credits.

### Possible Concentration Areas:

- Ecological Systems Analysis
- Environmental Control
- Environmental Planning
- Hunger, Food and Malnutrition
- Marine Bioresources
- Population Dynamics

Within many of these broad areas problems can be formulated and focused either on natural sciences or social sciences. A major would not be selected in a single discipline, but in a concentration such as population dynamics. A concentration constitutes a focus on a general problem area that may involve study in a number of disciplines. Students could tailor their programs emphasizing natural, physical or social sciences within a particular concentration area. A student could choose a concentration-option such as population dynamics—sociology; population dynamics—biology; environmental control—chemistry.

### *Ecological Systems Analysis*

In order to manage and wisely use natural resources it is necessary that man understand the dynamic flows and transactions of energy through the ecosystem together with a knowledge of the processes that regulate the types and numbers of organisms within a community. The regulation and shaping of ecosystems by man for agriculture involves use of pesticides, weather modification, cultivation, etc. Industrialization, pollution, growing populations all affect the dynamics of an ecosystem. These interventions, unless undertaken with an understanding of the dynamics involved in manipulating the ecosystem, may prove disastrous and outweigh the benefits. Students in this concentration will analyze ecosystems with the objective of understanding the whole as well as its components.

### *Environmental Control*

Pollution and depletion of resources are among the basic threats to man's very existence. Only by abatement of environmental destruction will the future as a human species be possible. The problems include pollution from agriculture, industry and man's own population crush.

Students selecting this concentration could emphasize areas of pollution and control in the air, water, soil or solid waste and participate in solving these complex problems. Areas of focus would be on recycling of resources, effects, control, chemistry, and distribution of pollutants. Suitable option areas would include biology, chemistry, economics, geology, physics, and mathematics.

## *Environmental Planning*

Ecology provides the basis for intelligent planning of our cities and regions. It is the bridge between the natural and social scientists and architects. Landscape architects are concerned with planning functional, beautiful, enduring towns, regions and parks. The physical environment is deteriorating due to expanding populations with the accompanying urban sprawl, concrete jungles, depletion of natural resources and pollution of the whole environment.

## *Hunger, Food and Malnutrition*

If the world food supply were consumed at the American per capita rate, only one-third of the present population would be fed. It is like a spaceship with the limits in capacity for a closed system being defined. Environment is determined by complex, intricate, delicate and interrelated factors that provide a system to support human life. To live, any organism must have energy. Maintaining this energy at a level to provide something besides bare subsistence cannot be achieved without population control. Malnutrition affects behavior and learning and becomes a cancer in the social community.

Adequate food is basic to man's need to control the environment. Methods for developing the full energy potential of the planet and understanding the nutritional chain in the ecosystem are necessary.

## *Marine Bioresources*

World demand for protein food from the sea will continue and increase at a pace that necessitates renewed interest in the sea. The spectacular growth of offshore oil production and the potential wealth of minerals in the sea and on its bottom have captured the interest, concern, and imagination of the public. Living resources from the sea, however, still provide the most important contribution to man's well-being from the marine environment. Understanding the oceans, physical environment, living organisms and interrelations is necessary to combat hunger and maintain a marine environment. The sea offers diversity of diet and animal protein all seasons of the year.

## *Population Dynamics*

Many environmental crises face mankind and threaten his very survival. Problems in hunger, food and malnutrition, pollution, city riots, urban sprawl, etc., can be directly related to the population increase. Stabilization of population is necessary if environmental problems are to be solved. No technical solution can rescue man from the misery of over-population. The solution is one of education of all mankind to the problem confronting him. Individuals trained in the social, biological and behavioral sciences would be prepared to work toward solution of this problem.

## TEACHER EDUCATION

Teacher education in the environmental sciences would be a program directed jointly by Huxley College and Western. Details of such program are still to be developed. For the time being, Huxley College students interested in teaching may obtain certification by including appropriate teaching areas and the professional sequence designated for Western students as electives in their degree program and/or in additional postgraduate study.

## HUXLEY COURSES

### 300 PROBLEM SERIES (6 per year)

Questions posed to the community; each question would be of vital interest to the student, and relate to problems of concern to society; field trips, apprentice training and site study would be encouraged.

### 301 INTRODUCTION TO ENVIRONMENTAL SCIENCE (4)

Prerequisite: Biology 101, Chemistry 115. Components of the ecosystem; their structure, function, and inter-relationship; analysis, measurement and management of the environment.

- 302 **ECOLOGICAL AWARENESS (4)**  
Prerequisite: Biology 101. Major ecological principles; man as a factor in the ecosystem; examples of delicate interactions in the environment and man's influence on natural systems.
- 303 **MAN, EVOLUTION AND ECOLOGY (3)**  
Prerequisite: Biology 101. Major evolutionary mechanisms as they relate to man, major ecological factors affecting man, population and pollution problems.
- 304 **MAN, SOCIAL ENVIRONMENT AND SOCIAL VALUES (3)**  
Prerequisite: Gen Ed 105, Soc/Anth 200, BA 101 or Econ 201. Relationship between environment and social structure, economic system and behavior pattern; consideration of alternative environments.
- 311 **COLLABORATIVE STUDIO AND ENVIRONMENTAL DESIGN I (5)**  
Prerequisites: Art 101-103, or permission of instructor. Investigation of environmental content in three-dimensional art; various relationships between man and forms in terms of scale, texture, light, and other design phenomena.
- 312 **COLLABORATIVE STUDIO AND ENVIRONMENTAL DESIGN II (5)**
- 313 **COLLABORATIVE STUDIO AND ENVIRONMENTAL DESIGN III (5)**
- 320 **CHALLENGE OF SURVIVAL (3)**  
Environmental problems facing the American society; basis for problems and outline of solutions.
- 321 **MARINE BIORESOURCES (4)**  
Prerequisite: Biology 101. Nature and extent of the oceans, plant and animal life in the seas and their value towards world food supply.
- 322 **POLLUTION AND MARINE ECOLOGY (4)**  
Marine zoology and ecology and the biological effects of water pollution.
- 330 **POPULATION DYNAMICS (4)**  
Prerequisite: Biology 101. Factors controlling size of animal and human populations, their density and composition; concepts of population cycles, population genetics and migration.
- 331 **ECOLOGICAL ENERGETICS (4)**  
Concepts of the energy forms, flow, and transfer in the ecosystems, and their effects on environment.
- 340 **ENVIRONMENTAL BIOCHEMISTRY (4)**  
Prerequisites: Chemistry 115; Biology 101. Transformation of carbon, nitrogen, phosphorus, sulfur and certain trace elements in soil-water-atmosphere systems; beneficial and toxic effects on plant and animal life.
- 341 **CHEMICAL RESIDUES (4)**  
Prerequisites: Chemistry 115; Biology 101. Chemistry of herbicides, pesticides, and insecticides; their biological effects; problems involved in their use.
- 350 **INTRODUCTION TO FOOD, HUNGER AND MALNUTRITION (4)**  
Prerequisites: Biology 101; Chemistry 115. Standards of food quality and preferences; principles of nutrition; food resources and supply; food deterioration; problems of food preservation and distribution as related to world food needs.
- 351 **COMMUNITY AIR POLLUTION (4)**  
Prerequisites: Biology 101; Chemistry 115. Evaluation of the impact of air pollution on the community; effects of air pollutants on plants, animals, and man.
- 380 **ECONOMICS OF RESOURCE USE (4)**  
Prerequisite: Economics 202. Analyzing alternative programs using resources by comparing benefits and costs; special application to water resources and pollution control.
- 399 **SEMINAR (1 ea)**  
Subject matter will be determined by faculty and students to allow free exchange of information and discussion, and to provide relevance to programs and rapport between students of different disciplines.
- 411 **COLLABORATIVE STUDIO AND ENVIRONMENTAL DESIGN IV (5)**
- 412 **COLLABORATIVE STUDIO AND ENVIRONMENTAL DESIGN V (5)**
- 413 **COLLABORATIVE STUDIO AND ENVIRONMENTAL DESIGN VI (5)**
- 490 **ENVIRONMENTAL LAW AND POLITICAL ACTION (4)**  
Recent developments in environmental law involving pollution, conservation; methods for achieving appropriate political action in correcting environmental problems.



# PROGRAMS OF INSTRUCTION

The College offers courses of study in teacher education and in the arts and sciences at both the undergraduate and graduate levels. The following degrees are offered:

Bachelor of Arts  
Bachelor of Science  
Bachelor of Arts in Education  
Master of Arts  
Master of Science  
Master of Education

## REQUIREMENTS FOR BACHELOR'S DEGREES\*

(Students enrolled in the Fairhaven College program will meet general degree requirements specified in the Fairhaven College section of this catalog.)

- 192 quarter hours of credit; not less than 60 credits in upper division study.
- Residence study: one full year (45 credits minimum) including the final quarter before issuance of a degree; not more than 48 credits may be earned by extension and correspondence study, nor by Study Abroad programs.
- Scholarship standard: a cumulative grade average of 2.0 (C), or better, with no grades of less than "C" acceptable in the major (including supporting courses),

minor, professional education courses, or in English composition. Admission to, and continuation in, the teacher education curriculum requires a minimum average of 2.2.

- General Education: approximately 58 credits, depending upon options chosen.
- Major-minor concentrations as specified in departmental sections under *Arts and Sciences* and *Teacher Education*.
- Electives as needed for the 192 quarter hours total credit.

\*A student should expect to matriculate and graduate according to the general requirements in the catalog current at the time he enrolls. He should expect to meet the specific requirements of departments for majors and minors in the catalog current at the time he declares his major and minor, and the specific requirements in a professional program stated in the catalog current at the time he applies for admission to the professional program.

If the student interrupts his work for more than two consecutive quarters (summer quarter not included), he shall meet the demands of the catalog in force at the time he is readmitted.

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

## THE GENERAL EDUCATION PROGRAM

The General Education courses include a common core of studies which provide the foundation for specialization in any major for a bachelor's degree. These courses are required of all undergraduate candidates. Two options as outlined below are provided as means of satisfying most of these requirements. Some requirements may be waived if a student elects a more advanced course in the departmental offerings (e.g., Mathematics 121 in lieu of Mathematics 151). The appropriate department should be consulted before enrolling in any such alternate course. Option II will be of special interest to students planning majors or minors in one of the specified fields; these options may also be recommended for majors in certain departments.

In the outline below, abbreviated titles are given except where long sequences make it impractical to include them. See departmental sections for full title, credits, prerequisites and description of courses.

### OPTION I

### OPTION II

#### *Communications*

(Students may elect 2 of the 3 Communications areas under either option)

- |   |  |
|---|--|
| A. English 101 Language and Exposition (waived for students demonstrating high English competence on entrance tests)                          | A. English 131, 132, 133 Masterpieces of World Literature with Composition. Students who elect this option in Humanities (see below) also satisfy the composition requirement. |
| B. Speech 100 Fundamentals (waived for those passing a speech proficiency test)   | B. Speech 301 Speech for Teachers (open only to teacher education students of sophomore or above standing)   |
| C. Foreign language courses numbered 101, 102, 103, or demonstration of equivalent proficiency on the foreign language placement examination. | C. Equivalent study of a foreign language in a Study Abroad Program.   |

#### *Humanities*

General Studies 121

The following program of courses satisfies the General Education 121, 122, 123 series in its entirety.

General Studies 122

Two courses from History 105, 106, 107

General Studies 123

Two courses from English 281, 282, 283 or from English 131, 132, 133 if elected for "A" above.

One course from Philosophy 111, 113, 210, 220, 230, 250

One course from Art 190 or Music 140.

#### *Physical Education*

Three activities of student's choice, except that

- a. students who fail swimming qualifying test must include PE 112
- b. women students may be required to take adapted or low fitness section of PE 102w on basis of entrance test for new freshmen.



### *Social Sciences*

These requirements include work in each of three areas. The student may elect either option for any or all of the areas.

- |  |  |
|--|--|
| A. General Studies 105 Behavioral Science                  | A. Psych 201 <i>and</i> Soc/Anth 200 or 201  |
| B. General Studies 200 Economic and Political Institutions | B. One course from each of two fields:<br>Economics 201, 206<br>Geography 201, 207, 470<br>Pol Sci 101, 250  |
| C. General Studies 321 Non-Western Cultures                | C. Two courses from:<br>Geography 315, 319, 415<br>History 280, 385, 480, 481, 482, 483, 484, 486, 487, 488<br>Pol Sci 405, 407, 472<br>Economics 486<br>Soc/Anth 362, 363 |

### *Mathematics-Logic*

Mathematics 151 Introduction  
(Waived for students with four years high school mathematics or Math 121, 122 or 200 level courses.)

Philosophy 102 Logic  
(This option open only to students with three years high school mathematics)

### *Natural Sciences*

Four quarter sequence in natural sciences to be taken in entirety except for waivers on basis of high school science.

Any *one* of the following sequences; open only to students with high school credit for one year of biology plus one year of physics or chemistry.

Sequence: A is prerequisite to B; A and B are prerequisite to C and D; C and D may be taken in either order.

Physics 131, 132, 133; or 231, 232, 233

10 credits in chemistry other than Chem 101

A. Physics 101 Elementary Physics (or one year high school physics)

Geology 211 plus one course from Geol 212, 310, 311 or Physics 105

B. Chemistry 101 Chemical Concepts (or one year high school chemistry)

Biology 101, 204, 371

C. Biology 101 General Biology (or two years high school biology)

Biology 101, Botany 251, 252

D. Geology 101 General Geology or Geography 101 Natural Environment (or one year high school geology)

Biology 101, Zool 261, 262

Physics 105, 131, 205

## TEACHER EDUCATION

Programs of study in teacher education lead to the Bachelor of Arts in Education degree and the *Provisional Certificate* for teaching in the public schools of the State of Washington. (Adapted study programs are available for students who already hold a Bachelor of Arts degree.) The Provisional Certificate is valid for three years from the date of issuance, renewable for an additional three years after completing a portion of the fifth year. For the first year, it is restricted to teaching at the level and/or subject area for which the teacher is recommended by virtue of his preparation.

In addition to the general education courses and other bachelor's degree requirements indicated on preceding pages, the candidate for this degree must complete a core of *professional education* courses, and an approved pattern of subject matter concentration as specified below. Candidates for the Provisional Certificate must be citizens of the United States. Non-citizens may complete the requirements for the Bachelor of Arts in Education degree without a Washington teaching certificate, or those who are permanent residents intending to become citizens may obtain special permits from the Office of the State Superintendent of Public Instruction.



## PROFESSIONAL EDUCATION SEQUENCES— 35-36 credits

In the interests of meeting individual needs and goals, alternatives are offered in professional courses. Students will elect option (a) or (b) in meeting the requirements for introductory and foundations courses:

(a)

Ed 310 The Teacher and the Social Order  
Ed 411 Foundations of Education

(Ed 441, 479, or a similar course prescribed for the fifth year)

(b)

Ed 390 Professional Practicum and Seminar  
(Ed 131, or Ed 109 [Fairhaven students], may be substituted for Ed 390)  
Ed 310 The Teacher and the Social Order

(Ed 411 or 512 or similar course prescribed for the fifth year)

In addition to (a) and (b) above, each candidate for the B.A. in Education and Provisional Certificate will complete the following:

Ed 385 Foundations of Reading Instruction  
or  
Ed 420 Instruction in Secondary Schools  
(Ed 385 is required for elementary teaching)

Psych 351 Principles of Human Learning  
Psych 352 Human Development and Personality  
Psych 371 Evaluation in the Public School

Supervised Teaching, 16 credits

Candidates for Washington certificates recommended for secondary teaching in any social studies field or for general elementary teaching must complete History 391 Washington State History and Government

## ARTS AND SCIENCES

In addition to the general education and other common degree requirements listed on the preceding pages, the candidate for a bachelor's degree in the Arts and Sciences must complete a major concentration, usually accompanied by supporting courses, and one minor. A few concentrations are offered which satisfy requirements for both the major and the 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.

### *Majors and Minors*

Requirements for the major are prescribed up to a maximum of 85 credits, or 110 credits in those concentrations which satisfy both a major and a minor. Specifications are included with each department's course listings on succeeding pages. Supporting courses, when included, are considered a part of the major requirement.

*Major concentrations* are offered in:

Art	Journalism
Biology	Mathematics
Chemistry	Math-Computer Sci
Dance	Music
Econ & Bus Admin	Philosophy
English	Physics
Foreign Language	Political Science
Geography	Psychology
Geology	Recreation
History	Sociology/Anthropology
Home Economics	Speech
Industrial Technology	

*Minor concentrations*, generally requiring 25 credits, are offered in the fields above and also in Business Education, Classical Studies, East Asian Studies, Health Science.

## MAJOR-MINOR CONCENTRATIONS FOR TEACHER EDUCATION

Approved concentrations must be completed in fields specifically related to the curriculum of the public schools of the state. A choice is to be made among programs leading to recommendation for one of the three levels: elementary, junior high, senior high school.

### *Elementary Teachers*

*Majors* 45-50 credits

Art	Music
Earth Science	Physical Education
English	Psychology
Foreign Language	Sociology/Anthropology
General Science	Social Studies
Geography	Speech, General
History	Speech Therapy
Mathematics	

See departmental listings for detailed specifications.

*Elementary Teaching Minor\** 35-37 credits

This minor is required of all students desiring recommendation for elementary level teaching, except those who elect the Elementary Education Major. See Inter-departmental Programs, page 198, for specifications in the major and minor.

Note: Elementary teachers may elect one of two options:

- (a) One of the majors above coupled with the Elementary Teaching Minor.
- (b) The Elementary Education Major and a minor in one of the fields above, to be extended in the fifth year.

\*Elementary teachers will be advised by members of the Elementary Area faculty of the Department of Education. Students should report to the Office of Teacher Education Advisement, 204 Miller Hall, for assignment.

### *Secondary Teachers*

(See departmental listings for specifications.)

*Majors* 45-50 credits in one of the following fields:

Art	Home Economics
Business Education (S)	Industrial Arts
Chemistry (S)	Mathematics
Earth Science	Music Specialist
English	Physical Education
Foreign Language	Physical Science
General Science (J)	Physics (S)
Geography	Social Studies (J)
History	Speech

[Courses followed by (S) are applicable to senior high school only; courses followed by (J) are applicable to junior high school (middle school) only. Others are acceptable at both levels.]

Additional supporting courses are required for some majors.

Concentrations encompassing both a major and a minor are offered in art, general science, home economics, music, and physical education; combined major concentrations are also offered in Chemistry-Physics, Chemistry-Mathematics and English-Speech.

For teachers in the field of biology, a five-year program is offered. The student earns a degree in Arts and Sciences and then takes his professional education as a fifth year of study. To the extent that he has elective time, he may begin professional study prior to receiving his B.A. degree.

*Minors* 25 credits

In addition to the fields listed above (except Earth Science, General Science, Social Studies) minors are offered in:

Biology	Journalism
Classical Studies	Linguistics
East Asian Studies	Philosophy
Economics	Political Science
Geology	Psychology
Health Science	Sociology/Anthropology
Library Science	

## *Combined Secondary—Intermediate Grades*

Students desiring recommendation for teaching at both levels may take a combination program which includes:

1. Completion of a major approved for secondary teaching as listed on the preceding page.
2. Completion of the Elementary Teaching Minor.
3. Supervised teaching at both levels.

### **ADMISSION TO TEACHER EDUCATION**

The College shares with the profession as a whole the important responsibility for the selection of potential teachers. Admission to the College does not automatically admit the student to the teacher education program. The student is expected to make a systematic study of the role of a teacher and to undertake self-analysis in terms of the demands and opportunities of a teaching career. Those who decide upon such a career then make formal application for admission to the professional program, normally when enrolled in the first professional course.

To be eligible for admission the student must

- a. *Demonstrate English competence.*  
This may be done by (1) presenting a grade of "B" in the required general education course in composition; transfers with several composition courses are expected to have a preponderance of "B's" if this option is to apply; (2) passing an English competency examination; (3) completing a program of self instruction under the direction of the Writing Workshop.
- b. *Demonstrate speech competence.*  
Passing Speech 100 or 301 or the equivalent transfer course is deemed evidence of speech competence. Any who do not elect a speech course in the general education communications option will file a state-



ment of competence from the Speech Department. Students who manifest speech problems may be referred to the Speech Clinic for remedial work.

- c. Pass an introductory professional course with a satisfactory grade (e.g. Ed 310, 390 or equivalent transfer course).
- d. *Present and maintain a grade average of not less than 2.2 in all work at this College.* If a student has not achieved this average when he applies, his application will be deferred. If after being admitted to the program, the student's grades fall below the minimum 2.2 cumulative average, he is automatically suspended from the program and may not take further professional courses until the average is restored. Failure to restore the cumulative average within two quarters disqualifies the student from further participation in the program of teacher education at this College.

The admissions regulations are administered by the Office of Teacher Education Advisement. A faculty Admissions Committee representing the Education Department and several major area departments advises on policies, and acts as a review board for petitions in marginal cases.

### THE HONORS PROGRAM

The undergraduate Honors Program provides a challenging opportunity for the student of high academic ability to realize his potential. Freshmen are invited into the Honors Program on the basis of entrance exams, high school grade averages, and/or recommendation. Students already enrolled in college enter the program on the above bases or may be recommended by a college instructor.

Those selected for Honors work participate in much of the general education program required of all degree candidates but are responsible to the Honors Board for the precise determination of their programs. Substitutions or waivers of some required courses may be approved on the basis of individual needs. The Honors Board and the student's major department have joint responsibility for upper division course requirements.

There are a number of special colloquia and tutorials for Honors students.

Students interested in this program are invited to consult the Chairman of the Honors Board for more details.

### UNIVERSITY TRANSFER PROGRAMS

The College recognizes that some who enroll are later planning to transfer to other collegiate institutions. Students interested in such fields as law, medicine, and engineering are referred to appropriate preprofessional programs outlined in the annual Class Schedule. These programs have been developed in cooperation with schools offering such professional training.

### GRADUATE STUDY

For complete information regarding admission, program and requirements, and graduate assistantships, consult the Graduate Bulletin, a copy of which may be obtained upon request from the Dean of The Graduate School.

#### *Master of Education*

Western Washington State College has since 1947 granted the Master of Education Degree with concentrations in subject areas or in programs in preparation for school services.

#### *Master of Arts and Master of Science*

In 1963 the State Legislature authorized the College to grant the Master of Arts and Master of Science degrees. Degree programs serve those who wish to bring advanced subject preparation to their teaching or other professional assignments or who wish to develop a background for doctoral study. Master of Arts programs have been approved in economics, English, geography, history, in mathematics, music, political science, psychology, sociology and speech. Master of Science programs have been approved in biology, chemistry, geography, geology, mathematics, physics and psychology.

#### *Doctor of Philosophy in Education*

The 1969 Legislature authorized the College to begin to offer programs leading to the Ph.D. in education in 1971. Plans are moving forward for the implementation of this authorization.

### *Fifth Year of Study for Teachers*

Within six years after issuance of the Provisional Certificate, the Washington State teacher must complete an approved fifth year of study leading to the Standard Certificate. (The Provisional Certificate is valid for three years from the date of issuance, and may be renewed for a second three-year period upon completion of 12 quarter hours of the fifth year and a year of successful teaching experience.)

*The Standard Certificate*, issued after completion of the fifth year of study and at least two years of successful teaching experience, is valid for teaching at any level in the public schools of Washington on a continuing basis, and for a period of five years thereafter.

The fifth year of study may be satisfied in combination with one of the programs leading to a master's degree or by an approved study program without an advanced degree as its goal. Under either program the student files a fifth year plan with the Office of Teacher Education Advisement.

The plan for each student is developed with the assistance of local school officials and college advisers and is to be approved *before courses are taken*.

State regulations for the standard certificate include the following general specifications:

Total credit: 45 quarter hours.

Extension study is limited to 12 credits.

At least one-half of the credits must be in upper division or graduate courses.

At least one-half of the credits must be earned in residence in the recommending or an approved out-of-state institution; courses taken in the latter require prior approval of the pre-service (undergraduate) institution.

A limited amount of approved fifth year study may be completed prior to a year of teaching experience, subject to the approval of the recommending institution.

Evidence must be presented of two years teaching experience which, judged as a whole, are successful.

## CONTINUING STUDY PROGRAMS

The College, through the Department of Continuing Studies, makes its resources available to those adults who wish to continue their formal or informal education. Community organizations are also invited to contact the College for cooperation in providing special programs for adults. The role of the College is to stimulate and assist adults in a wide range of educational activities which require resources not otherwise available in the community.

### *Credit Courses*

Students may earn college extension credit in a wide variety of evening study courses available both on and off campus. A number of courses are also offered as independent home study. Most classes are taught by regular members of the teaching faculty and are open to the general public who may earn credit upon establishment of eligibility. Some courses are open on an auditing basis.

### *Non-Credit Offerings*

The College offers a wide variety of non-credit programs including classes, art films, concerts, lectures, and discussion seminars. Subject matter ranges over such fields as arts and crafts, music, literature, languages, and public affairs. These activities are open to all interested adults regardless of educational background or age.

Brochures describing each of these various activities are available upon request from the Department of Continuing Studies.

### *Study Abroad*

In cooperation with the Northwest Interinstitutional Council on Study Abroad, the College sponsors academic programs in Europe. Professors and students from state colleges and universities in Washington and Oregon participate in year around language and liberal arts programs. Information on these programs may be obtained from the Department of Continuing Studies.





# DEPARTMENTS OF INSTRUCTION

Courses numbered from 100 to 299 are classified as lower division; those numbered 300-499 as upper division. The first digit generally indicates class level for which the course is intended.

100-199 first-year courses

200-299 second-year courses

300-399 third-year courses

400-499 fourth-year courses

500-599 open only to graduate students

600-699 post-master's degree courses

Credits (quarter hours) are given in parenthesis after each course title.

Students are not permitted to take courses more than one year above their class standing except in unusual circumstances.

In general, the numbers 300, 400, and 500 are used to designate individual study or conference courses or special project work in a given field. Such courses are available only through prior arrangement with the instructor and with the approval of the department chairman.

The numbers 397, 497, and 597 are generally reserved for special workshops or courses offered once only.

Courses listed in this catalog constitute a record of the total academic program of the College. Listing herein does not necessarily indicate that each course will be offered every year. Consult the annual Class Schedule, the Summer Bulletin, and bulletins from the Office of Continuing Studies for the scheduling of courses.

# ART

*Professors:* Marsh (Chairman), Weiner.

*Associate Professors:* Foss, Kelsey, Templeton, Vike.

*Assistant Professors:* Bishop, Hanson, Jensen, Johnston, Kazlov, McCormick, McIntyre, Schlotterback, Urso, Vassdal, Wegner.

*Lecturers:* Steele, Thomas.

Students planning to major in art are urged to plan carefully early in their college careers with department advisers to assure proper scheduling of sequences. Transfer students are required to complete in residence a minimum of 15 credits for the Teacher Education major, 11 credits for the Arts and Science major, or 5 credits for a minor.

## ARTS AND SCIENCES

*Studio Major* 73 credits plus Supporting Courses

- Art 101, 102, 103, 130, 201, 210 or 211, 220, 230, 401
- One course from Art 240, 250, 260
- One course from Art 302, 402, 403 (crafts majors take 331 instead)
- Art History 193, 194, 195, and one additional art history course
- Supporting courses outside the field of art selected under advisement

Upper division concentration in one of the following areas:

### *Printmaking*

- Art 311, 313, 312, 411, 412, 413
- One course from Art 302, 402
- One course from Art 321, 325, 328
- 5 credits in upper division studio courses outside this area

### *Painting*

- 18 credits from Art 321, 325, 328, 421, 422, 423, 425, 426, 427
- One course from Art 302, 402
- 8 credits in upper division studio courses outside this area

### *Sculpture*

- 18 credits from Art 231, 331, 332, 333, 341, 431, 432, 433, 434, 435
- 8 credits in upper division studio courses outside this area

### *Crafts*

- Art 341, 351, 361
- 12 credits under advisement in a major craft—ceramics, jewelry, enameling, glass or textiles
- 8 credits in upper division studio courses outside this area

### *Combined Areas*

- 12 credits from one of the above areas
- 9 credits from a second area (commercial art courses may qualify—Art 371, 372, 471 or 472)
- 8 credits in upper division courses outside the area

### *Studio Minor*

25 credits

- Art 101, 102, 130
- Art History 195
- Electives selected under departmental advisement

### *Art History Major*

60 credits plus Supporting Courses

- Art History 193, 194, 195, 290, 390, 493
- Three areas from:
  - (a) Art History 394, 494
  - (b) 295, 395
  - (c) 292, 392
  - (d) 398, 498
- 9 credits elective in art history
- 15 credits in studio courses, including Art 101, 102, 103
- Supporting courses: 10 credits in appropriate courses

outside the field of art selected under departmental advisement

- Reading knowledge of French or German

### *Art History Minor* 24 credits

- Art History 193, 194, 195, 493
- Two courses selected under advisement from each of two areas: Primitive, Ancient, Renaissance, Modern, or American

## TEACHER EDUCATION

### *Major* Elementary and Secondary 45 credits

- Art 101, 102, 103, 130, 220, 230, 280, 381, 382
- Art History 195
- One additional course in art history
- Two courses from Art 210 or 211, 240, 250, 260
- Two upper division courses from the studio concentrations listed above in the Arts and Sciences major

### *Minor* 25 credits

- Art 101, 102, 130, 280, 381
- Art History 195
- Electives under departmental advisement

### *Major Concentration* 70 credits

This concentration satisfies requirements for both a major and a minor for the art specialist.

- Art 101, 102, 103, 130, 201 or 211, 210, 220, 230, 270
- Art 280, 381, 382, 401
- One course from Art 240, 250, 260
- One course from Art 302, 402 (crafts majors substitute 331)
- Art History 193, 194, 195, and one additional art history course
- 12 credits in one of the areas listed above in the Arts and Sciences major
- 3 credits in crafts if that area not elected

## DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, an art major who wishes to graduate "with honors" must complete Art 401, Music 342 or 442 or English 487.

## GRADUATE STUDY

For a concentration leading to the Master of Education degree, see the *Graduate Bulletin*.

## COURSES IN ART

(See also *Art History*, page 68)

NOTE: The Art Department may request samples of work produced in a studio course for exhibition purposes.

### 101 DRAWING I (3)

Fundamental principles and techniques using a variety of black and white media.

### 102 COLOR AND DESIGN (3)

Prerequisite: Art 101. Studies of form and structure in a variety of media; emphasis on color, pattern and design concepts.

### 103 DRAWING III (3)

Prerequisite: Art 101. Emphasis on pictorial space, volume, and the figure.

### 130 THREE DIMENSIONAL DESIGN (3)

Exploration of construction in space employing a variety of media.

### 190 ART APPRECIATION (2)

Introduction to form and expression in the visual arts for the non-major.

### 201 LIFE DRAWING I (3)

Prerequisite: Art 103.

### 210 PRINTMAKING I (3)

Prerequisites: Art 102, 103. Introduction to intaglio processes.

## Art

- 211 PRINTMAKING II (3)  
Prerequisite: Art 101, 103. Introduction to lithographic processes.
- 220 PAINTING I (3)  
Prerequisite: Art 102. Introduction to painting using water soluble or oil media.
- 230 SCULPTURE (3)  
Modeling and carving with emphasis on projection of volume in space.
- 231 SCULPTURE II (3)  
Prerequisites: Art 230. Modeling, carving and/or joining as techniques of sculpture.
- 240 CERAMICS I (3)  
Prerequisites: Art 101 or 380. Materials and techniques of ceramic forms; various hand processes including coil building and slab construction; elementary wheel forming, glaze composition, kiln stacking and firing.
- 250 JEWELRY I (3)  
Prerequisite: Art 101, 130. Design and construction of jewelry in various metals, with emphasis on silver; the setting of stones.
- 252 ENAMELING (3)  
Prerequisite: Art 102, 130; Art 250 recommended. Techniques of enameling on metals.
- 254 MOSAIC I (3)  
Prerequisite: Art 102; Art History 193. Materials, tools, and techniques of mosaic as an art form.
- 260 FABRIC DESIGN I (3)  
Prerequisites: Art 102, 103. Problems using dyes, yarns, and textiles in various introductory techniques.
- 270 LETTERING I (2)  
Prerequisites: Art 101 or permission. Anatomy of letter forms, alphabets and calligraphy; problems in pen and brush lettering.
- 280 INTRODUCTION TO ART EDUCATION (2)  
Prerequisite: 9 credits in art. Examination of the profession of art education, teaching skills, teaching as influencing student behavior in art, curriculum content and materials.
- 300 SPECIAL PROBLEMS IN ART (1-5)  
Prerequisite: permission of instructor.
- 302 LIFE DRAWING II (3)  
Prerequisite: Art 201. Repeatable to maximum 9 credits.
- 311 PRINTMAKING—LITHOGRAPHY (3)  
Prerequisites: Art History 195; Art 211. Planographic processes; emphasis on lithography and woodcut.
- 312 PRINTMAKING—INTAGLIO (3)  
Prerequisites: Art History 195; Art 210. Intaglio processes; etching, engraving, and aquatint.
- 313 PRINTMAKING WORKSHOP (3)  
Prerequisites: Art 311 or 312. Problems in printmaking.
- 321 PAINTING (3)  
Prerequisites: Art 220; Art History 195. Repeatable to total of 9 credits.
- 325 WATER COLOR PAINTING (3)  
Prerequisites: Art History 195, Art 220. Various water-soluble media; repeatable to total of 9 credits.
- 328 LIFE PAINTING (3)  
Prerequisites: Art 220, Art History 195. Concentration on the human figure.
- 331 SCULPTURE III (3)  
Prerequisites: Art 231; Art History 195. Problems in three dimensional form and expression employing a variety of media and materials; repeatable to total of 9 credits.
- 341 CERAMICS II (3)  
Prerequisites: Art 240; Art History 195. Problems in forming with the potter's wheel, high temperature glazes, clay body construction, stacking and firing practices.
- 342 CERAMICS III (3)  
Prerequisites: Art 341. Advanced problems in ceramic form and expression.
- 351 JEWELRY II (3)  
Prerequisites: Art 250; Art History 195. Problems in simple and centrifugal casting.
- 353 GLASS (3)  
Prerequisites: Art 102, 130; Art History 195. Glass as an art medium; fusing, laminating, slumping, pressing, and casting.
- 361 FABRIC DESIGN II (3)  
Prerequisites: Art 260; Art History 195. Problems with repeat pattern using silk screen, block printing, and dyes on textiles.

- 362 FABRIC DESIGN III (3)  
Prerequisite: Art 361. Design problems emphasizing a variety of techniques in dyeing materials.
- 371 GRAPHIC DESIGN I (2)  
Prerequisites: Art 101, 102, 270, and concurrent enrollment in Tech 340, or permission. Introduction to visual communication as related to graphic processes.
- 372 GRAPHIC DESIGN II (3)  
Prerequisites: Art 103, 371; Art History 195. Design as communication; design and preparation of material for graphic reproduction; repeatable to total of 6 credits.
- 380 ART IN ELEMENTARY EDUCATION (5)  
Prerequisites: Humanities or Art History 190; for non-majors. Child development in art for the elementary school; problems in design, drawing, painting and print-making as they relate to the school.
- 381 THEORIES OF ART EDUCATION (3)  
Prerequisite: Art 280. The philosophy, psychology and procedures for art in the elementary and secondary schools.
- 382 ART EDUCATION STUDIO (3)  
Prerequisites: Art 381 or concurrent registration. Problems in design, drawing, painting, and sculpture and their adaptation to the elementary and secondary school.
- 400 SPECIAL PROBLEMS (2-5)  
Prerequisite: senior status and permission of instructor. Individual instruction in special projects under supervision.
- 401 SEMINAR IN ART (2)  
Prerequisite: senior status or 9 credits in art history; 18 credits in studio courses. Non-historical art criticism course; development of criteria for mature artistic judgment; repeatable to total of 6 credits.
- 402 INVENTIVE DRAWING (3)  
Prerequisite: Art 201. Problems in drawing as a major medium; repeatable to total of 9 credits.
- 411 ADVANCED PRINTMAKING WORKSHOP (3)  
Prerequisite: Art 313. Advanced printmaking, open media; use of color in intaglio or lithography; repeatable to total of 9 credits.
- 421 ADVANCED OIL PAINTING (3)  
Prerequisite: 9 credits in painting, or permission of instructor. Individual search for form and expression; repeatable to total of 9 credits.
- 424 MURAL PAINTING (3-5)  
Prerequisite: 12 credits in painting or permission of instructor. Design, planning, and group execution of murals for specific environments and sites.
- 425 ADVANCED WATER COLOR PAINTING (3)  
Prerequisite: Art 325 or permission of instructor. Painting workshop using aqueous media; repeatable to total of 9 credits.
- 431 CERAMIC SCULPTURE (3)  
Prerequisite: Art 331, 341. Use of ceramic materials as a sculptural medium; repeatable to total of 9 credits.
- 432 DIRECT METAL SCULPTURE (3)  
Prerequisite: Art 331. Direct metal sculpture; emphasis on the welding processes; repeatable to total of 9 credits.
- 433 BRONZE CASTING (3)  
Prerequisite: 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 total of 9 credits.
- 434 ADVANCED SCULPTURE (3)  
Prerequisite: Art 331. Advanced problems in sculptural form; repeatable to total of 9 credits.
- 441 ADVANCED CERAMICS (3)  
Prerequisite: Art 342. Advanced problems in ceramic form and expression; may be repeated for credit with different projects; repeatable to total of 9 credits.
- 451 ADVANCED JEWELRY (3)  
Prerequisite: Art 351. Advanced problems in jewelry as an art form; repeatable to total of 6 credits.
- 461 ADVANCED FABRIC DESIGN (3)  
Prerequisite: Art 361. Advanced workshop in tapestry, rug making and other media; repeatable to total of 9 credits.
- 462 PLASTICS (3)  
Prerequisite: senior status. Problems in transparent design using plastics with metal, wood, or other materials.
- 463 ADVANCED FABRIC DESIGN II (3)  
Prerequisite: Art 461. Advanced study in printed, dyed, woven or constructed textiles; repeatable to total of 9 credits.
- 471 ILLUSTRATION (3)  
Prerequisites: Art History 195; two painting courses. Techniques of illustration for graphic reproduction.

## Art

- 472 POSTER AND DISPLAY (3)  
Prerequisite: Art 313. Two and three-dimensional display; design and production of the silk screen poster.
- 473 GRAPHIC DESIGN III (3)  
Prerequisite: Art 372. Advanced graphic design; repeatable to total of 9 credits.
- 481 ADVANCED ART EDUCATION (3)  
Prerequisites: previous work in art education; teaching experience. Lectures and studio work in art education as related to materials and evaluation of process, product and individual growth.
- 482 ART EDUCATION WORKSHOP (2-5)  
Prerequisite: teaching experience. Explorations in art media and their adaptation to use in the school; may be repeated with different topics.
- 500 SPECIAL PROBLEMS (2-5)  
Prerequisite: graduate status or completion of an art major or equivalent. Individual research under supervision.
- 511 GRADUATE DRAWING AND PRINTMAKING (2-4)  
Prerequisite: graduate status or completion of an art major or equivalent. Individual problems.
- 521 GRADUATE PAINTING (2-4)  
Prerequisite: graduate status or completion of an art major or equivalent. Individual problems in painting.
- 531 GRADUATE SCULPTURE (2-4)  
Prerequisite: graduate status or completion of an art major or equivalent. Individual problems.
- 541 GRADUATE CERAMICS (2-4)  
Prerequisite: graduate status or completion of an art major or equivalent. Individual problems in ceramics.
- 551 GRADUATE JEWELRY (2-4)  
Prerequisites: graduate status or completion of an art major or equivalent. Individual problems in jewelry.
- 561 GRADUATE FABRIC DESIGN (2-4)  
Prerequisites: graduate status or completion of an art major or equivalent. Individual problems in fabric design.
- 580 SPECIAL PROBLEMS IN ART EDUCATION (2-4)  
Prerequisites: teaching experience and 27 credits in art. Special problems in art education as announced.
- 582 CURRICULUM PLANNING (4)  
Prerequisites: teaching experience and 27 credits in art. Planning, development, implementation and evaluation of art as related to the total curriculum.

## COURSES IN ART HISTORY

- 193 SURVEY OF ART HISTORY I (3)  
Ancient and medieval art.
- 194 SURVEY OF ART HISTORY II (3)  
Renaissance art, 13th-18th centuries.
- 195 SURVEY OF ART HISTORY III (3)  
Modern art in 19th, 20th centuries.
- 290 MODERN ART HISTORY I (3)  
Prerequisite: Art History 195. The art of the 19th century Western World.
- 292 ANCIENT ART I (3)  
Prerequisite: Art History 193 and 194 or permission of instructor. Art of ancient Egypt, Mesopotamia, Crete, Mycenae and peripheral areas.
- 293 SURVEY OF AFRICAN ART (3)  
Not open to students with credit in Art History 494.
- 295 RENAISSANCE ART I (3)  
Prerequisite: Art History 193 and 194, or permission of instructor. Art of the Renaissance in Southern Europe.
- 390 MODERN ART II (3)  
Prerequisite: Art History 195. Art of the 20th century world.
- 391 ORIENTAL ART (3)  
Prerequisites: Art History 193, or 194 or permission of instructor. Oriental art with emphasis on China, India, and Japan.
- 392 ANCIENT ART II (3)  
Prerequisite: Art History 292 or 193 and permission of instructor. Art of the ancient Greek and Roman civilizations.
- 394 PREHISTORIC AND PRIMITIVE ART I (3)  
Prerequisite: Art History 193 or 194 or 195; permission of instructor; Soc/Anth 200 or 361 prerequisite or concurrent. Art of the Paleolithic and Neolithic cultures and Western hemisphere primitive cultures.
- 395 RENAISSANCE ART II (3)  
Prerequisite: Art History 295 or 193 and 194 and permission of instructor. Art of the Renaissance in Northern Europe.

- 398 AMERICAN ART TO 1913 (3)  
Prerequisites: Art History 193, 194, 195, 290. Art from the Colonial period to the Armory Show.
- 400 SPECIAL PROBLEMS (2-5)  
Prerequisite: senior status and permission of instructor. Individual instruction in special projects under supervision.
- 492 MEDIEVAL ART (3)  
Prerequisite: Art History 392 or 193 and 194 and permission of instructor. Western art from the fall of the Roman Empire to the beginning of the Renaissance.
- 493 SEMINAR IN ART HISTORY (3)  
Prerequisite: 12 credits in art history or senior standing or permission of instructor. Research problems of art history, bibliographic materials, research methods, and methods of presentation.
- 494 PRIMITIVE ART II (3)  
Prerequisites: Art History 194 or 193 or 195; permission of instructor; Soc/Anth 200 or 363 or 364 prerequisite or concurrent. Tribal arts of Africa and the South Pacific.
- 496 HONORS TUTORIAL (2-5)
- 497b SOUTH PACIFIC ART CRUISE 1970 (1-6)  
Study of the art and people of the South Pacific.
- 497c ORIENT ART TOUR 1970 (1-6)  
Study of art of the Orient, including painting, sculpture, architecture and various crafts, including related arts as theatre and the dance.
- 498 AMERICAN ART, 1913 TO THE PRESENT (3)  
Prerequisite: Art History 193, 194, 195.
- 500 SPECIAL PROBLEMS (2-5)  
Prerequisite: graduate status or completion of an art major or equivalent. Individual research under supervision.
- 590 DIRECTED STUDIES IN ART HISTORY (1-4)  
Prerequisite: 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.

## BIOLOGY

*Professors:* Broad (Chairman), Flora, Martin, Parakh, Ross, Senger, Slesnick.  
*Associate Professors:* Dube, Erickson, Heath, Kohn, Kraft, Riffey, Schwemmin, Taylor.  
*Assistant Professors:* Balzer, Brown, Dallas, Fonda, Haard, Lighthart, Schneider, Williams.

Students desiring a major or minor in biology are urged to plan carefully with department advisers early in their college careers in order to assure proper sequences of courses selected. The following major and minor programs are in process of revision. Students graduating through June 1973 may follow the patterns outlined below. Those who will graduate after that date should begin their first year study with the new sequence, Biology 120, 121 instead of Biology 101. The supporting courses listed below are recommended for majors in meeting general education requirements in natural sciences and mathematics.

Transfer students must complete in residence in this college at least 11 credits of the major or 5 credits of the minor.

## ARTS AND SCIENCES

*Major* 50 credits plus Supporting Courses

- Biology 301, 371, 477 (or Chem 471, 472, 473)
- Botany 251, 252
- Biology 385 or Gen Sci 405
- Zoology 261, 262
- Upper division electives under departmental advisement

## Biology

- Supporting courses: Chem 121, 122, 123 (or 124, 123) and choice of
  - (a) Chem 127, 128, 351, 352, 353
  - (b) Chem 127, 128, 251, 361, 362, 363
  - (c) Chem 251 (not recommended for students anticipating graduate study) or 351, 352, 353
- One year of college physics: Math 220 (or 122): Geology 211 or 212
- Biology 340 or Math 240

(Supporting courses may apply where appropriate to a minor)

### Minor

25 credits

- Botany 252 and Zoology 261
- Botany 251 or Zoology 262
- Ten additional credits from Botany 251, Zoology 262, or upper division courses

## TEACHER EDUCATION

Since a biology major is not offered for the B.A. in Education degree, prospective biology teachers will enroll in the Arts and Science program. The professional education courses may be included as electives along with the Arts and Sciences program and/or in a post baccalaureate year, part of which may be applied toward the fifth year for a standard certificate. Biology 493 should be added to the major.

Biology teachers desiring to enlarge their recommended competencies in other sciences should consult the departments concerned for proper course sequences.

Students planning to teach at the elementary or junior high school level should take the General Science major which includes biology.

### Minor

25 credits

- Botany 252 and Zoology 261
- Botany 251 or Zoology 262
- Ten additional credits from Botany 251, Zoology 262, or upper division courses

## DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, a biology major who wishes to graduate "with honors" will enroll in Biology 396 a, b, c and 496 a, b, c upon advisement of the Departmental Honors Adviser with whom he will work out an individual plan of study and Honors thesis.

## GRADUATE STUDY

For concentrations leading to the Master of Education or the Master of Science degrees, see the *Graduate Bulletin*.

## COURSES IN BIOLOGY

### 101 PRINCIPLES OF GENERAL BIOLOGY (4)

Prerequisite: Physics 101 and Chem 101 or equivalents. Major concepts of biology and their contribution to man's thinking and culture, cell physiology, genetics, growth and development, evolution.

### 120, 121 THE SCIENCE OF BIOLOGY (4 ea)

Prerequisite: Chem 121 or equivalent; to be taken in consecutive quarters. Nature of science and biology, biology and society, organizational levels, major unifying and interrelated concepts; principles of inquiry.

### 240 MARINE BIOLOGY (3)

Prerequisite: Biol 101. Study of plants and animals of the seashore. Not open to students with credit in Zool 461 or Botany 456. Summers only.

### 301 ECOLOGY (5)

Prerequisites: Botany 252 and Zool 261; physics and chemistry recommended. Basic principles studied in marine, estuarine, fresh water and terrestrial habitats. Not open to students with credit in Zool 461.

### 307 HUMAN POPULATIONS AND NATURAL RESOURCES (3)

Prerequisite: Biol 101. Growth of human populations; changes in natural resources resulting in growth; prospects and consequences of population increases and resource utilization. Not open to those with credit in Biol 407; not applicable to major or minor.



- 340 BIOMETRICS (5)  
Prerequisite: Math 121 or equivalent. Digital computer programming as a means by which a student computes statistics, e.g., mean, variance, regression, correlation, for his own data; cluster analysis procedures.
- 345\* FUNDAMENTALS OF MICROBIOLOGY (5)  
Prerequisites: Chem 121, 122 or 124, and 251; 10 credits in botany or zoology, or permission of instructor. Comparative morphology, taxonomy, physiology and relationship of microbes; bacteria, yeasts, molds, and viruses.
- 371 GENETICS (5)  
Prerequisite: Biol 101. Basic theories, principles and laws of heredity; laboratory experiments with *Drosophila*.
- 383 BIOLOGICAL SCIENCE FOR THE ELEMENTARY SCHOOL (3)  
Prerequisite: general education requirements in science and mathematics, or permission of instructor. Philosophy, concepts, learning experiences, and materials for the biological sciences suitable to the intermediate grades.
- 385 DEVELOPMENT OF MODERN IDEAS IN BIOLOGY (5)  
Prerequisite: 20 credits in biology or physical sciences. Evaluation of theories and explanations in biological sciences; concepts and logical relationships characterizing living systems.
- 396a,b,c HONORS TUTORIAL (2-5 ea)
- 397c COMMON LOCAL FLORA AND VERTEBRATES (5)  
Natural history of the terrestrial and freshwater environment of the Puget Sound region; taxonomic survey of plants and vertebrates and their interrelationships. Summer, 1970.
- 397b MARINE NATURAL HISTORY OF THE NORTH-WEST (5)  
The marine environment of the Puget Sound region; taxonomic survey of plants and animals of the marine communities and their interrelationships. Summer, 1970.
- 399 SEMINAR IN BIOLOGY (1)  
Prerequisite: 25 credits in biological sciences and permission of instructor. Outstanding developments, past and present, in the biological sciences. May be repeated for credit.
- 400 SPECIAL PROJECTS IN BIOLOGY (2-5)  
Prerequisite: permission of instructor. May be repeated for credit.
- 402 LIMNOLOGY (5)  
Prerequisite: Biol 301. Physical and chemical characteristics of fresh water in relation to biotic communities; field trips.
- 406 GENERAL OCEANOGRAPHY (5)  
Prerequisites: Physics 131, 132; Chem 121, 122, or permission of instructor. Geological, physical, chemical, and biological aspects of oceanography, reinforced with oceanographic field exercises.
- 407 CURRENT ENVIRONMENT (3)  
Prerequisite: Biol 301, and senior status or permission of instructor. Current literature on environment, focusing on pollution and overpopulation. Not recommended for those with credit in Biol 307.
- 453 MONTANE BIOLOGY (3-5)  
Prerequisite: Biol 301. Flora and fauna of the Cascade Mountains; their variety, distribution and interactions with the environment. Summer only.
- 471 PHYSIOLOGICAL GENETICS (5)  
Prerequisites: Biol 371 and 477. Structure and chemical composition of genetic material; genetic systems of bacteria, viruses, yeasts and molds; aspects of biochemical genetics of man applying to the nature of gene functions.
- 477\* CELLULAR PHYSIOLOGY (5)  
Prerequisite: 20 credits in biological science; Chem 121, 122, and 251 or 351, 352, or permission of instructor. Cell organelle structure and function, biological chemicals, energy utilization and production by the cell, cellular biosynthesis, integration and control of cellular activities.
- 478 CELLULAR PHYSIOLOGY (5)  
Prerequisite: Biol 477 or permission of instructor. Structure and function of cells; hormonal regulation of cellular metabolism; exchange of materials across membranes; bioelectricity, excitability, contractility.
- 490 PRINCIPLES OF ORGANIC EVOLUTION (3)  
Prerequisite: Biol 371, Bot 252, Zool 261. Principles, patterns, processes, and mechanisms of evolution in the organic world.

\*Students planning to take Biol 345 and 477 should take 345 first.

## Biology

### 493 TEACHING BIOLOGICAL SCIENCE (3)

Prerequisite: 15 credits in biological science. Recent trends in biology and science education; critical study of modern curriculum materials, clinical analysis of teaching and laboratory work. For biology teachers in secondary schools and in higher education.

### 496a,b,c HONORS TUTORIAL (2-5 ea)

### 500 SPECIAL PROJECTS IN BIOLOGY (2-5)

Prerequisite: permission of instructor. May be repeated for credit.

### 501 THESIS RESEARCH (1-15)

Prerequisite: permission of thesis adviser. Research contributing to a graduate degree program. Grades of satisfactory and unsatisfactory only; may be repeated.

### 503 ADVANCED TOPICS IN ECOLOGY (4)

Prerequisites: Biol 301 and permission of instructor. Analysis of current literature on fundamental properties of ecosystems, communities, populations, species, and characteristic environments.

### 504 ECOLOGICAL INSTRUMENTATION (3)

Prerequisite: Biol 301, Math 240, and permission of instructor. Theory, design and operation of environmental monitoring devices; laboratory experience in practical electronics and transducing and recording elements.

### 568 TOPICS IN DEVELOPMENTAL AND COMPARATIVE MORPHOLOGY (4)

Prerequisites: one course from Botany 456, 472, 475, Zool 366, 368; 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)

Prerequisites: Biol 371 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)

Prerequisites: Biol 477 or Chem 471 and permission of instructor. Topics in general, microbial, or comparative physiology; laboratory work illustrating processes or experimental techniques.

### 580 RADIATION BIOLOGY (3)

Prerequisites: Biol 477, Physics 131, 132. Forms of ionizing radiation and their biological effects; techniques for safe handling of radiation producing materials; use of radiation detecting instruments; use and biological effects of radiation.

### 583 ADVANCED TOPICS IN BIOSYSTEMATICS (4)

Prerequisite: permission of instructor. Role of morphology, cytology, bio-chemistry, and genetics in taxonomy; systematic study of a specific group of local organisms.

### 599 SEMINAR IN BIOLOGY (2)

Prerequisite: 40 credits in biology. Selected problems in biology, with emphasis on current literature. May be repeated for credit.

## COURSES IN BOTANY

### 251 GENERAL BOTANY (5)

Prerequisite: Biol 101. Plants as living organisms; the structure and functions of typical vascular plants. Heredity and biology of the cell are included in Biology 101 and are not repeated here.

### 252 GENERAL BOTANY (5)

Prerequisite: Biol 101. The major divisions of the plant kingdom; interpretation of present structure in terms of ecological adaptation and past evolutionary heritage.

### 253 PLANTS OF THE NORTHWEST (3)

Identification and field recognition of plants of the local region; their reproduction and adaptation to environment. Summers only.

### 352 SYSTEMATIC BOTANY (5)

Prerequisite: Botany 252. Historical survey of classification systems; use of taxonomic keys, and evolutionary development of flowering plants; recognition of common plants.

### 379 PLANT PHYSIOLOGY (5)

Prerequisite: Botany 251. Mineral nutrition, water economy, soils, auxins, and other items of special importance to plant growth.

### 404 PLANT COMMUNITIES (4)

Prerequisite: Biol 301. Ecology of plant communities with special emphasis on analysis, description, succession, and distribution. Weekend field trips included.

### 452 EVOLUTIONARY SYSTEMATICS OF VASCULAR PLANTS (4)

Prerequisite: Botany 352 or permission of instructor; organic chemistry recommended. Applications of phytochemical, cytogenetical, palynological, and morphological studies in phylogenetic determinations among higher plants.

## 454 MYCOLOGY (5)

Prerequisite: Botany 252. 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)

Prerequisite: Botany 252. Collection, culture, identification, classification, distribution, and economic importance of marine and fresh water algae.

## 458 BRYOPHYTES (5)

Prerequisite: 10 credits in biology. Collection, identification, distribution, and evolution of mosses and liverworts.

## 472 PLANT ANATOMY (4)

Prerequisite: Botany 251. Development and structure of cells, tissues, and organs of vascular plants.

## 475 DEVELOPMENTAL MORPHOLOGY (3)

Prerequisites: Botany 251, 252. Experimental approach to the study of plant morphology.

## 481 STRUCTURE AND PHYSIOLOGY OF TREES (3)

Prerequisite: Botany 379. Studies of principles of tree growth and of structure in relation to water economy; translocation and storage of organic products of photosynthesis.

## COURSES IN ZOOLOGY

## 261 GENERAL ZOOLOGY (5)

Prerequisite: Biol 101. Invertebrate phyla, protozoa through the annelids, and molluscs.

## 262 GENERAL ZOOLOGY (5)

Prerequisite: Zool 261 or permission of instructor. Arthropod phylum and the chordate line.

## 263 ANIMALS OF THE NORTHWEST (3)

Amphibians, reptiles, birds and mammals; their identification, life histories, habits, and distribution. Summers only.

## 348-349 HUMAN ANATOMY AND PHYSIOLOGY (5 ea)

Prerequisite: Biol 101 or permission of instructor; Zool 348 prerequisite to 349. Structure and function of the human body; emphasis on physiological principles and homeostatic mechanisms.

## 366 COMPARATIVE VERTEBRATE ANATOMY (5)

Prerequisite: Zool 262. Morphology and evolution of organic systems of major vertebrate groups.

## 368 GENERAL VERTEBRATE EMBRYOLOGY (5)

Prerequisite: Zool 262. Development of the vertebrates; laboratory study of embryos of the frog, chick, and pig with application to human development.

## 403 PHYSIOLOGICAL ECOLOGY (5)

Prerequisite: Biol 301 and permission of instructor. Field and laboratory studies concerning physiological responses of marine animals to environmental factors; methods for design and analysis of experiments.

## 424 ENTOMOLOGY (3)

Prerequisite: Zool 262. Insects: their morphology, physiology, metamorphoses, classification, and economic importance.

## 425 FIELD ENTOMOLOGY (3)

Prerequisite: Zool 262. Collection, preservation, and identification of insects. Summers only.

## 426 PRINCIPLES OF INSECT CONTROL (2)

Prerequisite: Zool 262 or permission of instructor. Legal, physical, cultural, chemical, and biological regulation of insect populations.

## 428 ENTOMOLOGY LABORATORY (2)

Prerequisite or concurrent: Zool 424. Anatomy, physiology, and identification of insects.

## 450 PARASITOLOGY (4)

Prerequisites: Zool 261, 262; two quarters of college chemistry. Representative animal parasites with emphasis on structural and physiological adaptations of parasite and host.

## 461 MARINE INVERTEBRATE ZOOLOGY (5)

Prerequisite: Biol 301. Laboratory and field study of local marine invertebrates.

## 463 ORNITHOLOGY (5)

Prerequisite: Biol 101. Evolution of morphological adaptations of birds, classification, distribution; annual cycle including migration, breeding and population dynamics; laboratory study, field trips.

465 MAMMALOLOGY (5)

Prerequisite: Zool 262. Structural and physiological adaptations, population dynamics, distribution and classification of mammals with laboratory emphasis on local species.

524 AQUATIC ENTOMOLOGY (3)

Prerequisites: Zool 424 and Biol 301. Classification and ecological interrelationships of insects in streams and lakes.



## CHEMISTRY

*Professors:* Chang, Knapman, G. Miller, Neuzil.  
*Associate Professors:* Crook (Chairman), Besserman, Eddy, King, Lampman, J. Miller, Wilson.  
*Assistant Professors:* Gerhold, Kriz, Russo, Searle, Weyh, Whitmer, Wicholas.

Students planning to major in chemistry 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. Advice of the department should be sought in the choice of options in the general education science requirements.

### TEACHER EDUCATION

*Major* -Senior High School  
45 credits plus Supporting Courses

- Chemistry 121, 122, 123, 127, 128, 333
- Chemistry 351, 352, 353, 354, 461, 462, 463
- Phys Sci 492
- Supporting courses: one year college physics and Math 121, 122, 222

✧

*Major Concentration* -Chemistry-Mathematics  
78 credits plus Supporting Courses

This concentration provides depth leading to recommendation for teaching competence in both areas. It satisfies requirements for both a major and a minor.

- Chemistry 121, 122, 123, 127, 128 and 461, 462, 463 or 361, 362, 363
- 9-11 credits in chemistry to include a minimum of 5 credits in organic chemistry under departmental advisement
- Phys Sci 492
- 40 credits in mathematics to include methods courses under departmental advisement
- Supporting courses: one year college physics

**Major Concentration** –Chemistry-Physics  
73 credits plus Supporting Courses in mathematics

This concentration provides depth leading to recommendation for teaching competence in both areas. It satisfies the requirements for both major and minor.

- Chemistry 121, 122, 123, 127, 128
- Chemistry 461, 462, 463 or 361, 362, 363
- 9-11 credits in chemistry including 5 credits in organic chemistry under departmental advisement
- Physics 231, 232, 233, 381, 235 or 255, 341 or 371
- 9 credits in physics under departmental advisement
- Phys Sci 492
- Supporting courses: Math 121, 122, 222, 223

**Minor** 25 credits

Same as Bachelor of Arts minor below.

**Extended Minor** 35-37 credits

- Chemistry 121, 122, 123, 127, 128, 461, 462, 463 (or 361, 362, 363), Phys Sci 492
- 6 to 8 credits under departmental approval from Chemistry 251, 333, 351, 352, 353, 354, 441

**Teaching Competence**

Recommendation for teaching competence in chemistry normally requires completion of one of the above majors or the extended minor with a grade point of 2.5 or better in the chemistry courses.

## BACHELOR OF ARTS DEGREE

**Major** 56 credits plus Supporting Courses

- Chemistry 121, 122, 123, 127, 128, 333, 351, 352, 353, 354, 355, 434, 461, 462, 463, 464, 465, plus elective
- Supporting courses: one year college physics and Math 121, 122, 222

**Minor** 24 or 25 credits

- Chemistry 121, 122, 123, 127, 128
- A minimum of 9 or 10 credits under approval of the chemistry department from Chemistry 251, 333, 351, 352, 353, 354, 371, 372, 461, 462, 463 (or 361, 362, 363), 482, 483

## BACHELOR OF SCIENCE DEGREE

**Major Concentration** 110 credits

(Satisfies both the major and minor.)

- Chemistry 121\*, 122, 123, 127, 128, 333
- Chemistry 351, 352, 353, 354, 355, 399
- Chemistry 434, 441, 461, 462, 463, 464, 465
- Supporting courses: Physics 231, 232, 233; Math 121\*, 122, 222, 223
- Electives, selected under departmental advisement in chemistry, biology, physics and mathematics to total 110 credits including above required courses

Note: Western Washington State College is approved by the American Chemical Society for certification of students who voluntarily complete a program which satisfies the minimum requirements of the Society. These requirements may be met by including in the Bachelor of Science program Chemistry 454 or 455, six credits in Chemistry 400 or 498, six credits under advisement in advanced chemistry, mathematics or physics, and by demonstrating in the Chemistry Department a reading knowledge of German or Russian.

\*5-10 credits less of required courses if student begins sequence with Chem 124 and Math 122.

## DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, a chemistry major who wishes to graduate "with honors" must complete Honors 361, 461; upper division chemistry courses—30 credits for an Arts and Sciences major, 25 credits for a Teacher Education major; Chemistry 498; at least 4 credits in Chemistry 396 a, b, c or 496 a, b, c.

## GRADUATE STUDY

For concentrations leading to the Master of Education or the Master of Science degrees, see *Graduate Bulletin*.

## COURSES IN CHEMISTRY

### 101 CHEMICAL CONCEPTS (4)

Prerequisite: Physics 101 or one year high school physics. Scientific method and its use in the development of such concepts as structure, states, and reactions of matter. Restricted to students without high school chemistry.

### 115 GENERAL CHEMISTRY (5)

Principles and laws of chemistry developed from the properties, structure, and reactions of matter; an abbreviated course in general chemistry for students not requiring Chem 121, 122 in their programs.

### 121 GENERAL CHEMISTRY (4)

Methods of chemistry, nature of matter, atoms, chemical bond, stoichiometry, states of matter.

### 122 GENERAL CHEMISTRY (4)

Prerequisite: Chem 121; concurrent enrollment in Chem 123 recommended. Changes of state; solutions, colloids, chemical kinetics, chemical equilibrium; equilibrium in aqueous solutions.

### 123 GENERAL CHEMISTRY LABORATORY (2)

Prerequisite or concurrent: Chem 122 or 124. Laboratory experiments illustrative of principles and practices in general chemistry.

### 124 PRINCIPLES OF CHEMISTRY (4)

Prerequisites: strong background in high school chemistry and/or mathematics; permission of department; concurrent enrollment in Chem 123 required. A more rigorous treatment of selected topics in general chemistry offered as a substitute for Chem 121, 122.

### 127 GENERAL CHEMISTRY (3)

Prerequisite: Chem 122 or 124. Chemical periodicity, electrochemistry, elementary thermodynamics, coordination compounds. Concurrent enrollment in Chem 128 recommended.

### 128 ELEMENTARY QUANTITATIVE CHEMISTRY (2)

Prerequisite: Chem 123 or one year of general chemistry. Experiments in quantitative chemistry.

### 208 INDUSTRIAL CHEMISTRY (3)

Prerequisite: Chem 115 or 121. Industrial chemistry and chemical technology in the contemporary world.

### 209 INDUSTRIAL CHEMISTRY LABORATORY (2)

Prerequisite: Chem 208. Small scale experiments of industrial processes; field trips to chemical industries.

### 251 ELEMENTARY ORGANIC CHEMISTRY (5)

Prerequisite: 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.

### 300 PROJECT IN CHEMISTRY (1-2)

Prerequisites: 20 credits in chemistry and permission of instructor. Projects under supervision.

### 302 CHEMICAL LITERATURE (1)

Prerequisite: permission of instructor. Primary, secondary and tertiary sources of published chemical information.

### 305 GLASS WORKING (1)

Prerequisite: permission of instructor. Basic glass working and construction of simple glass apparatus.

### 333 INTRODUCTORY ANALYTICAL CHEMISTRY (5)

Prerequisite: one year of general chemistry including Chem 128. Theory and practice of separation methods including precipitation, extraction, and chromatography; optical and potentiometric methods of determination.

### 344 INORGANIC PREPARATIONS (2-3)

Prerequisite: Chem 333. Preparations of selected inorganic compounds of high purity by diverse methods.

- 351, 352, 353 ORGANIC CHEMISTRY (3 ea)  
Prerequisite: Chem 122 or 124; each course prerequisite to the next. Chemistry of carbon compounds with emphasis on structural theory, reactions, and mechanisms.
- 354 ORGANIC CHEMISTRY LABORATORY (2)  
Prerequisite: Chem 351. Reactions, separations and syntheses of organic compounds.
- 355 QUALITATIVE ORGANIC ANALYSIS (3)  
Prerequisite: Chem 128, 354, and 353 or concurrent. Identification and characterization of organic compounds.
- 361, 362, 363 ELEMENTARY PHYSICAL CHEMISTRY (3 ea)  
Prerequisites: one year of college chemistry, one year college physics, Math 122 or 220; each course prerequisite to the next. States of matter including gas laws, solid and liquid states and chemical thermodynamics; phase and chemical equilibria, surface chemistry, and colligative properties; introduction to quantum mechanics, chemical bonding, and spectroscopy.
- 371 ELEMENTARY BIOCHEMISTRY (3)  
Prerequisite: Chem 251. Outlines of structures and metabolisms of carbohydrates, lipids, proteins, and nucleic acids; biochemical functions of vitamins, hormones, and some coenzymes; basic properties of enzymes.
- 372 ELEMENTARY BIOCHEMISTRY LAB (1)  
Prerequisite or concurrent: Chem 371. Simple separation and analyses of biochemically important compounds from various biological origins; observation and simple measurements of rates of enzyme-catalyzed reactions.
- 383 RADIOISOTOPES AND INSTRUMENTATION TECHNIQUES (2)  
Prerequisites: Chem 122-123, and Math 121. Basic use of radioisotopes and detection devices without rigorous mathematical treatment; for the student who might need such a tool in his career in science.
- 396a,b,c HONORS TUTORIAL (2-5 ea)
- 399 SEMINAR IN CHEMISTRY (1)  
Prerequisites: 25 credits in chemistry and permission of instructor. Presentation and discussion of papers in chemistry.
- 400 PROJECT IN CHEMISTRY (1-3)  
Prerequisite: permission of instructor. Individual projects under supervision.
- 434 INSTRUMENTAL ANALYSIS (4)  
Prerequisite: Chem 333; Chem 463 prerequisite or concurrent. Theory and experimental techniques of optical, electrical, and other physical measurements applied to chemical analysis.
- 441 ADVANCED INORGANIC CHEMISTRY (4)  
Prerequisite or concurrent: Chem 462. Chemical bond, structure and shape of molecules, acids and bases, coordination compounds and ions, transition metals, lanthanides, and actinides.
- 454 ADVANCED ORGANIC SYNTHESIS (3)  
Prerequisites: Chem 353 and 354. The use of preparative organic reactions involving advanced techniques of synthesis.
- 455 SPECTROMETRIC AND CHEMICAL IDENTIFICATION OF ORGANIC COMPOUNDS (3)  
Prerequisites: Chem 355, 434. Identification of organic compounds using chemical and spectrometric methods of analysis. Methods included are mass spectrometry, infrared, nuclear magnetic resonance and ultraviolet spectrometry.
- 461, 462, 463 PHYSICAL CHEMISTRY (4, 4, 3)  
Prerequisites: one year of college physics, Math 222, and one year of general chemistry, or permission of instructor; each course prerequisite to the next. Atomic and molecular structure, states of matter, solutions, chemical thermodynamics and equilibria, chemical kinetics, and electro-chemistry.
- 464, 465 PHYSICAL CHEMISTRY LABORATORY (2 ea)  
Prerequisites: Chem 461, 462, 463; Chem 464 and 465 may be taken concurrently with Chem 462 and 463 respectively. Experiments designed to illustrate some concepts and techniques of physical chemistry; also formal report writing.
- 471, 472 INTRODUCTORY BIOCHEMISTRY (3, 3)  
Prerequisites: Chem 353, Biol 101; 471 prerequisite to 472. Chemistry of carbohydrates, proteins, nucleic acids, and lipids; intermediary metabolism of these substances; reaction mechanisms leading to biosynthesis of various compounds of biological importance.
- 473 INTRODUCTORY BIOCHEMISTRY LABORATORY (2)  
Prerequisites: Chem 333, 354, and 472 or concurrent. Analysis of carbohydrates, amino acids by means of current techniques; isolation and purification of enzymes and measurement of enzyme kinetics.

## Chemistry

### 482 NUCLEAR CHEMISTRY (3)

Prerequisites: Chem 123 and Physics 233, or permission of instructor. Theoretical and applied nuclear and radio-chemistry.

### 483 NUCLEONICS LABORATORY (2)

Prerequisite: Chem 482 or concurrent, or permission of instructor. Experimental techniques of nuclear chemistry.

### 496a,b,c HONORS TUTORIAL (2-5 ea)

### 498 RESEARCH PROJECT IN CHEMISTRY (6: 3 in each of two successive quarters)

Prerequisite: permission of instructor. Investigation of a problem in chemistry under departmental sponsorship and supervision. The project must extend over a minimum of two quarters with credit granted after the presentation of an oral report at a seminar and submission of an acceptable written report.

### 510 SPECIAL TOPICS (1-3)

Prerequisite: permission of instructor. Specialized lectures on a conference basis for a particular area of interest.

### 511 ADVANCED LABORATORY METHODS (2)

Prerequisite: Chem 463. Specialized laboratory on a conference basis for a particular area of interest.

### 531 SPECIAL TOPICS IN ANALYTICAL CHEMISTRY (3)

Prerequisites: Chem 434 and 463. Special methods of separation; acid-base relationships in nonaqueous solvents; chromatography, coulometric and potentiometric methods; determination of organic functional groups, micro-analytical operations and methods. May be repeated for credit.

### 541 SPECIAL TOPICS IN INORGANIC CHEMISTRY (3)

Prerequisites: Chem 441 and 463, or permission of instructor. Complex ions and coordination compounds, inorganic substances in nonaqueous media; mechanisms of inorganic reactions.

### 551 PHYSICAL ORGANIC CHEMISTRY (3)

Prerequisites: Chem 353 and 463, or permission. Modern concepts of physical organic chemistry and their use in the elucidation of reaction mechanism, relation of structure to chemical reactivity.

### 552 CHEMISTRY IN NATURAL PRODUCTS (3)

Prerequisites: Chem 353 and 461, or permission. Isolation, structure, synthesis, biosynthesis and photo-chemistry of selected classes of natural products.

### 553 ORGANIC REACTIONS (3)

Prerequisites: Chem 353 and 461, or permission. Organic chemical reactions as applied to problems in organic synthesis.





- 561 **ADVANCED PHYSICAL CHEMISTRY (3)**  
Prerequisite: Chem 463 (equivalent or concurrent) and Math 222. Statistical treatment of thermodynamics and principles of chemical kinetics.
- 562 **THEORETICAL CHEMISTRY (3)**  
Prerequisites: Chem 463 and Math 222. Molecular orbital theory and its application in bonding of complex molecules.
- 563 **MOLECULAR SPECTROSCOPY (3)**  
Prerequisites: Chem 463 and Math 222. Principles of modern spectroscopy.
- 571 **GENERAL BIOLOGICAL CHEMISTRY (3)**  
Prerequisite: Biol 101 and Chem 353 and 363 or 463. The structures and functions of cells and tissues, chemical and physico-chemical basis of structures of amino acids, proteins, nucleic acids, carbohydrates and other biologically important compounds; general metabolism of carbohydrates, lipids, and proteins.
- 572 **CHEMISTRY OF BIOLOGICAL PROCESSES (3)**  
Prerequisite: Chem 571. Biosynthesis and chemical pathways of metabolism of amino acids, proteins, nucleic acids, lipids, vitamins, and porphyrins; mechanism of biochemical reactions.
- 573 **ENZYME CHEMISTRY (3)**  
Prerequisite: Chem 572. Preparation and measurement of activities of enzymes; mechanism of enzyme reactions; properties of individual enzymes and coenzymes.
- 574 **PHYSICAL CHEMISTRY OF BIOMACROMOLECULES (3)**  
Prerequisites: Chem 363 or 463 and 471 or 571, or permission of instructor. Quantitative methods applicable to the study of macromolecules, particularly in systems of biological interest.
- 581 **ADVANCED NUCLEONICS (3)**  
Prerequisites: Chem 482 or Physics 382. Advanced techniques of nuclear chemistry and nuclear physics; nuclear reaction, nuclear fission and involved multi-particle detection and scattering experiments.
- 595 **SEMINAR (1)**  
Prerequisite: Chem 463. Presentation of contemporary subjects in chemistry.
- 598 **RESEARCH (3)**  
Prerequisite: Chem 463. Research in chemistry under faculty direction terminating in a master's thesis.

# ECONOMICS AND BUSINESS

*Professors:* Mitchell (Chairman), Mayer, Mischaikow, Palmer.  
*Associate Professors:* Haglund, Harder, Moore, Patton, Safavi.  
*Assistant Professors:* Fang, Faulkner, McAllister, Walter.  
*Lecturers:* Frerichs, Hatch, Lucchini, McCain, Teasley, Tebrich, Thomson, Zoet.

## TEACHER EDUCATION

*Major—Business Education Secondary 45 credits*

*This major must be accompanied by the Economics minor which follows.*

- Economics 201, BA 101
- Business Education 116, 117 or 215, 120, 121, 122, 201, 223, 241 or 242, 319, 321, 322, 323
- Electives under departmental advisement

(Those with previous instruction in typing and/or shorthand are placed as high in the sequence as their backgrounds permit.)

*Minor—Economics 25 credits*

(To accompany above Business Education major)

- Economics 202, BA 251, 252, 271, 408
- Five credits from Economics 311, 325, BA 322, 330, 336, 350

## *Economics*

### *Minor—Economics* 23-25 credits

(For other than Business Education majors)

- Economics 201, 202
- BA 101 or 251
- Ten credits in upper division courses selected under prior advisement of the department

### *Minor—Business Education* 25 credits

- Business Education 319, 322 and 323
- 16 credits in typing, shorthand, and secretarial practice as advised by department

## ARTS AND SCIENCES

### *Major* 60-88 credits plus Supporting Courses

Common core for all major concentrations:

- Economics 201, 202, 301, 302, 311, 375, 381 (or History 360); BA 251, 252, 350
- Supporting courses: Math 220 (in place of 151), 240; Computer Science 270; Geog 207. (Students electing the Economics Concentration may substitute Math 241 for Computer Science 270). Business Education 201 recommended.

Select one of the following concentrations:

#### *Economics*

- Economics 385 (or History 341), 403
- Fifteen credits selected under advisement from Economics 325, 400, 410, 412, 426, 442, 461, 482, 485, 486, 491
- Also recommended: Soc/Anth 201 and Phil 113

### *Business Administration* (Satisfies both a major and a minor)

- BA 271, 302, 311, 322, 330, 401, 408; Economics 412

Students electing this concentration may apply no more than 100 credits in economics and business administration nor transfer equivalents of such courses to the 192 credits required for a bachelor's degree.

### *Accounting* (Satisfies both a major and a minor)

- BA 271, 302, 311, 322, 330, 351, 352
- BA 455, 457

Students who plan to make a professional career in public accounting and who wish to reduce to one year the experience requirement prerequisite to taking the State of Washington CPA examination, should take BA 371 and a total of at least 45 credits in accounting.

### *Minor—Economics* 25 credits

- Economics 201, 202
- Additional courses selected under departmental advisement; at least 10 credits must be at upper division level

### *Minor—Business Administration* 25 credits

- BA 251, 252
- Additional courses under departmental advisement of which at least 10 credits must be at the upper division level. (Students who elect the Economics concentration above may not include more than 5 of the credits required for the Economics major to satisfy the requirements of the Business Administration minor.)

### *Minor—Business Education* 25 credits

- Courses in typing, shorthand, secretarial accounting, and secretarial practice selected under departmental advisement

### Combined Major—Economics and Mathematics 100 credits

This concentration for students who wish considerable depth in both areas satisfies both a major and a minor for the B.A. degree.

- Economics 201, 202, 301, 302, 311
  - BA 251, 252, 350
  - Twelve upper division credits in economics and business administration selected under departmental advisement
  - Economics 381 (or History 360)
  - Math 121, 122, 201, 202, 222, 223, 241 (Math 301 may be substituted for 201, 202)
  - Math 341 and 342; or 441, 442, 443
  - Computer Science 270
- Math 201 may be taken concurrently with Math 222; Math 202 may be taken concurrently with 223
- Eight credits under advisement in 400 level mathematics courses

### DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, an economics major who wishes to graduate "with honors" must complete Economics 491h; a reading knowledge of a foreign language or two years of mathematics; must attain a grade average of 3.5 in upper division economics courses; must pass a comprehensive examination in economics.

### GRADUATE STUDY

For concentrations in economics and business education leading to the Master of Arts or the Master of Education degrees, see the *Graduate Bulletin*.

### COURSES IN ECONOMICS

Note: Some courses previously listed as Economics have been reclassified as Business Administration. See following section.

- 201 INTRODUCTION TO ECONOMICS (5)  
Organization and operation of the American economy; the basic problems of economics; the role of business, labor and government; money and the banking system; problems of inflation and deflation.
- 202 PRINCIPLES OF ECONOMICS (4)  
Prerequisites: Math 100 or 151, or equivalent. Theory of price and income distribution with particular application to the structure of American industry.
- 301 NATIONAL INCOME ANALYSIS (4)  
Prerequisites: Econ 201, 202, and 311; Math 220 recommended. Determinants of the level of income, employment and output in the economic system.
- 302 INTERMEDIATE ECONOMIC THEORY (4)  
Prerequisites: Econ 201, 202; Math 220. The theory of price under conditions of competition and monopolistic competition; relation of prices and costs, and functional distribution of income.
- 311 MONEY AND BANKING (5)  
Prerequisites: Econ 201, 202. Nature and functions of money, credit, banking, and relationship of money and bank deposits to the economy.
- 325 ECONOMICS OF LABOR (5)  
Prerequisite: Econ 201, 202. The economics of the labor market; development and functioning of labor unions and collective bargaining.
- 338 ECONOMIC ANALYSIS AND INDUSTRIAL MANAGEMENT (5)  
Prerequisite: Math 100 or equivalent. Introduction to structure of markets, production and price theory; application to organization management, and operation of business enterprise. Not applicable to a major.
- 375 STATISTICAL METHODS (3)  
Prerequisite: Math 240 or equivalent. Concepts of sampling; statistical inference and statistical decision-making applied to problems in economics and business.
- 381 AMERICAN ECONOMIC HISTORY (5)  
Prerequisites: Econ 201, 202. American economic development from seventeenth century to present; emphasis on resource endowment and evolving social and economic institutions; role of government in this development.
- 385 THE RISE OF CAPITALISM (4)  
Prerequisite: Econ 202. Evolution of economic institutions in Europe 800-1800; growth of capitalistic market societies.

## Economics

- 388 DISCRIMINATION AND RESOURCE UTILIZATION (4)  
Prerequisites: Econ 201 or Gen Ed 200, or permission of instructor. The effects of racial and other forms of discrimination on resource utilization; departures from market norms; policies to alleviate consequences of discrimination.
- 396a,b,c HONORS TUTORIAL (2-5 ea)
- 400 SPECIAL PROBLEMS IN ECONOMICS (1-5)  
Prerequisites: 20 credits in economics and business administration and prior consultation with instructor.
- 403 THE HISTORY OF ECONOMIC THOUGHT (5)  
Prerequisite: Econ 202 or senior standing and permission of instructor. Development of economic thought with emphasis on period following Adam Smith.
- 410 PUBLIC FINANCE AND TAXATION (5)  
Prerequisite: Econ 202 or permission of instructor. Principles of taxation and problems of tax administration; effects upon employment, income, prices, and structure of the economy.
- 412 BUSINESS FLUCTUATIONS AND FORECASTING (4)  
Prerequisites: Econ 301 and Math 240, or permission of instructor. Characteristics and major explanations of the prosperity-depression cycle in business, with major emphasis on forecasting.
- 415 PROBLEMS AND PRACTICES IN STATE AND FEDERAL FINANCE (3)  
Governmental expenditures, budgets, taxation, and borrowing; local, state, and federal. Summer only.
- 417 SPECIAL INTEREST SEMINARS IN ECONOMICS  
417a Labor Relations and the Law (3)  
Prerequisite: Econ 325  
417b Comparative Industrialization: 19th Century (4)  
Prerequisite: Econ 385  
417c Mathematical Economics (4)
- 442 GOVERNMENT AND BUSINESS (5)  
Prerequisites: Econ 202 or permission of instructor. Public policy and business enterprise.
- 445 CURRENT TRENDS IN ECONOMICS  
(May be taken for credit only once in two years.)  
445a Trends in Economic Education (3)  
Prerequisite: teaching experience in social studies.
- 461 INTERNATIONAL ECONOMICS (5)  
Prerequisite: Econ 202. International trade theories; foreign economic policies; the relationship between international trade and domestic activity.
- 471 MATHEMATICAL METHODS IN ECONOMICS (4)  
Prerequisite: Math 122 or 220. Applications of calculus and linear algebra to economics.
- 475 ECONOMETRICS (4)  
Prerequisites: Econ 375 and 471, or Math 342. Probability and econometrics including discrete and continuous distributions, estimators and their properties, correlation, analysis of variance, regression analysis.
- 482 REGIONAL ECONOMICS (4)  
Prerequisites: Econ 201 and Geog 207, or permission of instructor. Problems, resource endowment, and principal policy issues related to economic growth of a region.
- 485 COMPARATIVE ECONOMIC SYSTEMS (4)  
Prerequisite: Econ 201 or permission of instructor. Economic systems of leading nations of the world.
- 486 ECONOMIC DEVELOPMENT (4)  
Prerequisites: Econ 201 and 202 or permission of instructor. Conditions necessary for and progress of economic development in underdeveloped countries.
- 491h HONORS SEMINAR (3)
- 496a,b,c HONORS TUTORIAL (2-5 ea)
- 499 SENIOR SEMINAR (3)  
Prerequisites: senior standing and permission of instructor.
- 500 READINGS IN ECONOMICS (2-4)  
Prerequisite: permission of instructor.
- 501 SEMINAR IN MACRO-ECONOMIC THEORY (4)  
Prerequisite: Econ 301 or permission of instructor. Advanced macro-economic theory with emphasis on causes of economic instability and long-term changes.

## 402 SEMINAR IN ADVANCED ECONOMIC ANALYSIS (4)

Prerequisite: Econ 302 or permission of instructor. Detailed analysis of the market's role in determining resource allocation, production, prices and incomes; general equilibrium theories and dynamics.

## 403 SEMINAR IN HISTORY OF ECONOMIC THOUGHT (4)

Prerequisite: Econ 403 or permission of instructor. Critical method in the study of economic doctrines; classical political economy; orthodox tradition in the nineteenth century; its principal critics.

## 505 SEMINAR IN ECONOMIC HISTORY (4)

Prerequisite: permission of instructor. Critical historical study of major economic institutions, their interdependence and contribution to modern society.

## 511 SEMINAR IN FINANCIAL INSTITUTIONS AND MONEY (4)

Prerequisites: Econ 301, 302 or permission of instructor. The monetary and financial system; relation of economic theory to monetary policy and economic activity.

## 518 SEMINAR IN THE THEORIES OF BUSINESS BEHAVIOR (4)

Prerequisite: Econ 302 or permission of instructor. Evaluation of economic and other theories of the firm with primary emphasis on decision-making processes and responses of businessmen to changes in the environment.

## 525 SEMINAR IN LABOR ECONOMICS (4)

Prerequisite: Econ 325 or permission of instructor. Selected topics in the economics of labor markets and the process of collective bargaining.

## 553 SEMINAR IN ADMINISTRATIVE CONTROLS (4)

Prerequisite: BA 350 or 351 and a working knowledge of application of mathematics to business problems, or permission of instructor. Uses of accounting, statistics, and cybernetics by management in the exercise of planning and controlling functions.

## 561 SEMINAR IN INTERNATIONAL TRADE (4)

Prerequisite: Econ 461. Pure theory of international trade and its relevance to the modern world.

## 575 SEMINAR IN QUANTITATIVE ANALYSIS (4)

Prerequisites: Econ 375 and permission of instructor. Nature, meaning, and application of quantitative techniques used in economic and business research.

## 582 SEMINAR IN REGIONAL ECONOMICS (4)

Prerequisite: Econ 482 or permission of instructor. Case studies in regional social accounting, growth and stability, intra- and inter-regional relations; concepts and criteria of regional planning with emphasis on the Pacific Northwest.

## 599 THESIS (4-9)

## COURSES IN BUSINESS ADMINISTRATION

## 101 INTRODUCTION TO BUSINESS (5)

Elementary business organization, various types of ownership, location of business plants, labor problems, marketing problems, long and short term financing, and managerial controls.

## 251 PRINCIPLES OF ACCOUNTING (4)

Prerequisite: passing score on mathematics entrance test; not open to first or second quarter freshmen. Introduction to the theory of accounting, including book-keeping and financial statements.

## 252 PRINCIPLES OF ACCOUNTING (4)

Prerequisite: BA 251. Emphasis on depreciation, the voucher system, partnership and corporation accounting.

## 271 LAW AND THE BUSINESS ENVIRONMENT (5)

Historical development of legal institutions; impact of law on individual and business decisions; law of contracts underlying business agreements.

## 291 PERSONAL FINANCE AND INVESTMENTS (3)

Various outlets for savings, such as savings accounts, stocks, bonds, and insurance; major institutions in the investment market. Summer only.

## 302 PRINCIPLES OF PRODUCTION (5)

Prerequisites: Econ 202 and BA 350, or permission of instructor. Principles and procedures of the manufacturing enterprise; organization and administration, location and layout, planning and control.

## 311 CORPORATE FINANCE (5)

Prerequisite: BA 101 or Econ 201, BA 350 or permission of instructor. Structure and operation of financial management; problems of internal financial analysis, forecasting, planning and control, capital supply and budgeting; dividend policy; mergers, acquisitions.

## Economics

- 312 INVESTMENT (4)  
Prerequisite: BA 311. Security investment, analysis and forecasting of security markets; industry studies, portfolio construction, security selection; corporate government and revenue bonds; efficient portfolio management for different classes of institutions and individuals.
- 313 INSURANCE (4)  
Prerequisites: BA 311 or permission of instructor. Insurance in business, in personal affairs, in government; group and social insurance.
- 322 PERSONNEL MANAGEMENT (5)  
Prerequisite: BA 101 or Econ 201. Principles and practices involved in obtaining and maintaining an effective working force; job evaluation, hiring practices, and wage administration.
- 330 PRINCIPLES OF MARKETING (5)  
Prerequisite: BA 101 or Econ 201, or permission of instructor. Institutions, functions, problems and policies in the distribution of industrial and consumer goods; pricing, costs, and governmental regulations.
- 331 ADVERTISING (4)  
Prerequisite: BA 330 or permission of instructor. Promotional objectives and strategies of the firm; organization of advertising function; media selection and evaluation; psychological aspects; new developments such as use of computer and mathematical models.
- 332 SALES MANAGEMENT (4)  
Prerequisite: BA 330. Nature of personal selling and retailing; emphasis on management of sales personnel and the merchandising effort.
- 336 PRINCIPLES OF TRANSPORTATION (5)  
Prerequisite: Econ 201. Economic principles and problems relative to the transportation and communication system of the United States.
- 350 ACCOUNTING ANALYSIS AND CONTROL (5)  
Prerequisite: BA 252 or permission of instructor. Theory and use of accounting data in management control and the decision-making process; the flow of funds statement; analysis of accounting statements as a guide to management and investors; survey of cost accounting and budgeting.
- 351 COST ACCOUNTING (5)  
Prerequisite: BA 350; available to students who have taken Econ 353 only with permission of instructor. Historical factory job and process cost systems, distribution costs systems, fixed and flexible budgeting and other controls over business operations available from accounting records.
- 352 INTERMEDIATE ACCOUNTING (5)  
Prerequisite: BA 350. Accounting theory and its application to financial statements, inventories, depreciation, and funds.
- 354 INCOME TAX ACCOUNTING I (3)  
Prerequisite: BA 251 or permission of instructor. General income tax requirements; special problems relating to individual tax returns.
- 356 MUNICIPAL AND GOVERNMENTAL ACCOUNTING (3)  
Prerequisite: BA 251 or permission of instructor. Fund and budgetary accounting as applied to municipalities, governmental units, and non-profit organizations.
- 359 AUTOMATIC DATA PROCESSING IN ACCOUNTING (3)  
Prerequisites: BA 350 or equivalent and familiarity with electronic data processing systems, or permission of instructor. Problems in adaptation of accounting principles to automatic data processing systems.
- 371 LAW OF COMMERCIAL TRANSACTIONS (5)  
Prerequisite: BA 271. Legal principles underlying the law of agency, negotiable instruments, sales, partnerships, and corporations.
- 400 SPECIAL PROBLEMS IN BUSINESS ADMINISTRATION (1-5)  
Prerequisites: 20 credits in business administration and economics and prior consultation with instructor.
- 401 ADMINISTRATIVE ORGANIZATION AND BEHAVIOR (5)  
Prerequisite: BA 350 or permission of instructor. Analysis of processes of management; functions, decision-making, standards of performance, interdisciplinary contributions to organizational behavior.
- 405 BUSINESS POLICY (5)  
Prerequisites: BA 311, 330, 401. Overall general management of business enterprise integrating the areas of marketing, production, finance, personnel; development and assessment of policy commitments; to be taken in student's final undergraduate quarter.
- 408 THE ROLE OF BUSINESS IN AMERICAN SOCIETY (3)  
Development of American capitalism and its legal, philosophical, and ethical foundations.

## 12 MANAGEMENT OF FINANCIAL INSTITUTIONS (4)

Prerequisites: Econ 311, BA 311. Managing commercial banks, savings and loan associations, insurance companies, mutual funds.

## 17 SPECIAL INTEREST SEMINARS IN BUSINESS ADMINISTRATION

417a Marketing Management (4)

Prerequisite: BA 330.

417b Financial Management (4)

Prerequisite: BA 311.

417c Quantitative Methods in Business (4)

## 21 PROBLEMS IN PERSONNEL ADMINISTRATION (3)

Not open to students who have taken BA 322. Problems of wage and salary administration, employee rating, and employee selection. Summer only.

## 30 MARKETING RESEARCH (5)

Prerequisites: BA 330, Econ 375. 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.

## 41 ADVANCED COST ACCOUNTING AND CONTROLLERSHIP (4)

Prerequisite: BA 351. Critical examination of controls available to management from cost and other accounting records.

## 43 SCHOOL AND FINANCIAL ACCOUNTING CONCEPTS (3)

A non-technical development of concepts that underlie school and financial accounting, an evaluation of inherent limitations, and interpretation of accounting statements. Not open to students with a major in economics or business.

## 44 INCOME TAX ACCOUNTING II (3)

Prerequisites: BA 252, 354. Special problems of partnerships, corporations, and trusts; introduction to tax research.

## 45 ADVANCED ACCOUNTING (5)

Prerequisite: BA 352. Application of accounting theory to partnerships, branch accounting, installment sales, and other problems.

## 46 CONSOLIDATIONS AND FIDUCIARY ACCOUNTING (5)

Prerequisite: BA 455. Special problems of consolidated corporations and fiduciaries.

## 457 AUDITING (5)

Prerequisite: BA 455, or 350 and permission of instructor. Generally accepted auditing standards and principles; applications in public and internal auditing.

## 459 ADVANCED ACCOUNTING THEORY (3)

Prerequisite: BA 350. Theory of accounting related to income measurement, assets, and equities; uses and limitations of general purpose financial statements.

## COURSES IN BUSINESS EDUCATION

## 116 INTERMEDIATE TYPEWRITING (2)

Prerequisite: one year of high school typewriting or equivalent.

## 117 ADVANCED TYPEWRITING (2)

Prerequisite: Bus Ed 116 or equivalent, or advanced high school study in typewriting. Advanced work on rough drafts, tabulation, and business communications.

## 120 BEGINNING SHORTHAND (3)

Fundamentals of Gregg shorthand including development of skill in reading and writing from printed shorthand.

## 121 INTERMEDIATE SHORTHAND (3)

Prerequisite: Bus Ed 120 or equivalent. Continued development of skill in reading and writing more advanced forms of shorthand.

## 122 ADVANCED SHORTHAND I (3)

Prerequisite: Bus Ed 121 or equivalent. Principles of Gregg shorthand with intensive dictation on new matter; dictation and transcription of business correspondence.

## 150 ACCOUNTING FOR SECRETARIES (3)

Theory and practice of bookkeeping and accounting, with emphasis on both cash and accrual systems.

## 197a BASIC TYPING (2)

For students with no previous typing instruction. Emphasis on development of basic skills and techniques; extension 1970.

## 201 BUSINESS CORRESPONDENCE (3)

Prerequisite: English 101 or equivalent. Development of skill in the use of correct English for business purposes.

## 215 BUSINESS TYPEWRITING (2)

Prerequisite: Bus Ed 117 or equivalent. Advanced course for development of proficiency in speed and control; business forms.

## Economics

- 222 ADVANCED SHORTHAND II (3)  
Prerequisite: Bus Ed 122 or equivalent, or two years of high school shorthand. Intensive dictation and transcription practice on business correspondence; development of a comprehensive business vocabulary.
- 223 SHORTHAND TRANSCRIPTION (3)  
Prerequisite: Bus Ed 122 or equivalent, or two years of high school shorthand. Development of habits, attitudes, and transcription skills, with emphasis on mailable transcripts.
- 224 SECRETARIAL PRACTICE (3)  
Development of transcription skills, office techniques, and the duties and problems of the secretary.
- 241 OFFICE MACHINES (3)  
Prerequisite: one year high school typewriting or equivalent. Operation of rotary and printing calculators, adding machines, transcribing and recording machines, and electric typewriters.
- 242 SPECIALIZED OFFICE MACHINES (3)  
Prerequisite: Bus Ed 241 or equivalent. Advanced training in application problems using rotary and printing calculators, adding machines; further training in use of transcribing and recording machines; introduction to data processing.
- 319 BUSINESS EDUCATION IN THE SECONDARY SCHOOL (3)  
Curriculum planning with consideration of philosophy, scope, and objectives.
- 321 TEACHING BOOKKEEPING AND BASIC BUSINESS SUBJECTS (3)  
Objectives, materials, and methods of presentation.
- 322 METHODS OF TEACHING TYPEWRITING (3)  
Use of newest instructional aids and equipment.
- 323 METHODS OF TEACHING SHORTHAND AND TRANSCRIPTION (3)  
Lesson planning, grading, demonstrations, and dictation techniques.
- 400 DIRECTED STUDY IN BUSINESS EDUCATION (1-3)  
Prerequisites: senior standing and permission of instructor. Individual instruction.
- 471 CURRENT TRENDS IN THE TEACHING OF TYPEWRITING (3)  
Trends in methods, materials, audio-visual devices. Summer only.
- 472 IMPROVEMENT OF INSTRUCTION IN THE TEACHING OF BOOKKEEPING (3)  
Prerequisite: permission of department. Critical evaluation of content materials, methods, and practices used in teaching bookkeeping. Summer only.
- 473 ECONOMIC AND CONSUMER EDUCATION IN THE SCHOOLS (3)  
Organization and integration of economic and consumer education courses in school programs.
- 474 OFFICE AUTOMATION FOR BUSINESS TEACHERS (3)  
Prerequisites: business teaching experience. Data processing instruction in the high school business curriculum; unit record and electronic data processing in the modern office; materials, equipment, and terminology.
- 501 SPECIAL PROJECTS IN BUSINESS EDUCATION (2-3)  
Supervised planning and development of practical creative projects in business education.
- 502 IMPROVEMENT OF INSTRUCTION IN SECRETARIAL STUDIES (3)  
Prerequisite: permission of department. Modern methods of teaching typing, shorthand, transcription, and office practice, with special concern for the psychology of skill building and teaching techniques. Summer only.
- 503 PROBLEMS AND ISSUES IN BUSINESS EDUCATION (3)  
Prerequisite: graduate standing and teaching experience. Trends in business programs of secondary schools. Summer only.





# EDUCATION

*Professors:* Hite (Chairman), Beldin, Billings, Bond, Darrow, Ellis, Ford, Higbee, Kelly, Kuder, McCracken, Ross, Skeen, Starbird, N. Thompson, R. Thompson, Watrous.

*Associate Professors:* Blackwell, Brown, Carroll, Covington, Fennimore, Feringer, Ferris, Friet, Grover, Hovenier, Karason, Lamb, Latta, Margaritis, McDonald, McElroy, McInnis, Nickelson, Nicol, Panches, Savitch, Van Wingerden, Wills.

*Assistant Professors:* Bieler, Dalias, Gilbert, Jones, Kjarsgaard, Moon, Mullen, M. Schwartz, S. Schwartz, Vander Velde.

*Instructor:* Kest .

*Lecturers:* Bishop, Jacobs, Keagle, Petry, Savage.

The Department of Education in cooperation with other departments of the College and with the public schools of Western Washington offers professional programs for the preparation of teachers and other school personnel. At the undergraduate level, the department offers courses in the required professional sequence (see page 57) and electives in early childhood education, the education of the handicapped and mentally retarded, use of educational media, instruction in reading, and courses related to general teaching processes. The College is cooperating with the state, with public schools, and with professional associations in developing new programs of teacher education stressing performance criteria and emphasizing field centered activities.

At the graduate level, the department offers a wide variety of master's degree programs for teaching specialists and school administrators. See *Graduate Bulletin* for details.

Undergraduate major and minor concentrations for teachers are offered by the respective academic departments. Refer to specific department sections for details.

*The Elementary Education Major* and the *Elementary Teaching Minor* are offered as interdepartmental concentrations. All elementary teachers will complete either the major or the minor. See Interdepartmental Programs (pages 198-199) for specifications. While many of the courses are offered in various departments, responsibility for coordination and advisement rests with the Department of Education.

The Education Department also has administrative responsibility for Library Science. See page 135.

## DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, a student who wishes to graduate with departmental honors must complete Education 336e,f,g, 336h, 337h, 436e,f,g, for a total of 20 credits of honors work in education; earn 3 or 4 credits of honors work in student teaching; satisfactorily perform on a comprehensive examination in education.

## GRADUATE STUDY

For a number of concentrations in education leading to the Master of Education degree, see the *Graduate Bulletin*.

## COURSES IN EDUCATION

**KEY TO COURSE NUMBERS:** The first digit follows the College policy of numbering for the year in which the course is normally taken. The second digit signifies the following course groups:

0	Introductory
1	Foundations
2	Curriculum and Instruction
3	Child and Youth Education
4	Administration and Supervision
5	Educational Media
6	Special Education and the Disadvantaged
7	Statistics and Research
8	Reading
9	Supervised Teaching or Practicums

(See Psychology section for courses in Educational Psychology.)

## Education

- 109 INTRODUCTION TO EDUCATION  
Introduction to the history, sociology, philosophy, and psychology of education; for Fairhaven College students.
- 131 INTRODUCTION TO EARLY CHILDHOOD EDUCATION (3)  
Review of the field in terms of history, philosophy, and professional opportunities; observation of young children.
- 200 SPECIAL PROJECTS IN EDUCATION (2-5)
- 300 SPECIAL PROJECTS IN EDUCATION (2-5)
- 310 THE TEACHER AND THE SOCIAL ORDER (3)  
Prerequisite: sophomore status. The conservative and liberal functions of American education and the consequent responsibilities of the teacher; the function of knowledge in society.
- 320 TEACHING LISTENING IN THE ELEMENTARY SCHOOL (3)  
Analysis and practice of methods of direct instruction of specific listening skills needed for comprehension, critical and appreciative learning.
- 331 CREATIVE LEARNING EXPERIENCES IN EARLY CHILDHOOD EDUCATION (3)  
Prerequisite: permission of department. Materials and teaching strategies designed to elicit creative responses in young children through storytelling, art, music, body movement, puppetry, creative dramatics, and other media of expression.
- 336e,f,g HONORS TUTORIAL (2-5)
- 336h SUMMER READINGS (2-5)
- 337h SEMINAR IN RESEARCH (2)
- 360 INTRODUCTION TO EXCEPTIONAL CHILDREN (3)  
Prerequisite: admission to teacher education or permission of department. Problems and methods of identifying and teaching children who are handicapped or gifted.
- 361 RECREATIONAL COUNSELING WITH HANDICAPPED CHILDREN (4)  
Prerequisites: permission of department. Outdoor camp program for handicapped children and adults; planning and carrying out a program of hiking, boating, fishing, swimming, and working with craft materials.
- 364 WORKING WITH YOUNG DISADVANTAGED CHILDREN AND THEIR FAMILIES (3)  
Effects of cultural-economic deprivation on families and young children: sociological implication and psychological influences; understanding minority culture as a means of meeting educational needs.
- 385 FOUNDATIONS OF READING INSTRUCTION (2)  
Prerequisite: Ed 301. Study-reading in content areas; speed reading; basic principles of teaching reading; standardized and informal reading testing.
- 390 SEPTEMBER PRACTICUM (3)  
Prerequisite: permission of department. A 3-week observation and micro-teaching in the public schools; readings, seminars, and tests to enable the student to make a responsible decision about his future in teaching.
- 397j APPLICATION OF EDUCATION PRINCIPLES (7)  
Prerequisite: permission of department. Analysis, experimentation, and application of theories of learning, curriculum, and methods; guidance in relating theory to practice in the public school.
- 397k SOCIAL STUDIES AND SCIENCE METHODS AND MATERIALS (7)  
Prerequisite: permission of department. Curriculum, methods, and materials used in teaching elementary school.
- 397m P.E., ART, AND MUSIC METHODS AND MATERIALS (4)  
Prerequisite: permission of department. Curriculum, methods, and materials used in teaching elementary school.
- 400 SPECIAL PROJECTS IN EDUCATION (2-5)  
Prerequisites: permission of department; prior to admission a one-page description of project or research proposal must be presented. Special supervised individual projects.
- 411 FOUNDATIONS OF EDUCATION (4)  
Prerequisite: admission to teacher education. Forces, influences, and aims in the American society and education: what they are, how they develop; their effect upon what, how, and why people learn.
- 413 HISTORY OF AMERICAN EDUCATION (4)  
Prerequisite: permission of instructor. Historical development of formal education emphasizing the impact of cultural forces on evolution of the American system of public education.

- 414 COMPARATIVE EDUCATION (3)  
Prerequisite: permission of instructor. Educational systems in the major countries; backgrounds, aims, types, and present functions; comparison with the American system.
- 416 PERSISTENT PROBLEMS IN EDUCATION (3)  
Prerequisite: permission of instructor. Such issues as merit pay, federal aid, ability grouping, teachers' organizations, school reorganization, and the place of religious observance in the public schools.
- 417b EDUCATION IN DEVELOPING COUNTRIES (3)  
Education as a positive and negative factor in the political, economic, and social structures and activities of developing countries; political, economic and social forces influencing structure and function of education.
- 420 INSTRUCTION IN SECONDARY SCHOOLS (2)  
Prerequisites: admission to teacher education; Psych 351, 352. Recommended for quarter immediately preceding student teaching; examination and laboratory practice of major methods; videotaping of simulated and micro-teaching experience; observation in schools.
- 421 INSTRUCTION IN THE ELEMENTARY SCHOOL (5)  
Prerequisite: Ed 390. Organizing learning experiences, selecting methods or processes and materials appropriate to the maturation and rate of development of children.
- 422 THE ELEMENTARY CURRICULUM (3)  
Prerequisite: student teaching, teaching experience, or permission of department. Historical and analytical study of the curriculum of the elementary school.
- 423 AEROSPACE EDUCATION WORKSHOP (2-5)  
Prerequisite: teaching experience or permission of instructor. A non-technical examination of current programs in aviation and space exploration for elementary and secondary teachers; may be repeated.
- 424a,b,c,d,x LANGUAGE ARTS IN THE CURRICULUM (3)  
Prerequisite: student teaching, teaching experience, or permission of department. Functions and programs of language arts in the curriculum. Letters indicate grade level of emphasis in various sections of the course:  
(a) Primary  
(b) Intermediate  
(c) Junior High  
(d) Senior High  
(x) Early Childhood
- 425 THE SECONDARY CURRICULUM (3)  
Prerequisite: student teaching, teaching experience, or permission of department. Historical and analytical study of the curriculum of the secondary school; application of theory to instructional practices.
- 426a,b,c,d SOCIAL STUDIES IN THE CURRICULUM (3)  
Prerequisite: 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:  
(a) Primary  
(b) Intermediate  
(c) Junior High  
(d) Senior High
- 427 ADULT EDUCATION: PRINCIPLES AND METHODS (3)  
Prerequisite: permission of instructor. Social, educational, and administrative implications of continuing education.
- 428 WORKSHOP IN INSTRUCTION (2-5)  
Prerequisite: teaching experience. Offered in conjunction with a summer conference, emphasizing an aspect of instruction; topics vary from summer to summer.
- 429 SEMINAR IN OUTDOOR AND CONSERVATION EDUCATION (5)  
Prerequisite: permission of department. Natural history with emphasis on conservation, biology, ecology, geography, geology, mineralogy, forestry.
- 431 PRINCIPLES AND PROBLEMS OF EARLY CHILDHOOD EDUCATION (3)  
Prerequisite: senior status or permission of instructor. Development of curriculum for young children; effect of early environment upon learning; analysis of school practices in the context of modern educational theory and psychology of learning.
- 432 NURSERY EDUCATION (3)  
Prerequisite: Ed 431 or permission of instructor. Development of curriculum for nursery school age children, emphasizing experiences that develop language and physical coordination, inquiry and creativity, and readiness for kindergarten and grade one.
- 433 KINDERGARTEN AND PRIMARY EDUCATION (3)  
Prerequisites: Ed 431 or teaching experience. Historical background; recent trends; organization of facilities and materials for the kindergarten program; curriculum development based upon research in this area.

## Education

- 434e CHILD AND YOUTH STUDY (3)  
Prerequisite: permission of department. Observation of one pupil for a school year; systematic examination of those observations in bi-weekly seminars. The study may be extended for a second year as Ed 434f.
- 435e CHILD AND YOUTH STUDY WORKSHOP (3)  
Prerequisite: permission of department. Case record approach to the principles of child and youth study. Second year leaders register for Ed 435f. Summers only.
- 436e,f,g HONORS TUTORIAL (2-5)
- 437 HEAD START TEACHER TRAINING (8)  
Prerequisite: admission by National Training Office. Preparation of teachers and aides for Head Start projects; credit available for those who qualify.
- 438 SCHOOL-HOME-COMMUNITY RELATIONSHIPS (3)  
Prerequisite: admission to teacher education. Problems of communication and interaction among teachers, parents, and paraprofessionals, administrators, and community; conferencing, planning meetings, community survey, PR publications, use of mass media.
- 439 IMPROVEMENT OF WRITING SKILLS FOR CHILDREN (3)  
Prerequisite: Psych 352 or equivalent. Appropriate sequence of skills in composition for early grade children; techniques implementing creative writing and improving fundamental skills.
- 441 ANALYSIS OF TEACHING (4)  
Prerequisites: Psych 351 and permission of instructor. Interaction analysis techniques, and practice in their use; theoretical bases of selected category systems; the use of objective, systematic feedback in development of teaching skills and strategies; individual projects.
- 442 WORKING WITH STUDENT TEACHERS (3)  
Prerequisite: teaching experience. Techniques for the orientation of student teachers, major problems which confront student teachers, and evaluation of their achievement.
- 443 THE COMMUNITY COLLEGE (3)  
Prerequisite: senior or graduate status. History, objectives, organization, and role of the public community college; special attention to the expanding system in the state of Washington.
- 444 EDUCATIONAL DATA PROCESSING (3)  
Utilization of electronic data processing in school systems; history and development of systems; feasibility and comparative cost analysis; data communications.
- 445 CURRENT TRENDS IN EDUCATION (2-5)  
Seminars for the study of one particular current topic in education.
- 445a NEGOTIATIONS (3)  
Strategies for productive negotiation of professional matters stipulated in the Education Law of 1967.
- 445b ANALYSIS OF TEACHING (2-5)  
In-depth investigation of specific interaction analysis techniques.
- 445c EVALUATION OF SPECIAL EDUCATION (3)  
Prerequisite: teaching experience or permission of instructor. Evaluation process of new instructional materials designed for exceptional children.
- 445d CURRICULUM AND TEACHING IN EARLY CHILDHOOD EDUCATION (4)  
Prerequisite: teaching experience or permission of department. Experimental approaches to the teaching of young children.
- 445e CONFRONTATION AND CRISIS IN SECONDARY EDUCATION (3)  
Discussion with personnel from the field who work with problems of drugs; legal, moral, and ethical problems; student rights and confrontation; problems of discipline.
- 450 AUDIOVISUAL COMMUNICATIONS: BASIC (3)  
Prerequisite: an introductory professional education course. The role and application of educational media and technology in the teaching-learning process; laboratory.
- 451 AUDIOVISUAL COMMUNICATIONS: ADVANCED (3)  
Prerequisite: Ed 450. Preparation of inexpensive instructional materials for classroom utilization; selection, evaluation, utilization of major types of audiovisual materials and equipment; organization and curricular integration of educational media.
- 457 PROGRAMMED LEARNING (3)  
Prerequisite: Psych 351. Programmed learning as application of theories of learning; practice in developing specific behavioral objectives; writing short programs in field of interest.
- 461 OBSERVATION AND PARTICIPATION IN SPECIAL EDUCATION (3)  
Prerequisite: Ed 360 or permission of department. Guided observation and limited participation in selected programs for exceptional children.

- 462 THE EXCEPTIONAL CHILD IN THE CLASSROOM (4)  
Prerequisite: Ed 360. Identification and etiology of most prevalent handicaps found in special education classes; curriculum development and adaptation; selected methods and materials basic to teaching these handi-capped children.
- 464g THE DISADVANTAGED: SEMINAR (2)  
Prerequisite: teaching experience. Psychological, socio-logical, and educational implications of the problem of disadvantaged youth; analysis of planning efforts for disadvantaged children and youth.
- 465 ACTIVITIES FOR EDUCATION OF THE HANDICAPPED (3)  
Prerequisite: Ed 360 or permission of instructor. Experiences designed to provide knowledge of and ability to use equipment and material in teaching arts and crafts to handicapped children.
- 473 EDUCATIONAL STATISTICS (5)  
Prerequisite: Math 240 or permission of instructor. Measures of central tendency, variability, normal curve and goodness of fit; standard errors, t and f scores, correlation, sampling and prediction; computer applications.
- 475 EVALUATING PUPIL GROWTH (3)  
Prerequisite: 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.
- 477 HIGHER LEVEL THINKING ABILITIES (5)  
Prerequisite: Psych 351, 352. Cognitive functions and teaching strategies that promote higher level thinking abilities in students, based primarily on the work of Taba.
- 478 RESEARCH USING PROBLEM SOLVING (2)  
Application of research in the development of problem solving and teamwork skills for teachers and adminis-trators.
- 479 INQUIRY DEVELOPMENT (3-5)  
Systematic preparation of teachers in strategies related to development of autonomous and productive inquirers; instruction in four main types of action necessary to stimulate and sustain inquiry: searching, processing data, discovering, and verifying.
- 480 CONFERENCE IN READING (1-3)  
Prerequisite: teaching experience. Offered from year to year with varying themes.
- 480d OBSERVATION AND DEMONSTRATION IN READING (3)  
Prerequisite: teaching experience. Observation and participation in a classroom utilizing individualized learning procedures. Summer 1970.
- 484 THE TEACHING OF READING IN CONTENT FIELDS (3)  
Techniques of teaching reading and applying reading to studying in social studies, science, mathematics, English, and other content areas in upper intermediate and secondary grades.
- 485 BASAL READING INSTRUCTION (3)  
Prerequisite: Ed 385; open to undergraduates only. Basal reading instruction in grades K-8; methods and materials for teaching reading, reading readiness; work attack skills, word reading skills, comprehension skills; grouping; lesson planning.
- 486 PROBLEMS IN CORRECTIVE READING INSTRUCTION (4)  
Analysis, correction, and prevention of reading problems; refinement of group and informal testing, supervised practicum with pupils having mild disabilities in reading.
- 487a,b,c,d IMPROVEMENT OF INSTRUCTION IN READING (3)  
Prerequisite: graduate status. Teaching developmental reading; methods, materials, theory. Letters indicate grade level of emphasis in various sections of the course:  
(a) Primary  
(b) Intermediate  
(c) Junior High  
(d) Senior High
- 488 INDIVIDUALIZED READING INSTRUCTION (3)  
Individualized reading as a method of instruction; utilization of children's books; independent work activities; reporting and record keeping; teaching program.



## Education

### **SUPERVISED TEACHING 490-499** (except 496, 497)

#### *Requirement*

Practice in the classroom under supervision is an integral part of the student's professional preparation. The requirement in student teaching for the provisional certificate is generally 16 credits, inclusive of associated seminars.

The student, under advisement, may seek to develop teaching competence in two fields if he has adequate academic background. He may also obtain recommendations for both secondary and elementary levels if he has an appropriate major field and the Elementary Teaching Minor, and undertakes student teaching at both levels either within the 16 credit requirement or by an additional experience. However, two different experiences in the same quarter cannot be arranged.

Course challenge of the above requirement is considered by the Department of Education, with or without credit, on the basis of recency, type and effectiveness of previous teaching experience.

#### *Prerequisites*

- a. Admission and continued good standing in the professional education program (a cumulative grade point average of 2.2 or better required). Students should also be aware of the departmental grade requirement for the teaching major, and have reasonable expectations of meeting it before undertaking student teaching in that field.
- b. Completion of Education 385 (elementary) or Education 420 (secondary), Psychology 351, and either Psychology 352 or 371. (Grades of C or better required.)
- c. Completion of 128 credits.
- d. For secondary student teaching, at least 30 credits in the major. A methods course in the major is strongly recommended.
- e. For elementary student teaching, Mathematics 281 and three courses selected from: Social Studies 425, Mathematics 481, Education 485, a course in science education. (Grades of C or better are required.)
- f. A chest x-ray in compliance with state law.

#### *Application*

Students will file a plan for student teaching in the Office of the Director of Student Teaching early in winter quarter of the junior year. Students are expected to plan their senior year program around the student teaching quarter selected, since firm arrangements for assignment must be made between the College and cooperating school districts well in advance. Each student will consult with departmental advisers before making application for student teaching and will indicate a first, second, and third choice of geographic area. Normally, students will be given first choice of area and quarter, but it may be necessary to assign some to a second choice of one or both. In the latter event, the student will be consulted as to possible personal or academic hardship which may ensue. Final decisions will be made by the Director of Student Teaching.

Students planning to take student teaching fall quarter are advised that eligibility must be established by the close of spring quarter and that they are expected to begin their student teaching with the fall opening of the public school. Fall quarter student teachers will also register for Education 490.

#### *Time Involvement*

Sixteen credit courses involve seven clock hours daily, plus a seminar.

Eight credit courses involve three and one-half morning hours daily, plus a seminar.

#### *Student Teaching Resident Centers*

Student teaching opportunities are offered in Resident Centers (in residence while off campus) in Skagit County, Oak Harbor, Marysville, Snohomish, Everett, Edmonds, Mukilteo, Shoreline, Bellevue, Seattle, Renton, Kent, Auburn, Federal Way, Tacoma, Olympic Peninsula area and Vancouver, B.C. Students are responsible for their own housing arrangements. If assistance is needed, the school district or college supervisor should be consulted.

#### **490 OBSERVATION AND PARTICIPATION (3)**

Prerequisite: permission of department. Guided observation of experienced teachers and limited participation in teaching situations.

#### **491 SUPERVISED TEACHING—ELEMENTARY (16)**

Prerequisites: see general prerequisites above. Supervised teaching experience providing opportunities to develop and demonstrate teaching competence at the primary and/or intermediate level.

#### **492 SUPERVISED TEACHING—SECONDARY (16)**

Prerequisite: 30 credits in the major field. Supervised teaching experience providing opportunities to develop and demonstrate teaching competence at the junior high and/or senior high school level.

- 493, 494 SUPERVISED TEACHING—ELEMENTARY (8 ea)  
Prerequisites: see general prerequisites above; Ed 491 or 493 prerequisite to Ed 494. Supervised teaching experience providing opportunities to develop and demonstrate teaching competence at the primary and/or intermediate level.
- 495 SUPERVISED TEACHING—SECONDARY (8)  
Prerequisite: 30 credits in the major field. Supervised teaching experience providing opportunities to develop and demonstrate teaching competence at the junior high and/or senior high school level.
- 496 PRACTICUM IN DIAGNOSIS AND PRESCRIPTION IN TEACHING (2-3)  
Prerequisite: 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.
- 497a RESEARCH USING PROBLEM SOLVING (1)  
Extension fall 1969. Now offered as Ed 478.
- 497b CREATIVE ENGLISH FOR THE ELEMENTARY SCHOOL (4)  
Prerequisite: teaching or student teaching experience. Creative writing, sentence extension, creative dramatics, choral reading; laboratory experience. Summer 1970.
- 497d ADVANCED INQUIRY DEVELOPMENT (2)  
Prerequisite: Ed 479 or permission of department. Application of the Suchman Inquiry training technique. Summer 1970.
- 497e ENVIRONMENTAL EDUCATION (3)  
Prerequisite: teaching experience. Interdisciplinary approach to environmental education concepts; environmental use; ecology; environmental valuing. Extension 1970.
- 497f USING DIAGNOSIS AND PRESCRIPTION IN TEACHING (3)  
Extension 1970. Now offered as Ed 496.
- 497g SYSTEMATIC DECISION MAKING IN EDUCATIONAL ADMINISTRATION (3)  
Prerequisite: teaching experience or permission of instructor. Developing special management skills in application of systems techniques. Extension 1970.
- 497h THE POLITICS OF EDUCATION (3)  
Prerequisite: teaching experience or permission of department. Analysis of federal, state, and local educational institutions and the process by which educational policies are established. Summer 1970.
- 497n DATA PROCESSING MATERIALS FOR THE CURRICULUM (3)  
Prerequisite: Ed 444 or equivalent. Fortran problem solving techniques, simulation models; use of electronic computer programs in course development. Extension 1970.
- 497s PROFESSIONAL NEGOTIATIONS (3)  
Summer 1969. Now offered as Ed 445a.
- 497z SCHOOL-HOME-COMMUNITY RELATIONS (3)  
Extension 1969. Now offered as Ed 438.
- 498 SUPERVISED TEACHING—EXCEPTIONAL CHILDREN (8-16)  
Prerequisite: Ed 360 and 462 and student teaching or teaching experience. Supervised teaching experience providing opportunities to develop and demonstrate teaching competence for exceptional children.
- 499 THE DISADVANTAGED: EDUCATIONAL IMPLICATIONS AND PRACTICUM (5)  
Prerequisite: teaching experience. Formation of plans for work with children.
- 500 SPECIAL PROJECTS IN EDUCATION (2-5)  
Prerequisites: permission of department; prior to admission a one-page description of project or research proposal must be presented. Supervised individual projects.
- 501 INTRODUCTION TO GRADUATE STUDY (4)  
Prerequisite: graduate status. Experimental documentary, case study, survey, and other methods of educational research and investigation; required during the first quarter of the student's program leading to the master's degree.
- 511 EDUCATIONAL SOCIOLOGY (3)  
Prerequisite: Ed 411 or equivalent, and permission of instructor. Major problems in American culture as they relate to education; selected empirical studies and interpretations of social scientists upon which school policies and practices depend.

## Education

- 512 SEMINAR IN EDUCATIONAL CONCEPTS AND ISSUES: HISTORICAL-PHILOSOPHICAL (4)  
Prerequisites: Ed 501. Differing concepts of the nature of man and his education; historical and philosophical development of these concepts, their basic premises, implicit assumptions, and issues.
- 513 SEMINAR IN EDUCATIONAL CONCEPTS AND ISSUES: PSYCHOLOGICAL-SOCIOLOGICAL (4)  
Prerequisites: Ed 501 and 512. Differing concepts of the nature of the individual and society; psychological and sociological development of these concepts; basic premises and implicit assumptions.
- 515 PHILOSOPHY OF EDUCATION (3)  
Prerequisite: Ed 411 or equivalent, and permission of instructor. Critical analysis of theoretical positions in educational philosophy; emphasis on modern and contemporary discussion of educational theory. Also offered as Phil 515.
- 516 SEMINARS IN PHILOSOPHY OF EDUCATION (3 ea)  
Prerequisite: Ed 411 or equivalent. Studies of the works of one man, a problem, or a movement; implications for schooling.
- 517 HISTORY OF EDUCATIONAL THOUGHT (3)  
Prerequisite: Ed 413 or equivalent, and permission of instructor. Development of ideals, theories, institutional structures and practices.
- 518 CURRENT ISSUES IN HIGHER EDUCATION (3)  
Prerequisite: graduate status or permission of department. Examination and discussion of several current and controversial issues in higher education—e.g., student demands, minority groups, grading.
- 521a,b,c,d SEMINARS IN CURRICULUM (4 ea)  
Prerequisites: teaching experience and Ed 422 or 425, or permission of department. Planning and developing curriculum; advanced study of curriculum design and materials; independent research. Letters indicate grade level of emphasis in various sections of the course:  
(a) Primary  
(b) Intermediate  
(c) Junior High  
(d) Senior High
- 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 (3)  
Prerequisites: Ed 422, 431, 432, and 433 or permission of department; to be taken concurrently with Ed 591. Critical analysis of programs of early childhood education emphasizing interpersonal relations, role of agencies, and instructional procedures and materials.
- 532 SEMINAR IN ELEMENTARY EDUCATION (3)  
Prerequisites: Ed 501, 512, 422, or permission of department. Current issues in curriculum, methods, and organization.
- 540a THEORY IN EDUCATIONAL ADMINISTRATION (3)  
Prerequisite: graduate status. Major administrative theories and models.
- 540b PUBLIC SCHOOL ORGANIZATION AND ADMINISTRATION (3)  
Problems related to administration of school personnel, plant, and program; structure and organization of the school system.
- 541 SCHOOL LAW AND FEDERAL PROGRAMS (3)  
Prerequisite: Ed 540b. Legal principles underlying statutes and court decisions related to the schools; legal aspects of federal programs and their administration in the schools.
- 542 READINGS IN SCHOOL ADMINISTRATION (2-5)  
Prerequisite: permission of instructor. Supervised study on one or more selected topics.
- 543 SUPERVISION IN THE PUBLIC SCHOOLS (3)  
Supervision as educational leadership in the development and periodic revision of plans for continuous evaluation and improvement of school practice.
- 544 COMPUTER TECHNOLOGY AND EDUCATION (4)  
Prerequisite: Ed 540b and permission of instructor. Utilization of electronic data processing in school management, local school district research, and computer assisted instruction.
- 545 PUBLIC SCHOOL FINANCE (3)  
Prerequisite: Ed 540b. Problems involved in school finance, including budgetary procedures.



- 546 PUBLIC SCHOOL BUILDINGS AND FACILITIES (3)  
Prerequisite: Ed 540b. Planning school building programs through analysis of population trends in the community; relationship of school plant to the educational program; problems in utilization of school facilities.
- 547 SEMINAR IN SCHOOL ADMINISTRATION (2)  
Current and emergent educational problems.
- 548a,b,c FIELD EXPERIENCE IN ADMINISTRATION FOR THE PRINCIPAL (2-6)  
Prerequisite: permission of department. For applicants for a Washington State administrative credential.
- 549 SEMINAR IN SCHOOL PERSONNEL ADMINISTRATION (3)  
Prerequisite: Ed 540b. Professional relationships among certified employees and other school personnel; development and implementation of policies. Summer only.
- 550 ORGANIZATION AND ADMINISTRATION OF EDUCATIONAL MEDIA PROGRAMS (3)  
Prerequisite: Ed 450 or permission of department. Basic problems and principles in establishing and directing an audiovisual center; coordinating, staffing, financing, housing and evaluating the service.
- 560 SEMINARS IN SPECIAL EDUCATION (2-5)  
Prerequisites: graduate status and permission of department. 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 PROBLEMS IN SPECIAL EDUCATION (3-5)  
Prerequisite: permission of department. Intensive study of problems in a selected area of special education.
- 562 ETIOLOGY OF MENTAL RETARDATION (3)  
Prerequisite: teaching experience or permission of department. Mental retardation; major clinical types whose principal feature is retardation; causes; on-going research into this problem.
- 563 CURRICULUM AND METHODS OF INSTRUCTION FOR THE MENTALLY RETARDED (3)  
Prerequisite: Ed 562. Class organization, selection of curriculum content and instructional aids for teaching children having a wide range of mental retardation.
- 564 DESCRIPTION, IDENTIFICATION AND CLASSROOM MANAGEMENT OF MALADJUSTED CHILDREN (3)  
Prerequisite: teaching experience or permission of department. The emotionally disturbed child in the classroom.
- 570 FIELD PROJECT OR THESIS (6)  
Prerequisite: approval of the 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.
- 575 ASSESSING EDUCATIONAL QUALITY (3)  
Prerequisite: Ed 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 organizations; for coordinators and research workers in the schools.
- 584 MEASUREMENT AND DESIGN IN READING RESEARCH (3)  
To be taken prior to or concurrent with Ed 501. Validation of standardized tests; application of research designs.
- 585 SEMINAR IN READING EDUCATION (2-3)  
Reading education research and its application to classroom practices, to individual problems in the teaching of reading, to supervision and administration of reading programs, and to the remediation of reading problems.
- 586 SEMINAR FOR READING SPECIALISTS (3)  
Prerequisite: permission of instructor. Development and execution of a research design in reading.
- 590 SEMINAR IN DEMONSTRATION TEACHING AND SUPERVISION (3)  
Prerequisite: Ed 442 or permission of department. Advanced studies in the principles of supervision, and the utilization of instructional resources and the evaluation and improvement of teaching.
- 591 SUPERVISED LABORATORY EXPERIENCE IN EARLY CHILDHOOD EDUCATION (5)  
Prerequisite: permission of department; Ed 531 concurrent. Experience in administration of early childhood units.

## Education

### 594e,f,g PRACTICUM IN READING DIAGNOSIS AND REMEDIATION (4 ea)

Prerequisite or concurrent: Ed 487 or equivalent, and permission of department; e, f, g must be taken in sequence.

- (e) Standard diagnostic tests in reading; supervised practice in their use.
- (f) Individual case study; diagnosis of reading problems.
- (g) Remedial instruction of children with reading problems.

### 597b EVALUATION OF CURRICULUM (3)

Prerequisite: Ed 501. Development and application of criteria for evaluating teaching, especially as applied to

new educational programs; appraisal of affective as well as cognitive kinds of human behavior.

### 598 PRACTICUM IN SPECIAL EDUCATION (4)

Individualized experience in programs for exceptional children for students having had teaching experience with handicapped children.

### 648a,b,c FIELD EXPERIENCE IN ADMINISTRATION FOR THE PRINCIPAL (2-6)

Prerequisite: permission of department. For applicants for a Washington State administrative credential who have had one quarter of Ed 548a,b,c.



# ENGLISH

*Professors:* McDonnell (Chairman), Becker, Brown, Huff, Lee, Muldrow, O'Brien, Peters, Thompson.

*Associate Professors:* Bowman, Cary, Francis, Garber, Inniss, Johnson, Larsen, Lawyer, Lewis, Miller, Odom, Ryan.

*Assistant Professors:* Barchek, Keep, Larner, Lavers, Symes.

*Instructors:* Carlton, Foley, Siegel, Slemmons.

*Lecturers:* Donker, Farley, Merrill, Odell, Price, Skinner, Stannard, Tipton.

## TEACHER EDUCATION

*Major* Elementary 45 credits

- English 261, 262, 263, 380, 390
- Two courses from the English 321-326 series
- Two courses from English 331, 332, 333
- Library 350 unless taken as part of the Elementary Teaching Minor
- Electives under departmental advisement

*Major* Secondary 45 credits

- English 261, 262, 263, 343, 386
- Three courses from the English 321-326 series
- Two courses from English 331, 332, 333
- English 390, 496 (unless minor A or B below is elected)
- Electives under advisement to include at least one 400 level course

English secondary majors may elect minors A, B, C, or D below, or a minor in another department.

*Minors* 24-25 credits

### A. Linguistics Emphasis

- Linguistics 201, 303
  - English 390, 405a, 405b, 490, 491, 496
- (Linguistics 301 or 302 recommended for Fifth Year)

### B. Rhetoric

- Linguistics 201
- English 302, 390, 405a, 405b, 496
- Six credits in electives under advisement

### C. Creative Writing

- Four courses from English 402a,b,c; 403a,b,c; 404a,b,c
- English 386, 470, 477
- 3 credits under departmental advisement in upper division electives in English

### D. Journalism

- Journalism 104 or 406
  - Journalism 160, 204, 304, 340, 350
  - Three staff courses (or equivalent professional experience) from:
    - (a) Journalism 111, 112, 113, 211, 212, 213, 311, 312, 313, 411, 412, 413
    - (b) Journalism 121, 122, 123, 221, 222, 223, 321, 322, 323, 421, 422, 423
- At least two courses are to be selected from list (a)

### E. English Minor (not open to English majors)

- English 261, 262, 263, 343, 390, 496
- Electives under departmental advisement

## English

### Interdisciplinary Major Concentration

(Satisfies both major and minor for teaching competency in both fields.)

#### English 40 credits

- English 261, 263
- Two courses from English 321-326 series
- Two courses from English 331, 332, 333
- English 343, 386, 390, 405a or 405b, 496
- Electives in English under department advisement

#### Speech 40 credits

- Speech 130, 202, 205 (or 4 credits in 206 or 486)
- Speech 235, 319, 332, 337
- Speech 340 (or Journalism 340 or 406), 350
- Speech 405 (or 204 or 307), 485
- One course from Speech 402, 407, 480, 481, 483, 490, 491
- One course from Speech 424, 425, 426, 427a,b,c

#### Teaching Competence

Recommendation for teaching competence normally requires completion of the major or major concentration with a grade of 2.5 or better. An exception is provided through the extended minor listed below.

#### Extended Minor 35 credits

To accompany a history major for those who desire recommendation for a teaching competence combination appropriate for junior high or middle school.

- English 261, 262, 263, 343, 390, 405b, 496
- One course from the English 321-326 series
- Two courses from the English 331-333 series
- Library Science 307

## ARTS AND SCIENCES

### Major 60 credits plus Supporting Courses

- English 261, 262, 263, 341, 343, 487
- Four courses from English 321-326, at least two of which are from English 321, 322, 323
- Two courses from English 331, 332, 333
- English 349 or 359
- Electives under departmental advisement, including at least one 400 level course
- Supporting courses: 24 credits or the equivalent in one foreign language

### Major—Journalism 60 credits

- Journalism 104 or 406
- Journalism 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) Journalism 111, 112, 113, 211, 212, 213, 311, 312, 313, 411, 412, 413
  - (b) Journalism 121, 122, 123, 221, 222, 223, 321, 322, 323, 421, 422, 423(May be waived by substitution of equivalent professional experience)
- Journalism 430
- Choice of Journalism 310, 400, 440, 460
- 15 credits in related academic areas selected under advisement of journalism faculty

### Minors 24-25 credits

#### A. English

- English 261, 262, 263, 343
- Electives under departmental advisement

#### B. Linguistics

- Linguistics 201, 202, 301, 302, 303
- English 390, 490, 491

**C. Rhetorical Emphasis**

- Linguistics 201
- English 302, 405a, 405b
- 12 credits in electives under advisement

**D. Creative Writing**

- Four courses from English 402a,b,c; 403a,b,c; 404a,b,c
- English 386, 470, 477
- 3 credits under departmental advisement in upper division electives in English

**E. Journalism**

- Journalism 104 or 406
  - Journalism 160, 204, 304, 340, 350
  - Three staff courses, or equivalent professional experience, from:
    - (a) Journalism 111, 112, 113, 211, 212, 213, 311, 312, 313, 411, 412, 413
    - (b) Journalism 121, 122, 123, 221, 222, 223, 321, 322, 323, 421, 422, 423
- At least two courses of the above are to be selected from list (a)

**DEPARTMENTAL HONORS**

In addition to the general requirements for all honors students, an English major who wishes to graduate "with honors" must complete English 460 and 487, an upper division course in philosophy or in comparative literature read in a foreign language.

**GRADUATE STUDY**

For concentrations leading to the Master of Education or Master of Arts degree, see *Graduate Bulletin*.

**COURSES IN ENGLISH**

- 101 LANGUAGE AND EXPOSITION (3)  
Study of language and the principles of exposition; emphasis on organization and interpretation; study of rhetorical contexts.
- 131, 132, 133 MASTERPIECES OF WORLD LITERATURE WITH COMPOSITION (3 ea)  
Prerequisites: Eng 131 (or 101) prerequisite to 132; 132 prerequisite to 133. Papers based on readings from classical, medieval, renaissance neoclassical, romantic, and modern literature.
- 201 LITERATURE AND EXPOSITION (3)  
Prerequisite: Eng 101 or equivalent. Elective course in composition based on imaginative literature.
- 202 LITERATURE AND EXPOSITION (3)  
Prerequisite: Eng 101 or equivalent. Elective course in composition based on literature of the natural and social sciences.
- 234 INTRODUCTION TO BLACK LITERATURE (3)  
Writing of Black writers in America in the 20th century.
- 261, 262, 263 CRITICAL INTRODUCTIONS TO FICTION, DRAMA, POETRY (3 ea)  
Prerequisite: Eng 101 or equivalent; intended for majors and minors. Form and function, meaning and value in imaginative literature.
- 281, 282, 283 WESTERN WORLD LITERATURE (3 ea)  
Reading from classical and medieval, renaissance and neoclassical, romantic and modern literature. For students electing Option II for the general education humanities requirement; not open to students with credit in Gen Educ 121, 122, 123.
- 300 DIRECTED INDIVIDUAL STUDY (1-3)  
Prerequisite: permission of instructor and department chairman. Individual study of a topic not normally covered in a formal course.
- 302 ADVANCED EXPOSITION (3)  
Prerequisite: permission of instructor. Opportunity for writing on a mature level for publication.

*For English majors and minors, all upper division literature courses have English 261, 262, 263 as prerequisites. For transfer English majors, 9 credit hours in literature and concurrent registration in this series will meet the prerequisite.*

## English

### 321-326 ENGLISH LITERATURE (4 ea)

Prerequisite: majors and minors see notice above; for other students Eng 263.

- 321 Beowulf through Everyman
- 322 Spenser through the Metaphysical Poets
- 323 Dryden through Johnson
- 324 Blake through Keats
- 325 Carlyle through Wilde
- 326 Hardy through Thomas

### 331, 332, 333 AMERICAN LITERATURE (3 ea)

Prerequisite: majors and minors see notice above; for other students Eng 263. Historical, critical study of major American writers.

- 331 Poe through Whitman
- 332 Twain through Dreiser
- 333 Frost through Faulkner

### 334 BLACK LITERATURE—AUTOBIOGRAPHIES (3)

Prerequisites: Eng 261, 262, 263, or permission of instructor.

### 335 BLACK LITERATURE—POETRY, DRAMA, FICTION (3)

Prerequisites: Eng 261, 262, 263 or permission of instructor.

### 341 CHAUCER (3)

Prerequisites: majors and minors see notice above; for other students Eng 263. Chaucer's language and poetry, with emphasis upon *The Canterbury Tales*.

### 343 SHAKESPEARE (3)

Prerequisite: majors and minors see notice above; for other students Eng 263. Survey of principal plays. Also offered as Speech 320.

### 349 MAJOR ENGLISH WRITERS (3 ea)

Prerequisite: majors and minors see notice above; for other students Eng 263. Different writers of eminence will be treated from year to year in this series.

### 359 MAJOR AMERICAN WRITERS (3 ea)

Prerequisite: majors and minors see notice above; for other students Eng 263. Different writers of eminence will be treated from year to year in this series.

### 380 WORLD LITERATURE FOR THE ELEMENTARY TEACHER (3)

Prerequisite: majors and minors see notice above; for other students Eng 263. Critical background in the literary form of myth, legend, folk literature, epic, fairy tales, and realistic fiction; in-depth analysis of selected children's literature, both poetry and prose.

### 386 THEORY OF LITERATURE (3)

Prerequisite: majors and minors see notice above; for other students Eng 263. The nature and judgment of literature as a form of art: principles and problems; writing of critical studies.

### 390 THE STRUCTURE OF AMERICAN ENGLISH (4)

Introduction to structural and transformational grammars.

### 399a,b,c HONORS TUTORIAL (2-5 ea)

### 400 DIRECTED INDIVIDUAL STUDY (1-3)

Prerequisite: permission of instructor and of the department chairman. Individual study of a topic not normally covered in formal courses.

### 402a,b,c CREATIVE WRITING: FICTION (3 ea)

Prerequisite: English 261 or permission of instructor. Opportunity for disciplined expression in writing fiction; reading short stories and novels. May be repeated as a, b, c, with a limit of one course per quarter.

### 403a,b,c CREATIVE WRITING: DRAMA (3 ea)

Prerequisite: English 262 or permission of instructor. Opportunity for disciplined expression in writing drama for stage, film, television, or other media. May be repeated as a, b, or c, with a limit of one course per quarter.

### 404a,b,c CREATIVE WRITING: POETRY (3 ea)

Opportunity for disciplined expression in writing poetry; reading traditional and modern poems. May be repeated as a, b, or c, with a limit of one course per quarter.

### 405a INTRODUCTION TO RHETORIC (3)

Rationale of informative and persuasive writing; classical and modern treatments of invention, arrangement, prose style.

### 405b RHETORICAL ANALYSIS (3)

Analysis of semantics, style, and tone; emphasis on expository writing.

### 406 COMPOSITION FOR TEACHERS (3)

Practice and instruction to improve the writing of students; emphasis on developing understanding of the nature of composition, and skill in analyzing non-professional expository writing.

- 417 STUDIES IN LITERATURE (1-5)  
 417a Strindberg and His Major Plays  
 417b The Scandinavian Novel in English  
 417c The Age of Romanticism  
 417d The Naturalistic Novel  
 417e Modern Fiction in Translation  
 417f Medieval Epic and Romance  
 417g Myth and Folklore
- 440 PERIOD STUDIES (2-5)  
 Prerequisite: 15 credits in literature or permission of instructor. Different literary periods and movements will be treated from year to year.
- 443 STUDIES IN SHAKESPEARE (3)  
 Prerequisite: English 343. Seminar in selected plays. Also offered as Speech 420.
- 445a CURRENT TRENDS IN ENGLISH EDUCATION (1-5)
- 450 THE EPIC OF CLASSICAL TRADITION (3)  
 The Greek, Roman, French, and English epic as a genre.
- 451 THE NOVEL OF IDEAS (3)  
 The philosophical novels of Diderot, Dostoevsky, Kafka, Koestler, Sartre, Camus, Kazantzakis, Robbe-Grillet.
- 460 STUDIES IN FORM AND TEMPER (2-5)  
 Prerequisite: 15 credits in literature or permission of instructor. Different literary types and genres will be treated from year to year in this series; recommended for English honors.
- 461, 462, 463 DEVELOPMENT OF ENGLISH DRAMA (3 ea)  
 Prerequisite: 15 credits in literature or permission of instructor.  
 461 Medieval and Elizabethan-Jacobean  
 462 English Drama 1660-1900  
 463 20th Century English Drama  
 Historical and critical survey of the English drama, with emphasis upon the greater writers (exclusive of Shakespeare). Also offered as Speech 421, 422, 423.
- 464, 465, 466 DEVELOPMENT OF THE ENGLISH NOVEL (3 ea)  
 Prerequisite: 15 credits in literature or permission of instructor.  
 464 The Eighteenth Century  
 465 Romantic and Victorian  
 466 Late 19th and Early 20th Centuries  
 The English novel and its traditions.
- 470 CONTEMPORARY POETRY (3)  
 Prerequisites: Eng 326 and 333 or permission of instructor. Selected representative English and American poets of stature.
- 472 CONTEMPORARY AMERICAN DRAMA (3)  
 Prerequisite: 15 credits in literature or permission of instructor. Selected plays from World War II to present; recent trends in drama; theory of drama.
- 473 MODERN AMERICAN DRAMA (3)  
 American theater from O'Neill to World War II. Also offered as Speech 424.
- 474, 475 DEVELOPMENT OF THE AMERICAN NOVEL (3 ea)  
 Prerequisite: 15 credits in literature or permission of instructor.  
 474 Nineteenth Century  
 475 Late 19th and Early 20th Centuries  
 The American novel and its traditions with emphasis on the greater writers.
- 477 THE CONTEMPORARY NOVEL (3)  
 Prerequisite: 15 credits in literature or permission of instructor. English and American novels since World War II.
- 480 INTRODUCTION TO ORIENTAL LITERATURE (5)  
 Prerequisite: 15 credits in literature or permission of instructor. Literature of India and China as related to the thought of our time, with emphasis upon Indian epic and philosophy and the ideals of Confucius.
- 481 THE BIBLE AS LITERATURE (3)  
 Prerequisite: 15 credits in literature or permission of instructor. Cultural backgrounds of the Old and New Testaments, together with a literary analysis of selected passages.
- 483 SOCIAL CHANGE AND THE MORAL ORDER IN RECENT LITERATURE (4)  
 Prerequisite: 15 credits in literature or permission of instructor. Also offered as Philosophy 483 and Sociology 483.
- 487 HISTORY OF LITERARY CRITICISM (5)  
 Prerequisite: 15 credits in literature or permission of instructor. Reading and analysis of major documents of criticism from Plato to Eliot and Richards.

## English

- 488 MODERN LITERARY CRITICISM (3)  
Prerequisite: 15 credits in literature or permission of instructor. Tendencies in recent and contemporary criticism with emphasis upon distinguished English and American critics; wide reading in critical theory and practice; writing of critical studies.
- 490 TRANSFORMATIONAL GRAMMARS (3)
- 491 HISTORY OF THE ENGLISH LANGUAGE (3)  
The historical development of the English language; phonology, morphology, syntax, semantics.
- 492 AMERICAN ENGLISH DIALECTS (3)
- 495 ENGLISH FOR THE ELEMENTARY SCHOOL (3)  
Teaching the language arts: reading, writing, speaking, and listening; formal and informal methods; textbooks and materials.
- 496 ENGLISH FOR THE SECONDARY SCHOOL (3)  
Prerequisite: English 390 or permission of instructor. Teaching composition, language, and literature in the junior and senior high school; programs, procedures, and materials.
- 498 WORKSHOP IN THE TEACHING OF ENGLISH (3-5)
- 499a,b,c HONORS TUTORIAL (2-5 ea)
- Registration in the 500-level courses requires graduate status and departmental approval. An adequate background (normally an undergraduate major or minor in English), and the ability to do independent work are prerequisites. Attention will usually be given to a limited topic: one writer or a small group of writers, selected works, a single form.*
- 500 DIRECTED INDIVIDUAL STUDY (1-3)  
Prerequisite: permission of instructor and the department chairman. Individual study of a topic not normally covered in formal courses.
- 501 BIBLIOGRAPHY AND METHODS OF GRADUATE STUDY IN ENGLISH (3)  
Required of all candidates for the Master of Arts; to be taken as soon as possible after the student's admission to graduate status.
- 502a FICTION WRITING SEMINAR (3)  
Individual projects in fiction submitted for group discussion; recently published works of fiction studied for originality of style.
- 502b ADVANCED FICTION WRITING SEMINAR (3)  
Prerequisite: English 502a or permission of instructor. Individual projects in development of a finished manuscript.
- 503a PLAYWRITING SEMINAR (3)  
Individual projects in dramatic writing submitted for group discussion.
- 503b ADVANCED PLAYWRITING SEMINAR (3)  
Prerequisite: Eng 503a or permission of instructor. Individual projects in playwriting.
- 504a POETRY WRITING SEMINAR (3)  
Individual projects in poetry submitted for group discussion; recently published volumes of poetry studied for originality of styles.
- 504b ADVANCED POETRY WRITING SEMINAR (3)  
Prerequisite: English 504a or permission of instructor. Individual projects in development of an original idiom.
- 510 SEMINAR IN RHETORIC (5)  
Rhetorical theory and criticism; classical tradition and modern developments; applications for study and teaching language and literature.
- 513 SEMINAR IN TEACHING COLLEGE COMPOSITION (2)  
Prerequisite: appointment as teaching assistant or permission of instructor.
- 520 SEMINAR IN ANGLO-SAXON LITERATURE (5)  
Prerequisite: Eng 591a or equivalent.
- 521 SEMINAR IN MEDIEVAL LITERATURE (5)
- 522 SEMINAR IN SIXTEENTH-SEVENTEENTH CENTURY LITERATURE (5)
- 523 SEMINAR IN EIGHTEENTH CENTURY LITERATURE (5)
- 524 SEMINAR IN ROMANTIC LITERATURE (5)
- 525 SEMINAR IN VICTORIAN LITERATURE (5)
- 526 SEMINAR IN CONTEMPORARY LITERATURE (5)
- 531 SEMINAR IN AMERICAN LITERATURE: BEGINNINGS TO 1860 (5)
- 532 SEMINAR IN AMERICAN LITERATURE: 1860-PRESENT (5)



- 541 SEMINAR IN CHAUCER (5)
- 543 SEMINAR IN SHAKESPEARE (5)
- 545 SEMINAR IN MILTON (5)
- 560 SEMINAR IN LITERARY FORM (5)
- 587 SEMINAR IN LITERARY CRITICISM (5)
- 590 LINGUISTICS (5)
- 591 HISTORICAL LINGUISTICS (5)  
591a Old English  
591b Middle English  
Prerequisite: English 491 or equivalent.
- 597q,x TEACHING COMMUNITY COLLEGE ENGLISH (1 ea)  
Prerequisite: admission to EPDA program or permission of department.
- 597y,z INTERNSHIPS IN COMMUNITY COLLEGE TEACHING (8 ea)  
Prerequisite: admission to EPDA program or permission of department.
- 598 RESEARCH IN THE TEACHING OF ENGLISH (1-3)  
Prerequisite: teaching experience. For Master of Education candidates only.
- 599 WRITING REQUIREMENT (6-7)  
Prerequisite: English 501. Credit varies according to the individual project. (See *Graduate Bulletin*.)

## COURSES IN JOURNALISM

- 104 NEWSWRITING (3)  
Prerequisite: ability to type 25 or more words per minute. Writing for newspapers; news elements and values, gathering news, structure and style of news stories; covering speeches and meetings, interviewing.
- 111, 112, 113 NEWSPAPER STAFF (2 ea)  
Prerequisite: Journ 104 or permission of instructor; freshman standing. Participation on the staff of the college newspaper; critiques in news reporting, writing, editing and make-up.

- 121, 122, 123 PERIODICAL STAFF (2 ea)  
Prerequisite: freshman standing. 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 college periodical.
- 160 CURRENT EVENTS AND THE MEDIA (3)  
Discussions and interpretation of news in context of interaction with media; for potential journalists and others interested in current events.
- 204 COPY EDITING (3)  
Prerequisite: Journ 104 or permission of instructor. Newspaper copy desk operations: editing, headline writing; dummyping; page make-up; editorial writing.
- 211, 212, 213 NEWSPAPER STAFF (2 ea)  
Prerequisite: Journ 104 or permission of instructor; sophomore standing. Participation on the staff of the college newspaper; critiques in news reporting, writing, editing and make-up.
- 221, 222, 223 PERIODICAL STAFF (2 ea)  
Prerequisite: sophomore standing. 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 college periodical.
- 304 REPORTING (3)  
Prerequisite: Journ 104. Interviewing, news coverage, including campus sources, and standard community news sources, with emphasis on social agencies; writing for newspapers.
- 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 NEWSPAPER STAFF (2 ea)  
Prerequisite: Journ 104 or permission of instructor; junior standing. Participation on the staff of the college newspaper; critiques in news reporting, writing, editing and make-up.

## English

### 321, 322, 323 PERIODICAL STAFF (2 ea)

Prerequisite: junior standing. 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 college 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 (3)

Rights and legal restrictions on freedom of the press; constitutional guarantees, libel, contempt, privacy; other restrictions.

### 400 SPECIAL PROBLEMS IN JOURNALISM (1-3)

Prerequisite: permission of instructor. Individual studies and projects exploring specialized aspects of journalism.

### 404 FEATURE WRITING (3)

Prerequisite: Journ 304 or permission of instructor. In-depth article writing; development of ideas, gathering of materials and writing; special attention to individual interests; exploration of free-lance writing markets.

### 406 JOURNALISM FOR PUBLICATION ADVISERS (3)

Methods and techniques in teaching public school journalism; news elements, values and writing for newspapers. Not open to students who have taken Journ 104.

### 411, 412, 413 NEWSPAPER STAFF (2 ea)

Prerequisite: Journ 104 or permission of instructor; senior standing. Participation on the staff of the college newspaper; critiques in news reporting, writing, editing and make-up.

### 421, 422, 423 PERIODICAL STAFF (2 ea)

Prerequisite: senior standing. 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 college periodical.

### 430 FIELD INTERNSHIPS (1-6)

Supervised field work on newspapers, magazines, radio and TV stations, public relations and advertising agencies; for journalism majors between junior and senior years; usually during summer session.

### 440 PRESS AND WORLD AFFAIRS (3)

Prerequisite: Journ 340 or permission of instructor. The international role and operations of the press; factors affecting the free flow of news; major world news systems.

### 460 LITERATURE OF JOURNALISM (3)

Prerequisite: Journ 160 or permission of instructor. Readings and critical evaluation of literature by and about journalists.

### 470 MASS COMMUNICATIONS THEORY AND RESEARCH (3)

Introduction to theory and research in mass communications; review of pertinent literature; limited field studies.

### 480 CURRENT PROBLEMS (3)

Prerequisite: Journ 350 or consent of instructor. 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.



# FOREIGN LANGUAGES AND LITERATURES

*Associate Professors:* Robinson (Chairman), Aaron, Baird, Brockhaus, Faber, Kimmel, King, Moerschner, Param.

*Assistant Professors:* Barragan, Goldsmith, Milicic, Rangel-Guerrero, Rapoza.

*Lecturers:* Amundsen, Balas, Bryant, Eddy, Elmendorf, Stoltz, Weiss, Wilson.

Students majoring in one foreign language may elect a minor in a second language. *At least nine credits in any concentration must be taken in residence.*

## TEACHER EDUCATION

### Major—Modern Language

(French, German, Russian, Spanish)

Secondary 45-50 credits in courses above 200 in one language

- Courses numbered 201, 202, 203, 290
- For French, 210 or 211; for Russian, 210 and 211
- Three courses from 310, 311, 410, 411
- Foreign Language Education 432
- Foreign Language Linguistics 370 or 470
- Three additional courses numbered in the 300's and two courses in the 400's selected under advisement

Elementary 45 credits in one language

- Courses numbered 201, 202, 203, 310, 311, 410, 411
- For French majors, French 210 or 211, 290
- For German majors, German 331 or 332
- Foreign Language Education 432
- Foreign Language Linguistics 370 or 470
- Electives under departmental advisement (French majors include one course from 301-306 and one 400 level course)

### Major—Latin

Secondary

- 45 credits selected under advisement

### Minor—A Modern Language

- 19 to 25 credits in courses numbered 201 and above in one modern foreign language, including 6 credits in courses numbered 290 or above

### Minor—Greek or Latin

- 12 credits beyond the first year in college Latin or Greek

### Minor—Classical Studies

- Classics 350
- 15 credits from Classics 411, 421, 422, 431, 441, 451
- 6 credits from History 411, 412, 413, 414; Phil 304

### Minor—Linguistics

- Linguistics 201, 202, 301, 302, 303
- 6 credits selected under departmental advisement in a foreign language

## Foreign Languages

### ARTS AND SCIENCES

#### Major—Greek or Latin

- 45 credits in courses selected under advisement

#### Major—A Modern Foreign Language

- 45 credits in courses numbered 201 and above in one modern language, plus supporting courses
- Course 290 in the selected language
- Three courses from 310, 311, 410, 411
- Three courses from 301, 302, 303, 304, 305, 306, 340, 341, 342, 343
- German 331 or 332 for German majors
- Two courses from 401, 402, 403, 450 (except in the case of Russian)
- Electives under departmental advisement

Supporting courses: a program of 21 credits for either of the above majors, planned under departmental advisement in other languages, history, geography, philosophy, English, linguistics, or speech.

#### Minor—A Modern Foreign Language

- 19-25 credits in courses numbered 201 and above in one of the modern languages, including 6 credits in courses numbered 290 and above

#### Minor—Greek or Latin

- 12 credits beyond the first year in Latin or Greek

#### Minor—Classical Studies

- Classics 350
- 15 credits from Classics 411, 421, 422, 431, 441, 451
- 6 credits from History 411, 412, 413, 414; Phil 304

#### Minor—Linguistics

- Linguistics 201, 202, 301, 302, 303
- 6 credits selected under departmental advisement in a foreign language

### DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, a foreign language major who wishes to graduate "with honors" must complete 20 credits in upper division honors work in one foreign language for the Arts and Sciences major or 17 credits in upper division honors work in one foreign language for the Teacher Education major.

### GRADUATE STUDY

For a concentration in German leading to the Master of Education degree, see *Graduate Bulletin*.

### COURSES IN FOREIGN LANGUAGES

Entering freshman students enrolling for the first time in any language at this college must take a placement test if they have previous knowledge of the language, however acquired. In some cases, they may be granted advanced placement credit.

The same regulation applies to new transfers unless the previous knowledge was attained in college level courses for which they have been granted credit. In the latter case, they may enroll in the next course in the sequence.

### GENERAL COURSES

#### 370 INTRODUCTION TO APPLIED LINGUISTICS FOR FOREIGN LANGUAGE MAJORS (3)

Prerequisite: 25 credits for the equivalent in the language to be taught. Comparison of structures (phonological, morphological and syntactic) of English and other languages.

## 432 METHODS AND MATERIALS FOR TEACHING MODERN FOREIGN LANGUAGES (3)

Prerequisite: 6 credits in one modern foreign language beyond the second year. Must be taken prior to student teaching in a foreign language.

## 497a PRACTICAL TECHNIQUES IN THE TEACHING OF MODERN FOREIGN LANGUAGES (3)

Seminar in teaching techniques for use with Holt French, German and Spanish materials; new revised first year books, and advanced courses. Extension, summer 1970.

For courses taught in translation, see Classics (list below) and French 367, German 367, Russian 367, 467, Spanish 367.

## CLASSICS

(These courses require no knowledge of Latin or Greek as prerequisites.)

## 101 LATIN AND GREEK IN CURRENT USE (2)

Principles governing the formation of English words derived from Latin and Greek.

## 350 GREEK AND ROMAN MYTHOLOGY (3)

Important classical myths seen in the context of classical literature; influence on Western literature.

## 411 GREEK AND ROMAN EPIC (3)

Prerequisite: Gen Educ 121 or Eng 281. Origins, development, nature of classical epic; readings from Homer, Apollonius of Rhodes, Vergil, Lucan.

## 421 GREEK AND ROMAN TRAGEDY (3)

Prerequisite: Gen Educ 121 or Eng 281. Origins and development of earliest European drama, thematic and structural principles of major dramatists; influence on later Western literature.

## 422 GREEK AND ROMAN COMEDY (3)

Prerequisite: Gen Educ 121 or Eng 281. Nature of classical comedy; readings from Aristophanes, Menander, Plautus, Terence.

## 431 THE CLASSICAL NOVEL (3)

Prerequisite: Gen Educ 121 or Eng 281. Readings from the Greek romances, Petronius' *Satyricon*, Apuleius' *The Golden Ass*; earliest extant novels in Western literature.

## 441 ROMAN SATIRE (3)

Prerequisite: Gen Educ 121 or Eng 281. Roman satire as a distinct genre in Latin literature; influence on later satiric tradition; readings from Juvenal, Horace, Seneca, Persius, Lucian.

## 451 GREEK AND ROMAN HISTORIANS (3)

Prerequisite: Hist 411 or 412, and 413 or 414. Development of writing of history in classical literature; readings from Herodotus, Thucydides, Sallust, Livy, Tacitus; their intellectual background, documentary sources and philosophy of history.

## FRENCH

## 101, 102, 103 ELEMENTARY FRENCH (5 ea)

To be taken in sequence. Fundamentals of speaking, reading, writing, and understanding French.

## 180 FRENCH FOR A READING KNOWLEDGE I (3)

Not open to students with more than one year of college. For students needing a reading knowledge of the language; not applicable to a major or minor. See also French 280.

## 201, 202, 203 INTERMEDIATE FRENCH (5, 5, 3)

Prerequisite: French 103 or two years of high school French or equivalent score on placement examination; to be taken in sequence.

## 210 PRONUNCIATION (2)

Prerequisite: French 103; may be taken concurrently with French 201 by majors and minors. Practical phonetics and intensive oral practice.

## 211 INTERMEDIATE CONVERSATION (2)

Prerequisite: French 210; may be taken concurrently with 202 by majors and minors.

## 237 CONVERSATION (2)

See French 437

## 280 FRENCH FOR A READING KNOWLEDGE II (3)

Prerequisite: French 180 or one year of college French or equivalent. To meet reading requirements for a master's degree.

## 290 INTRODUCTION TO FRENCH LITERATURE (3)

Prerequisite: 10 credits of intermediate French or equivalent; may be taken concurrently with French 203. Works of major authors representing each literary genre; emphasis on reading improvement and methods of analysis.

## 301 THE MIDDLE AGES (3)

Prerequisite: French 290 or permission of department. French literature and civilization from 1100 to 1500.

## Foreign Languages

- 302 THE RENAISSANCE (3)  
Prerequisite: French 290 or permission of department.  
French literature and civilization from 1500 to 1630.
- 303 BAROQUE AND CLASSICISM (3)  
Prerequisite: French 290 or permission of department.  
French literature and civilization from 1630 to 1715.
- 304 THE ENLIGHTENMENT (3)  
Prerequisite: French 290 or permission of department.  
French literature and civilization from 1715 to 1802.
- 305 ROMANTICISM, REALISM, AND NATURALISM (3)  
Prerequisite: French 290 or permission of department.  
French literature and civilization from 1802 to 1880.
- 306 SYMBOLISM, SURREALISM AND EXISTENTIALISM (3)  
Prerequisite: French 290 or permission of department.  
French literature and civilization from 1880 to the present.
- 310, 311 ADVANCED CONVERSATION AND COMPOSITION (3 ea)  
Prerequisite: French 210, 211 or equivalent; French 310 prerequisite to 311. Written and oral composition and grammar; vocabulary building; *explication de texte*.
- 337 CONVERSATION (4)  
See French 437
- 367 FRENCH LITERATURE IN TRANSLATION (3)  
Selected major works in French literature read and discussed in English; not applicable to a major or minor in French. When topics vary, the course may be repeated.
- 396a,b,c HONORS TUTORIAL (2-5)
- 401 STUDIES IN THE FRENCH NOVEL (3)  
Prerequisite: 9 credits in 301-306 series. Theory of novel and its development.
- 402 DEVELOPMENT OF FRENCH DRAMA (3)  
Prerequisite: 9 credits in 301-306 series. Theory of drama and its development.
- 403 DEVELOPMENT OF FRENCH POETRY (3)  
Prerequisite: 9 credits in 301-306 series. Theory of poetry and its development.
- 410, 411 FRENCH PHONOLOGY, MORPHOLOGY, AND SYNTAX (3 ea)  
Prerequisite: French 311 or equivalent; French 410 prerequisite to 411. Advanced written and oral expression, identification and correction of phonological and grammatical problems.
- 420 HISTORY OF THE FRENCH LANGUAGE (3)  
Prerequisite: permission of department. Development of phonology, morphology and syntax from Latin to modern French.
- 437, 337, 237 FRENCH CONVERSATION (4 ea)  
Prerequisites: for French 237, French 103 or equivalent; for French 337, French 202 or equivalent; for French 437, nine credits in upper division French. These courses are offered only as a part of the Study Abroad Program.
- 450 SEMINAR IN FRENCH LITERATURE (3)  
Prerequisite: 9 credits in upper division French and permission of department. Major authors and movements. Since topics vary, the course may be repeated.
- 470 APPLIED FRENCH LINGUISTICS (3)  
Prerequisite: permission of department. Comparison of structures (phonological, morphological, syntactic) of French and English.
- 496a,b,c HONORS TUTORIAL (2-5 ea)
- 497d CONTEMPORARY FRENCH CULTURE AND CIVILIZATION  
Offered by extension, 1969.
- ## GERMAN
- 101, 102, 103 ELEMENTARY GERMAN (5 ea)  
Each course prerequisite to the next. Fundamentals of the language; pronunciation, grammar, aural comprehension, reading and speaking.
- 180 GERMAN FOR A READING KNOWLEDGE I (3)  
Not open to students with more than one year of college. Introductory course for students needing a reading knowledge of the language. See also German 280.
- 201, 202 INTERMEDIATE GERMAN (5 ea)  
Prerequisite: German 103 or two years high school German or equivalent; German 201 prerequisite to 202. Review of the fundamentals, reading, aural comprehension, and speaking.

- 203 SECOND YEAR GERMAN (3)  
Prerequisite: German 202. Review of the fundamentals, reading, aural comprehension and speaking.
- 280 GERMAN FOR A READING KNOWLEDGE II (3)  
Prerequisite: German 180 or one year of college German or equivalent. For fulfillment of master's degree reading requirement.
- 290 INTRODUCTION TO GERMAN LITERATURE (3)  
Prerequisite: 10 credits of second year German or equivalent. Selected works of major German authors, with emphasis on reading improvement and methods of textual interpretation.
- 301 NINETEENTH CENTURY GERMAN LITERATURE I (3)  
Prerequisite: German 290 or permission of department. Emphasis on the Romantic Movement.
- 302 NINETEENTH CENTURY GERMAN LITERATURE II (3)  
Prerequisite: German 290 or permission of department. Emphasis on realism.
- 303 EIGHTEENTH CENTURY GERMAN LITERATURE (3)  
Prerequisite: German 290 or permission of department. Classical period of German literature as reflected in a major work of Lessing, Goethe, and Schiller.
- 310, 311 THIRD YEAR COMPOSITION (3 ea)  
Prerequisite: German 203 or the equivalent; German 310 prerequisite to 311. Written and oral composition and grammar, and vocabulary building.
- 320 PHONETICS (2)  
Prerequisite: German 203 or permission of department. A course designed to improve the student's pronunciation and intonation, to familiarize him with phonetic transcription, and to develop an awareness of problems involved in teaching sounds of German.
- 331 CIVILIZATION OF GERMANY THROUGH THE NINETEENTH CENTURY (3)  
Prerequisite: 10 credits of second year German or equivalent. Significant elements of German civilization presented through German texts.
- 332 GERMAN CIVILIZATION TODAY (3)  
Prerequisite: 10 credits of second year German or equivalent. Significant elements of German civilization.
- 341 THE GERMAN DRAMA (3)  
Prerequisite: German 290 or permission of instructor. Interpretation, discussion of selected readings.
- 342 GERMAN POETRY (3)  
Prerequisite: German 290 or permission of instructor. Interpretation and discussion of selected readings.
- 343 THE GERMAN NOVELLE OF THE NINETEENTH CENTURY (3)  
Prerequisite: German 290 or permission of instructor. Interpretation and discussion of selected readings.
- 344 THE GERMAN NOVELLE OF THE TWENTIETH CENTURY (3)  
German 290 or permission of instructor. Interpretation and discussion of selected readings.
- 367 GERMAN LITERATURE IN TRANSLATION (3)  
Selections from eminent German authors read and discussed in English; not applicable to a major or minor. When topics vary, the course may be repeated.
- 396a,b,c HONORS TUTORIAL (2-5 ea)
- 401 EARLY GERMAN LITERATURE (3)  
Prerequisite: 9 credits in upper division German. Monuments of literature from pagan times through the development of New High German.
- 402 SEVENTEENTH CENTURY THROUGH THE ENLIGHTENMENT (3)  
Prerequisite: 9 credits in upper division German. Selections reflecting the development of German literature and thought from the Baroque through the Enlightenment.
- 403 GERMAN LITERATURE IN THE TWENTIETH CENTURY (3)  
Prerequisite: 9 credits in upper division German. Selections reflecting development of recent German literature.
- 410, 411 ADVANCED COMPOSITION AND GRAMMAR (3)  
Prerequisite: German 311 or permission of department. German 410 prerequisite to 411.
- 450 STUDIES IN GERMAN LITERATURE (3)  
Prerequisite: 9 credits in upper division German or equivalent, and permission of department. Major authors and movements. Since topics vary, the course may be repeated.

## Foreign Languages

### 496a,b,c HONORS TUTORIAL (2-5 ea)

#### 501 CONVERSATION AND COMPOSITION (4)

Prerequisite: German 410 or equivalent. Syntax, written and oral composition, conversation, based on topics reflecting history of German civilization from pagan times through the Reformation.

#### 502 CONVERSATION AND COMPOSITION (4)

Prerequisite: German 410 or equivalent. Syntax, written and oral composition, conversation, based on topics reflecting history of German civilization from Luther through Bismark.

#### 503 CONVERSATION AND COMPOSITION (4)

Prerequisite: German 410 or equivalent. Written and oral composition, conversation, based on topics reflecting contemporary German civilization.

#### 504 APPLIED GERMAN LINGUISTICS (4)

Principles of German phonetics, phonology, morphology and syntax.

#### 505 HISTORY OF THE GERMAN LANGUAGE (4)

#### 510 SEMINAR IN LITERATURE (4 ea)

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, *Horspiele* and *Einakter*

510c Poetry, Folksong, Ballad and Modern Lyric

#### 532 THE TEACHING OF GERMAN (4)

Methods and materials for teaching German in the community college, secondary and elementary schools.

#### 598 DIRECTED INDIVIDUAL STUDY (4)

Prerequisite: admission to graduate standing.

## 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.

### 201, 202, 203 INTERMEDIATE GREEK (3 ea)

Prerequisite: Greek 103 or equivalent; to be taken in sequence. Review of fundamentals; readings from Plato's dialogues, the orators, the *Iliad* or *Odyssey*; introduction to Greek civilization.

#### 301 GREEK LYRIC POETRY (3)

Prerequisite: Greek 203 or equivalent. Historical survey of origins and development of the Greek lyric with readings from major writers.

#### 302 GREEK TRAGEDY (3)

Prerequisite: Greek 203 or equivalent. Selected plays by Aeschylus, Sophocles and Euripides; history of Greek theatre and stage production.

#### 303 GREEK HISTORIANS (3)

Prerequisite: Greek 203 or equivalent. Selections from Herodotus and Thucydides; development of historical writing in Greece.

#### 310 GREEK COMPOSITION (3)

Prerequisite: Greek 203 or equivalent. Systematic grammar review with exercises in continuous prose composition based on various prose writers.

## LATIN

### 101, 102, 103 ELEMENTARY LATIN (5 ea)

Each course prerequisite to the next. Fundamentals of grammar to provide a reading knowledge; selected readings from various Roman writers.

### 201, 202, 203 INTERMEDIATE LATIN (3 ea)

Prerequisite: Latin 103 or two years high school Latin; each course prerequisite to the next. Review of fundamentals; selected readings from various Roman writers; introduction to Latin civilization.

#### 301 LATIN LYRIC POETRY (3)

Prerequisite: Latin 203 or equivalent. Historical survey of origins and development of the Latin lyric, with special attention to the poems of Horace, Catullus and Ovid.

#### 302 ROMAN DRAMA (3)

Selected plays of Plautus, Terence and Seneca; history and techniques of the Roman theatre.

#### 303 ROMAN PHILOSOPHY (3)

Prerequisite: Latin 203 or equivalent. Selected readings with emphasis on the Stoics and Epicureans.



304 POST-CLASSICAL LATIN (3)

Prerequisite: Latin 203 or equivalent. Selected prose and poetry from the post-classical period.

305 SILVER LATIN LITERATURE (3)

Prerequisite: Latin 203 or equivalent. Studies in literary traditions of the Early Roman Empire, including selections from Seneca, Pliny, and Martial.

306 ROMAN HISTORY AND ORATORY (3)

Prerequisite: Latin 203 or equivalent. Readings from Sallust, Livy, Tacitus, and Cicero's orations.

310 LATIN COMPOSITION (3)

Systematic review of grammar; introduction to continuous prose composition with exercises based on various prose authors.

396a,b,c HONORS TUTORIAL (2-5)

PORTUGUESE

197a,b,c ELEMENTARY PORTUGUESE (5 ea)

To be taken in sequence. Fundamentals of speaking, reading, writing, and understanding.

RUSSIAN

101, 102, 103 ELEMENTARY RUSSIAN (5 ea)

Each course prerequisite to the next. Fundamentals of the language; pronunciation, grammar, aural comprehension, reading, and speaking.

201, 202 INTERMEDIATE RUSSIAN (3 ea)

Prerequisite: Russian 103 or two years high school Russian or equivalent; Russian 201 prerequisite to 202.

203 INTERMEDIATE RUSSIAN (3)

Prerequisite: Russian 202. Review of the fundamentals, reading, aural comprehension, and speaking.

210, 211 SECOND YEAR CONVERSATION AND COMPOSITION (2 ea)

Prerequisite: Russian 103 or two years high school Russian or equivalent. Russian 210 should be taken concurrently with 201; 211 with 202.

290 INTRODUCTION TO RUSSIAN LITERATURE (3)

Prerequisite: 9 credits of second year Russian or equivalent. Selected works of major Russian authors, with emphasis on reading improvement and textual interpretation.

301 NINETEENTH CENTURY LITERATURE I (3)

Prerequisite: Russian 290 or permission of instructor. Introduction to Pushkin, Lermontov, Gogol, and Turgenev.

302 NINETEENTH CENTURY LITERATURE II (3)

Prerequisite: Russian 290 or permission of instructor. Introduction to Dostoevsky, Tolstoy, Chekhov.

303 TWENTIETH CENTURY LITERATURE (3)

Prerequisite: Russian 290 or permission of instructor. The Symbolists, Acmeists, and Futurists; Russian formalism; Soviet Russian literature; versification.

310, 311 THIRD YEAR COMPOSITION (3 ea)

Prerequisite: Russian 203 or equivalent; Russian 310 prerequisite to 311. Written and oral composition and grammar, and vocabulary building.

330 CIVILIZATION OF RUSSIA (3)

Prerequisite: 9 credits of second year Russian or equivalent. Significant elements of Russian civilization presented through Russian texts.

367 INTRODUCTION TO RUSSIAN LITERATURE IN ENGLISH (3)

Survey of history of Russian literature. May be applied to a B.A. major in Russian only as a supporting course.

396a,b,c HONORS TUTORIAL (2-5)

410 STRUCTURE OF RUSSIAN I (3)

Prerequisite: three years of college Russian or permission of instructor. Principles of phonology and their application; phonetics as the basis of phonology.

411 STRUCTURE OF RUSSIAN II (3)

Prerequisite: Russian 410 or permission of instructor. Morphology of the verb and noun.

467 RUSSIAN LITERATURE IN TRANSLATION (3)

Prerequisite: 9 credits in upper division Russian or permission of instructor. Selected works discussed in English. Applicable to a major or minor if read in Russian.

496a,b,c HONORS TUTORIAL (2-5)

## Foreign Languages

### SPANISH

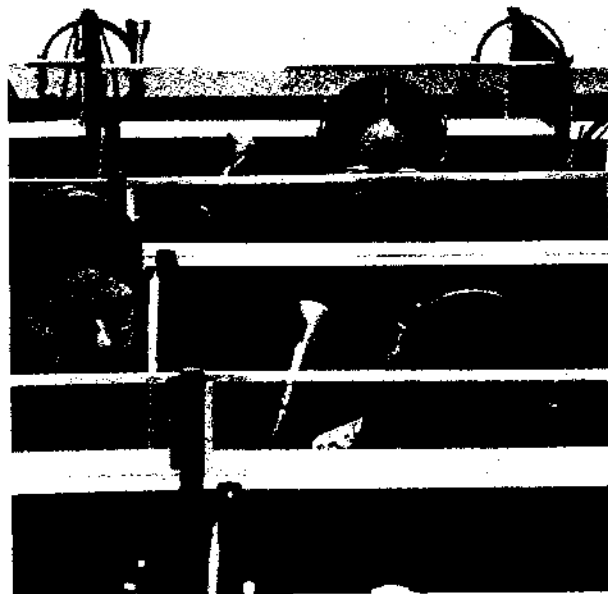
- 101, 102, 103 ELEMENTARY SPANISH (5 ea)  
To be taken in sequence. Fundamentals of speaking, reading, writing, and understanding.
- 197a FUNDAMENTALS OF SPANISH (2-3)  
Oral and written practice, and grammatical analysis, of the highest frequency patterns of the Spanish language.
- 201, 202, 203 INTERMEDIATE SPANISH (5, 5, 3)  
Prerequisite: Spanish 103 or equivalent; to be taken in sequence. Review of fundamentals; speaking, reading, writing, and understanding.
- 290 INTRODUCTION TO HISPANIC LITERATURE (3)  
Prerequisite: Spanish 203 or equivalent. Work of major Hispanic authors representing each literary genre; emphasis on reading improvement and methods of analysis.
- 301 SPANISH LITERATURE TO 1538 (3)  
Prerequisite: Spanish 290 or permission of instructor. Literary development from beginnings to death of Garcilaso.
- 302 SIGLO DE ORO (3)  
Prerequisite: Spanish 301 or permission of instructor. Literary development in various genres during the Golden Age; special study of major works and writers.
- 303 MODERN SPANISH LITERATURE (3)  
Prerequisite: Spanish 302 or permission of instructor. Selected authors and works from 1680 to present.
- 304 SPANISH-AMERICAN LITERATURE: COLONIAL PERIOD TO END OF NINETEENTH CENTURY (3)  
Prerequisite: Spanish 290 or permission of instructor. Selected authors and works.
- 305 MODERN SPANISH-AMERICAN LITERATURE (3)  
Prerequisite: Spanish 304 or permission of instructor. Modernism and other literary trends.
- 306 CONTEMPORARY SPANISH-AMERICAN LITERATURE (3)  
Prerequisite: Spanish 305 or permission of instructor. Major authors and trends after modernism.
- 310, 311 COMPOSITION AND CONVERSATION (3)  
Prerequisite: Spanish 203 or equivalent; to be taken in sequence. Written and oral composition, grammar, and vocabulary building.
- 320 INTRODUCTION TO SPANISH PHONOLOGY (3)  
Prerequisite: Spanish 310 or equivalent. Intensive study of the Spanish sound system.
- 340 READINGS IN MODERN SPANISH DRAMA (3)  
Prerequisite: Spanish 303 or permission of instructor. Interpretation and discussion of selected readings.
- 341 TWENTIETH CENTURY SPANISH-AMERICAN NOVEL (3)  
Prerequisite: Spanish 306 or permission of instructor. Interpretation and discussion of selected readings.
- 342 GENERATION OF 1898 (3)  
Prerequisite: Spanish 303 or permission of instructor. Selected works of Unamuno and other principal authors of the movement.
- 367 SPANISH AND SPANISH-AMERICAN LITERATURE IN TRANSLATION (3)  
Major works, with reference to their cultural and historical setting, literary merit, and subsequent influence; read and discussed in English; not applicable to a major or minor. When topics vary, the course may be repeated.
- 396a,b,c HONORS TUTORIAL (2-5)
- 401 MEDIEVAL SPANISH LITERATURE (3)  
Prerequisite: 9 credits in upper division literature including Spanish 301, or permission of instructor. Masterpieces of the Middle Ages.
- 402 THEATRE OF THE SIGLO DE ORO (3)  
Prerequisite: 9 credits of upper division literature including Spanish 302, or permission of instructor. Lope de Vega, Calderon and their contemporaries.
- 403 SPANISH-AMERICAN POETRY SINCE MODERNISM (3)  
Prerequisite: 9 credits of upper division literature including Spanish 306, or permission of instructor. Careful analysis of major works.
- 404 SPANISH-AMERICAN SHORT STORY (3)  
Prerequisite: 9 credits of upper division literature including Spanish 306, or permission of instructor. Representative works from nineteenth century to present.
- 405 SPANISH LYRIC POETRY (3)  
Prerequisite: 9 credits of upper division literature or permission of instructor. Analysis of major works from the beginnings to the present.
- 406 CERVANTES SEMINAR: DON QUIXOTE (3)  
Prerequisite: 9 credits of upper division literature including Spanish 302, or permission of instructor.

410, 411 ADVANCED COMPOSITION AND GRAMMAR (3 ea)

Prerequisite: Spanish 311 or permission of department; Spanish 410 prerequisite to 411.

450 STUDIES IN SPANISH LITERATURE (3)

Prerequisite: 9 credits in upper division Spanish and permission of department. Major authors and movements. Since topics vary, the course may be repeated.



## GENERAL STUDIES

*Professor:* Buckland (Chairman).

*Assistant Professors:* Stoever, Wallace.

*Lecturers:* Clothier, Payton.

The General Studies Department offers those General Education courses that include content from two or more disciplines. These courses are listed as General Studies 121, etc. Other courses in the General Education requirements for the bachelor's degree are offered by specific discipline departments, e.g. Math 151. The full list of General Education requirements is found on pages 54-55 of the catalog.

### GENERAL STUDIES COURSES

105 BEHAVIORAL SCIENCE (4)

Man as a biological, psychological, and social organism; the processes of perception, learning, and motivation, and their social and cultural context.

121, 122, 123 HUMANITIES I, II, III (6 ea)

(It is recommended that these be taken in sequence.) Historical survey of Western culture in its great outlines and major modes: politics, philosophy, art, music, and literature; lectures, readings, discussions.

121 The Ancient and Medieval World; the Near East, Greece, Rome, Medieval and Renaissance Europe.

122 The Early Modern World; the Reformation, the Age of Reason, the Enlightenment, Revolutions, and early Romanticism.

123 The Modern Period; the 19th and 20th Centuries; Romanticism, Liberalism, Nationalism, and the Technological Revolution.

200 INTRODUCTION TO ECONOMICS AND POLITICAL INSTITUTIONS (4)

Investigation of economic, legal, and political institutions in the context of private property from the pre-constitution period to the present.

321 NON-WESTERN CULTURES (4)

Prerequisites: junior status and completion of the preceding required general education courses. Cultural, socio-economic, and historical survey of the societies of Africa and Asia, with emphasis upon the recent past and problems of the present.

397a A SURVEY OF CONTEMPORARY HUMAN VALUES AND PROBLEMS (2-4)

Contemporary institutions and their influence upon human values.

497a CONTEMPORARY HUMAN VALUES AND PROBLEMS (3)

Interdisciplinary study in depth of contemporary human institutions and modes of expression; their intellectual and social origins and influences.

# GEOGRAPHY

*Professors:* Critchfield (Chairman), Monahan.

*Associate Professors:* Mookherjee, Moore, Raney, Smith.

*Assistant Professors:* Scott, Stellwagen, Teshera.

*Lecturers:* Haratani, Henzi, McGuire, Mellander.

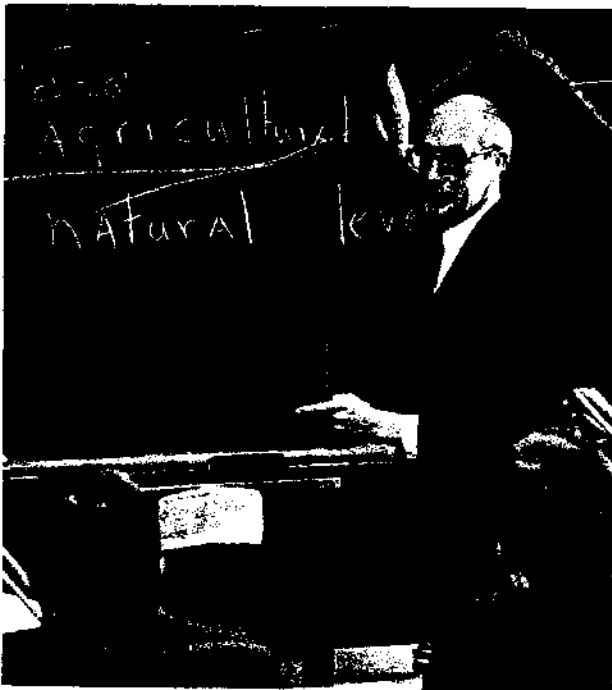
## TEACHER EDUCATION

*Major* Elementary 45 credits

- Geography 201, 203, 251, 401, 421, 460
- Five credits from Geography 311, 313, 314, 315, 316, 318, 319, 320, 415, 416
- One course from Geography 331, 351, 353, 423, 424, 453
- One course from Geography 207, 341, 422, 430, 435, 440, 442, 470, 480, 481
- Electives
- All selections are to be made under departmental advisement

*Major* Secondary 45 credits

- Geography 201, 203, 207, 251, 460
- Five credits from Geography 311, 313, 314, 315, 316, 318, 319, 320, 401, 415, 416
- One course from Geography 331, 423, 424, 431
- One course from Geography 341, 407, 408, 421, 422, 430, 435, 440, 442, 470
- One course from Geography 351, 353, 453, 454, 480, 481, 490
- Electives
- All selections are to be made under departmental advisement



**Minor 25 credits**

- Geography 201
- Geography 203 or 207
- 15 credits in upper division courses under departmental advisement

**Extended Minor 35 credits**

(Alternate minor for teaching competency recommendation.)

- Geography 201, 203 or 207, 251
- 6 credits from Geography 311, 313, 314, 315, 316, 318, 319, 320, 401, 415, 416
- 6 credits from Geography 331, 407, 408, 421, 422, 423, 424, 435, 440, 442, 453, 470
- Electives from above under departmental advisement

**Teaching Competence**

Recommendation for teaching competence requires completion of the major or the extended minor outlined above with a grade average of 2.5 or better.

**ARTS AND SCIENCES**

The program of the undergraduate major or minor in geography should include fundamental courses in both the natural sciences and the social sciences. The department will recommend supporting courses related to the student's career objectives. The student contemplating work toward a graduate degree is advised to acquire a reading knowledge of a foreign language and competence in statistics during his undergraduate years. Departmental advisers should be consulted at an early date for assistance in program planning.

**Major—Geography 70 credits**

- Geography 201, 203, 207, 351, 481
- Two courses from Geography 311, 313, 314, 315, 316, 318, 319, 320, 401, 415, 416
- One course from Geography 331, 423, 424, 431

- One course from Geography 341, 407, 408, 421, 422, 430, 435, 440, 442, 470
- Two courses from Geography 353, 452, 453, 454, 480, 490
- Electives under departmental advisement

**Minor—Geography 25 credits**

- Geography 201
- Electives under department advisement

**Major—Urban and Regional Planning**

(See Interdepartmental Programs, page 204.)

**DEPARTMENTAL HONORS**

In addition to the general requirements for all honors students, a geography major who wishes to graduate "with honors" must complete five credits from Geog 480, 481, 490; fifteen credits in a foreign language; an oral examination in geography.

**GRADUATE STUDY**

For concentrations in geography leading to Master of Education, Master of Arts, or Master of Science degrees, see *Graduate Bulletin*.

**COURSES IN GEOGRAPHY**

**101 THE NATURAL ENVIRONMENT (4)**

Prerequisites: Physics 101 and Chem 101 or equivalents. Elements, processes, and unifying concepts in the natural environment of man. Geography majors should take 203.

**201 HUMAN GEOGRAPHY (5)**

Interrelations of man and his natural environment, emphasizing cultural influences on world geographic patterns.

## Geography

- 203 PHYSICAL GEOGRAPHY (5)  
Prerequisites: Physics 101 and Chem 101 or equivalents. Principles and techniques in analysis of areal distributions in the natural environment; landforms, water, climate, soils, vegetation.
- 207 ECONOMIC GEOGRAPHY (5)  
World resources, industries, commodities, and commerce.
- 251 MAP READING AND ANALYSIS (2)  
Interpretation of map symbols and content at different scales; analysis of different types of maps and charts.
- 311 THE UNITED STATES AND CANADA (5)  
Prerequisite: Geog 201 or permission. Physical environments, resources, settlement and economies of Canada and the United States.
- 313 CARIBBEAN AMERICA (3)  
Prerequisite: Geog 201 or permission. Landforms, climate, vegetation, and soils of Mexico, Central America, and the West Indies, and their relationship to history, settlement patterns, and current economic conditions.
- 314 SOUTH AMERICA (5)  
Prerequisite: Geog 201 or permission. South American nations, emphasizing culture, natural environment, economic activities, and regional differences.
- 315 ASIA (5)  
Prerequisite: Geog 201 or permission. Asia's settlement, population, economic resources and activities, and associated problems.
- 316 EUROPE (5)  
Prerequisite: Geog 210 or permission. Economic, political, and cultural problems of Europe.
- 318 THE PACIFIC (3)  
Prerequisite: Geog 201 or permission. Physical environment, resources, and settlement of the Pacific Islands, Australia, and New Zealand.
- 319 AFRICA (5)  
Prerequisite: Geog 201 or permission. Resources, peoples, regions, and economic development of Africa.
- 320 THE U.S.S.R. (3)  
Prerequisite: Geog 201 or permission. Physical environment, resources, industries, population, and settlement of the Soviet Union with emphasis on the nation's role in world affairs.
- 331 WEATHER AND CLIMATE (5)  
Prerequisite: Geog 101 or 203 or permission. Elements of climate, climatic regions, and climate as an environmental factor.
- 341 URBAN GEOGRAPHY (5)  
Prerequisite: Geog 201. Geographic relations of the modern city with emphasis upon the development, functions, and problems of American cities.
- 351 CARTOGRAPHY (5)  
Practical experience in map and chart construction; the principles of grid representation, scale, symbols, lettering, design, and reproduction.
- 353 INTERPRETATION OF MAPS AND AERIAL PHOTOGRAPHS (3)  
Prerequisite: 4 credits in geography or permission. Reading and interpretation of maps and aerial photos; techniques used to identify geographic features of the landscape; field work.
- 396a,b,c HONORS TUTORIAL (2-5 ea)
- 400 SPECIAL PROBLEMS IN GEOGRAPHY (2-5)  
Individual projects under supervision.
- 401 THE PACIFIC NORTHWEST (3)  
Prerequisite: Geog 201 or permission. Pacific Northwest resources and industries and problems in resource development.
- 407 AGRICULTURAL GEOGRAPHY (3)  
Prerequisite: Geog 207. Agricultural types, production, and commodities, land use and land tenure.
- 408 GEOGRAPHY OF MANUFACTURING (3)  
Prerequisite: Geog 207. Manufacturing types, industrial land use, production, locational factors.
- 415 INDIA AND PAKISTAN (3)  
Prerequisite: Geog 201 or permission. Natural and cultural regions of India and Pakistan; their resources, population, and economic activities.
- 416 MIDDLE EAST (3)  
Prerequisite: Geog 201 or permission. Physical environment, resources, culture, and problems of Southwest Asia and North Africa.

421 CONSERVATION OF NATURAL RESOURCES (5)

Principles and practices in the wise management and economic use of our natural resources with emphasis on the Pacific Northwest; materials and objectives in conservation education.

422 GEOGRAPHY OF WATER RESOURCES (3)

Prerequisite: Geog 101 or 203 or permission. Principles and practices in water use and water conservation in the United States.

423 GEOGRAPHY OF SOILS (3)

Prerequisite: Geog 101 or 203 or permission. Properties, formation, classification, distribution and management of the world's soils.

424 BIOGEOGRAPHY (3)

Prerequisite: Geog 101 or 203 or permission. Origin, distribution, and adaptation of plant and animal associations; examination of representative plant and animal forms in relation to physical environment and to man.

430 URBAN AND REGIONAL PLANNING (5)

Prerequisite: Geog 341. Principles, problems and techniques of planning urban, suburban, and rural land use; theoretical and legal bases for functions of planning agencies.

431 PHYSICAL CLIMATOLOGY (5)

Prerequisite: Geog 331 or Physics 321. Climatic elements and processes in the lower atmosphere; emphasis on heat and water balances.

435 HISTORICAL GEOGRAPHY OF THE UNITED STATES AND CANADA (5)

Prerequisite: Geog 311 or American history. Techniques of historical geographical analysis, including sequent occupance and the reconstruction of past geographies of the United States and Canada.

440 GEOGRAPHY OF POPULATION (3)

Prerequisite: Geog 201 or Soc 311 or permission. World distribution of population; patterns of population composition, fertility and mortality, inter- and intra-regional migrations; resources and population growth.

442 GEOGRAPHY OF SETTLEMENT (3)

Prerequisite: Geog 201. Geographical analysis of rural and urban settlement origins and patterns in selected regions of the Old and New Worlds.

452 ADVANCED CARTOGRAPHY (3-5)

Prerequisite: Geog 351 and permission of instructor. Advanced problems and laboratory projects in map and chart construction.

453 FIELD METHODS IN GEOGRAPHY (3)

Prerequisite: Geog 351 or permission of instructor. Recording, mapping, and analysis of physical and cultural features.

454 ANALYSIS OF AREAL DATA (4)

Prerequisite: Math 240. Statistical and cartographic techniques in solving geographic problems.

460 THE TEACHING OF GEOGRAPHY (3)

Prerequisite: 20 credits in geography. Source materials and methods of geographic instruction.

470 POLITICAL GEOGRAPHY (5)

Prerequisite: Geog 201 or permission. Spatial analysis of political phenomena; problems of territorial organization, boundaries, resource management; current problem regions.

480 THEORETICAL AND APPLIED GEOGRAPHY (4)

Prerequisite: 20 credits in geography. Seminars in topics such as location theory, land use planning, population, regional analysis.

481 READINGS IN THE HISTORY AND THEORY OF GEOGRAPHY (3)

Prerequisite: 20 credits in geography. Directed readings from the works of leading geographers of the past and present on the nature and development of geography.

490 SEMINAR IN GEOGRAPHIC RESEARCH AND WRITING (3)

Prerequisite: 20 credits in geography. Source materials and techniques of geographic research; selected topics investigated in detail as a basis for written papers.

496a,b,c HONORS TUTORIAL (2-5 ea)

497b GEOGRAPHY OF RECREATION (3)

Current issues and techniques in recreation planning.

501 SEMINAR IN HISTORY AND PHILOSOPHY OF GEOGRAPHY (4)

The evolution of geographic concepts and methodology with emphasis on contemporary geographic philosophy and current literature in the field.

510 TECHNIQUES IN GEOGRAPHIC RESEARCH (5)

Application of bibliographic, cartographic, statistical, and field techniques in geographic investigation.

## Geography

- 520 SEMINAR IN REGIONAL GEOGRAPHY (5)  
Methods of regional analysis applied in the detailed study of a world region.
- 521 SEMINAR IN PHYSICAL GEOGRAPHY (5)  
Advanced topics in biogeography, climatology, landforms, or soil geography.
- 522 SEMINAR IN CULTURAL GEOGRAPHY (5)  
Advanced topics in social, economic, historical or political geography.
- 550 GEOGRAPHY IN THE SOCIAL SCIENCES (2)  
Geographic concepts and techniques in the social sciences, with particular attention to the place of geography in social studies education.
- 551 GEOGRAPHY IN THE NATURAL SCIENCES (2)  
Geographic concepts and techniques in the biological sciences and earth science, with emphasis on geography in public school science curricula.
- 552 PERSPECTIVES IN GEOGRAPHIC EDUCATION (1)  
Prerequisite: Geog 460 or permission. Current trends in geographic instruction at all educational levels.
- 560 PROBLEMS IN SYSTEMATIC GEOGRAPHY (5)  
Prerequisites: Geog 510 and 521 or 522. Directed research on a selected topic in physical or cultural geography.
- 590 THESIS (5-9)  
Prerequisite: advancement to candidacy for the master's degree and appointment of thesis adviser.





# GEOLOGY

*Professors:* Easterbrook (Chairman), Ross, Swineford.  
*Associate Professors:* Brown, Christman, Ellis, Rahm.  
*Assistant Professors:* Beck, Pevear, Schwartz.  
*Lecturers:* Babcock, Crowley, Manley.

The student interested in a geology or earth science major should consult early in his college career with departmental advisers in order to plan the proper sequence of courses. The following courses should be taken in satisfying general education science requirements: Geol 211, Physics 131, Chem 121, Math 121.

## TEACHER EDUCATION

*Major—Earth Science* Elementary 45 credits

- Geology 211, 212, 310, 311 (or 305 and 306)
- Geography 203, 331; Physics 105, 131
- Electives under departmental advisement from Geology 316, 317, 319, 340, 390, 399, 400, 410, 412, 413, 414, 416, 430, 440; Geography 353, 431, one from Geog 421, 422 or 423; Physics 205, 321; Biology 406

*Major—Earth Science* Secondary 45 credits

- Geology 211, 212, 305, 306, 310, 390
- Geography 331; Physics 105, 131
- Electives from Geology 316, 317, 319, 340, 399, 400, 406, 410, 412, 413, 414, 416, 418, 420, 426, 430, 440, 460; Geography 203, 353, 431, one from 421, 422 or 423; Physics 205, 321

This major must be accompanied by a minor in physical science, chemistry, physics or biology; exceptions must be approved by the major department.

*Minor—Geology* 25 credits

- Geology 211, 212
- Electives under departmental advisement

## BACHELOR OF SCIENCE DEGREE

*Major Concentration* 110 credits  
(Satisfies both the major and minor)

This program is recommended for students who are intending to enroll in a graduate program upon completion of degree.

- Geology 211, 212, 305, 306, 310, 316, 317, 399, 410, 416, 418, 420
- 6 credits under advisement from Geology 300, 319, 340, 360, 370, 400, 406, 413, 414, 416, 423, 424, 425, 426, 430, 436, 440, 444, 446, 452, 453, 454, 455, 460
- Supporting courses: Chem 121, 122, 123, 127, 128; Physics 231, 232, 233 (or 131, 132, 133); Math 121, 122, 222 (or 121, 220, 240; Computer Science 270)
- 5 to 8 credits from Chemistry 251, 333, 361, 362, 363, 383; Physics 341, 371, 381; Math 223, 240, 301, 331, Computer Science 270; Biology 240, 301, Botany 251, 252, 352, Zoology 261, 262

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.

## Geology

**Geophysics Concentration** 110 credits

(See Interdepartmental Programs, page 203, for outline of requirements)

**Physical Geochemistry Concentration** 110 credits

(See Interdepartmental Programs, page 203, for outline of requirements)

## BACHELOR OF ARTS DEGREE

**Major** 50 credits plus Supporting Courses

(An accompanying minor in one of the sciences or in mathematics is recommended.)

- Geology 211, 212, 305, 306, 310, 316, 317, 399, 418, 420
- 6 credits under advisement from Geology 300, 319, 340, 360, 370, 400, 406, 410, 412, 413, 414, 416, 423, 424, 425, 426, 430, 436, 440, 444, 446, 452, 453, 454, 455, 460
- Supporting courses: Chemistry 121, 122, 123; Physics 131 or 231; Mathematics 121; 16 additional credits under advisement in physics, biology, chemistry or mathematics

**Minor** 25 credits

- Geology 211, 212
- Electives under departmental advisement

## DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, a geology major who wishes to graduate "with honors" must include Geology 399 and a comprehensive examination in geology.

## GRADUATE STUDY

For concentrations leading to the Master of Education or the Master of Science degrees, see *Graduate Bulletin*.

## COURSES IN GEOLOGY

### 101 GENERAL GEOLOGY (4)

Prerequisite: Chem 101 or equivalent. Principles of physical and historical geology for the non-science major, with emphasis on the structure of the earth and origin of landforms. Geology majors and those having had geology in high school should take Geology 211.

### 211 PHYSICAL GEOLOGY (5)

Prerequisite: 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.

### 212 HISTORICAL GEOLOGY (4)

Prerequisite: Geol 211 or permission of department. History of the earth as interpreted from the rocks and the story of the development of its inhabitants; geologic history of North America and the Pacific Northwest.

### 300 SPECIAL PROJECTS IN GEOLOGY (2-5)

Prerequisites: 10 credits in geology and permission of department. Special projects under supervision.

### 305 CRYSTALLOGRAPHY AND MINERALOGY (4)

Prerequisites: Geology 211; Chem 121 (or concurrent). Introduction to crystallography, crystal chemistry, chemical principles fundamental to study of minerals, physical properties of minerals; native elements and sulfides.

### 306 MINERALOGY AND PETROLOGY (5)

Prerequisite: Geol 305. Identification of igneous, sedimentary, and metamorphic minerals; origin and geologic occurrence of common rocks and minerals.

### 310 GEOMORPHOLOGY (5)

Prerequisite: Geol 211 or permission of department. Origin and evolution of topographic features by surface processes; analysis of glaciers, streams, wind, waves, ground water, and other agents in development of landforms.

- 311 COMMON ROCKS AND MINERALS (4)  
Prerequisite: Geol 101 or 211, and high school or college chemistry. More detailed work with rocks and minerals than is afforded in Geol 101 or 211; the origin, occurrence, and identification of minerals and rocks.
- 316 PRINCIPLES OF PALEONTOLOGY (5)  
Prerequisites: Geol 212 or permission of department. Life on the earth as revealed by its inhabitants, past and present.
- 317 STRUCTURAL GEOLOGY (5)  
Prerequisites: Geol 211, 212; Math 105 and Physics 131 recommended. Description, classification, and interpretation of earth structures; laboratory solution of structural problems by use of geologic maps.
- 319 ECONOMIC GEOLOGY (4)  
Prerequisite: Geol 306 or 311. Economic minerals and ore deposits, their genesis and occurrence.
- 340 GEOLOGICAL OCEANOGRAPHY (3)  
Prerequisite: 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.
- 360 GEOLOGY OF PETROLEUM (3)  
Prerequisite: Geol 212 or permission of instructor. Origin and accumulation of petroleum; methods of locating petroleum resources.
- 370 QUANTITATIVE METHODS IN GEOLOGY (3)  
Prerequisites: Math 240, 270 and 15 credits in geology. Acquisition, processing, and analysis of geologic data. Sampling techniques, computer programs, and statistical analysis.
- 384 EARTH SCIENCE FOR THE INTERMEDIATE SCHOOL (3)  
Prerequisite: Geol 101. Concepts, experiences, and materials from the earth sciences adaptable to the elementary school with emphasis on intermediate grades.
- 390 EARTH SCIENCE FOR THE SECONDARY SCHOOL (3)  
Prerequisites: Geol 211, 212, 306 or 311. Development of methods and materials for teaching earth science, including use of ESCP materials, adaptable to the secondary school.
- 396a,b,c HONORS TUTORIAL (2-5 ea)
- 397a EARTH SCIENCE INSTITUTE FOR TEACHERS (5)  
Application of principles of geology to Pacific Northwest. Summer 1970.
- 399 SEMINAR IN GEOLOGICAL LITERATURE (1)  
Prerequisite: 14 credits in geology. Geological reports, papers, and discussion.
- 400 SPECIAL PROJECTS IN GEOLOGY (2-5)  
Prerequisite: permission of department. Special projects under supervision.
- 406 CRYSTALLOGRAPHY AND CRYSTAL CHEMISTRY (3)  
Prerequisite: Geol 306. Crystal structure and crystal chemistry of minerals.
- 410 FIELD GEOLOGY (3-5)  
Prerequisite: Geol 317. Methods of geological field investigations; use of field instruments, and making of geologic maps; supervised geologic investigation of a local area.
- 412 FIELD GEOLOGY FOR TEACHERS (3)  
Prerequisite: Geol 311 or permission of department. The geology of Northwest Washington as observed in the field. Summer only.
- 413 GEOMORPHOLOGY OF WESTERN UNITED STATES (3)  
Prerequisite: Geol 101 or 211. Geological forces and processes that have shaped the landscape of the West; origin of scenic geological features in the national parks.
- 414 GEOLOGY OF WASHINGTON (3)  
Prerequisite: Geol 311 or 306 or permission of department. The significant geologic features of Washington State; field studies.
- 416 STRATIGRAPHY AND SEDIMENTATION (5)  
Prerequisite: Geol 316. Analysis of physical and biological characteristics of stratified rock sequences; principles of correlation, determination of geologic age and facies relationships.
- 418 OPTICAL MINERALOGY (5)  
Prerequisite: Geol 306. Optical phenomena as related to mineralogy and identification of minerals from optical properties with the use of the polarizing microscope.
- 420 PETROGRAPHY AND PETROLOGY (5)  
Prerequisite: Geology 418. Origin, occurrence, and classification of igneous, sedimentary, and metamorphic rocks; hand specimen and thin section identification of minerals.

## Geology

- 423 IGNEOUS PETROGRAPHY AND PETROLOGY (5)  
Prerequisite: 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)  
Prerequisite: Geol 420. Origin, occurrence, and classification of sedimentary rocks and minerals, and use of thin sections in identifying sedimentary minerals.
- 425 METAMORPHIC PETROGRAPHY AND PETROLOGY (5)  
Prerequisite: Geol 420. Origin, occurrence, and classification of metamorphic rocks and minerals, and use of thin sections in identifying metamorphic minerals.
- 426 MICROPALAEONTOLOGY (4)  
Prerequisite: Geol 316. Structure, phylogeny, and geological distribution of micro-fossils with emphasis on evolution, paleoecological significance, and stratigraphic application.
- 430 MAP AND AERIAL PHOTOGRAPH INTERPRETATION (3)  
Prerequisite: Geol 310. Identification, interpretation of geologic features using topographic maps and aerial photos.
- 436 PALEOECOLOGY (4)  
Prerequisite: Geol 316. Interpretation of fossil organisms from skeletal morphology and associated features; reconstruction of marine ecosystem relations from the study of assemblages of fossils.
- 440 GLACIAL GEOLOGY (3)  
Prerequisite: Geol 310. Processes and phenomena of modern and ancient glaciers; effects of Pleistocene glaciations.
- 444 X-RAY DIFFRACTION (2)  
Prerequisites: Geol 306, Chem 122, 123, and permission of department. Basic analytical techniques with X-ray equipment.
- 446 CLAY MINERALOGY (4)  
Prerequisite: Geol 444. Classification, identification, structure, and genesis of clay minerals.
- 452 INTRODUCTION TO GEOPHYSICS (4)  
Prerequisites: Physics 133 or 233 and Math 122 or 220, Geology 211. Basic elements of geomagnetism, seismology, gravity and heat flow with reference to the internal structure of the earth.
- 453 GEOTECTONICS (3)  
Prerequisite: Geol 452 or permission of department. Crust-mantle interactions, isostasy, continental drift, sea floor spreading, theories of mountain building.
- 454 APPLIED GEOPHYSICS (4)  
Prerequisite: Geol 452. Field and laboratory exercises in seismic refraction and reflection, electrical resistivity, gravity and magnetics.
- 455 PALEOMAGNETISM AND ROCK MAGNETISM (4)  
Prerequisites: Physics 133 or 233; Math 122 or 220; Geol 317, 420. Origin and interpretation of natural magnetism of rocks; origin of geomagnetic field; application to problems in petrology, structural geology and geodynamics.
- 460 GEOCHEMISTRY (3)  
Prerequisites: Math 122 or 220, Chem 122, 123, Geol 306. Application of principles of physical chemistry to the study of origin of rocks and minerals.
- 496a,b,c HONORS TUTORIAL (2-5 ea)
- 497a ADVANCED TOPICS IN PHYSICAL GEOLOGY (4)  
Prerequisite: physical or general geology. Topics appropriate for secondary science teachers. Summer 1970.
- 500 SPECIAL PROJECTS IN EARTH SCIENCE (2-5)  
Prerequisite: permission of instructor. Special projects under supervision.
- 507 COASTAL GEOLOGY (4)  
Prerequisite: Geol 310 or 340. Coastal processes and morphology; waves, tides, and currents; sea level changes, coastal sedimentation; research methods.
- 510 FIELD PROBLEM (2-5)  
Prerequisite: Geol 410 or recognized summer field camp. Field mapping problem and report in geology.
- 511 ADVANCED STUDIES IN PHYSICAL GEOLOGY (3)  
Prerequisite: Geol 420 or permission of department. Independent or class study of recent advances in physical geology.
- 512 ADVANCED STUDIES IN HISTORICAL GEOLOGY (3)  
Prerequisite: Geol 316 or permission of department. Independent or class study of recent advances in historical geology.

- 513 GEOCHEMISTRY OF SOLIDS (3)  
Prerequisite: Geol 306. Internal structure of crystals.
- 514 FLUVIAL GEOMORPHOLOGY (3)  
Prerequisite: Geol 310. Stream processes, origin and evolution of fluvial features.
- 516 PROBLEMS IN BIOSTRATIGRAPHY (3)  
Prerequisite: Geol 316. Advanced work in the biostratigraphy of invertebrates, vertebrates, microfossils or plant fossils.
- 519 GENESIS OF ORE DEPOSITS (5)  
Investigation of the composition, origin, transportation, and deposition of ore deposits; field and laboratory problems.
- 523 IGNEOUS AND METAMORPHIC PETROLOGY AND GEOCHEMISTRY (5)  
Prerequisite: Geol 423 or 425. Petrogenesis of igneous and metamorphic rocks and minerals.
- 524 SEDIMENTARY PETROLOGY AND GEOCHEMISTRY (3)  
Prerequisite: Geol 420. Application of chemical principles to the study and interpretation of sedimentary rocks. Petrogenesis of sedimentary rocks.
- 546 GEOLOGY OF CLAYS (3)  
Prerequisite: Geol 446. Occurrence, distribution and genesis of clays; including weathering and soils, diagenesis and hydrothermal alteration.
- 552 ADVANCED STUDIES IN GEOPHYSICS (4)  
Prerequisite: Geol 463 or 454, or permission of instructor.
- 570 THESIS (3-12)  
Independent research.



## HISTORY

*Professors:* Bultmann (Chairman), Boylan, Hiller, Murray, Radke, Schwarz.  
*Associate Professors:* DeLorme, Hitchman, Jackson, Roe, Roley, Schuler, Thomas.  
*Assistant Professors:* Gough, Horn, Kaplan, Ritter.  
*Instructors:* Bullock, Davis.  
*Lecturers:* Dresbeck, Eklund, Hammill, Helfgott, Mariz, Smith.

### TEACHER EDUCATION

*Major* All Levels 45 credits

- History 203, 204
- Two courses from History 425 through 448 (except 445b)
- One course from History 410, 411, 412, 413, 414, 415, 416, 417, 418, 420
- History 499 (for senior high teachers only)
- Electives under advisement

*Minor* 25 credits

- History 203, 204
- Electives, including one upper division course, under advisement

*Minor—East Asian Studies*

This may be added to the major for a major concentration. See Interdepartmental Programs for details.

## History

### Teaching Competence

Recommendation for teaching competence in history normally requires completion of the major with a grade average of 2.5 or better. An exception is the extended minor which follows.

### Extended Minor 33-35 credits

For English majors desiring a combined recommendation appropriate for junior high or middle school.

- History 203, 204
- One Modern European course from 425 through 448 (except 445b)
- One course from History 270, 280, 385
- One upper division U. S. history course
- 10 credits in electives under departmental advisement

## ARTS AND SCIENCES

### Major 50 credits plus Supporting Courses

- History 203, 204
- Two courses from History 425 through 448 (except 445b)
- One course from History 410, 411, 412, 413, 414, 415, 416, 417, 418, 420
- Electives under advisement: History 499 strongly recommended for students anticipating graduate study in history
- Supporting courses: Pol Sci 250 or 5 credits in approved upper division political science. A reading knowledge of one appropriate foreign language is recommended.

### Minor 25 credits

- History 203, 204
- Electives under departmental advisement

### Minor—East Asian Studies

This may be added to the major for a major concentration. See Interdepartmental Programs for details.

## DEPARTMENTAL HONORS

A history major who wishes to graduate "with honors" must meet the general requirements for all honors students. He should consult the departmental honors adviser regarding additional requirements.

## GRADUATE STUDY

For concentrations in history leading to the Master of Education or Master of Arts degree, see *Graduate Bulletin*.

## COURSES IN HISTORY

Courses in the Department of History cover a wide range of subject areas. For ready reference, courses may be classified as follows:

General Courses—105, 106, 107, 400, 408, 490, 495, 499, 500, 501, 502, 504, 505, 506, 594, 595, 596, 597, 599

Ancient and Medieval—410, 411, 412, 413, 414, 415, 416, 417, 418, 420, 511, 512, 520

Modern Europe—317, 333, 336, 337, 341, 342, 346, 347, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 444, 448, 533, 536, 537, 540

United States—203, 204, 360, 361, 365, 366, 367, 368, 371, 375, 391, 445b, 450, 451, 452, 453, 454, 455, 457, 458, 459, 461, 463, 465, 466, 467, 469, 494, 497f, 550, 554, 556, 558, 560, 563, 566, 567, 591

Western Hemisphere—270, 471, 473, 571, 573

Afro-Asia—280, 385, 480, 481, 482, 483, 484, 485, 486, 487, 488, 581, 582, 586

105, 106, 107 HISTORY OF CIVILIZATION (4 ea)

Not open to those who have completed or intend to take General Education 121, 122, 123. Need not be taken in sequence. Human development in the Western world from earliest times to the present; emphasis upon ideas, institutions, forces and movements shaping contemporary life.

- 203 AMERICAN HISTORY TO 1865 (5)  
American history from the European background to the end of the Civil War.
- 204 AMERICAN HISTORY SINCE 1865 (5)  
American history from the end of the Civil War to the present.
- 270 THE WESTERN HEMISPHERE (5)  
Western hemisphere history from European origins to the present.
- 280 THE FAR EAST (5)  
The Far East from 1500 to the present.
- 317 HISTORY OF SCANDINAVIA (1-5)  
Development of Scandinavian states and culture. Offered only in the Study Abroad Program.
- 333 SURVEY OF MODERN RUSSIAN HISTORY (5)  
Developments in Russia since Peter the Great.
- 336 FRANCE IN THE MODERN WORLD (3)  
Leading political, social and intellectual trends in 19th and 20th century French history. Summer only.
- 337 THE BRITISH EMPIRE (5)  
Development of the overseas Empire of Great Britain from the Elizabethan period to the present.
- 341 EUROPEAN ECONOMIC HISTORY (5)  
Economic development from the origins of capitalism to the present, with special emphasis on the emergence of modern industrialism.
- 342 POLITICAL MOVEMENTS IN EUROPE SINCE 1789 (5)  
Major political movements such as Liberalism, Fascism and Communism and their impact upon European society.
- 346 TECHNOLOGY AND SOCIETY IN EARLY EUROPEAN HISTORY (5)  
Man's efforts to control his environment; the impact of technological change from the fall of Rome to the Industrial Revolution.
- 347 EUROPEAN INTELLECTUAL HISTORY (5)  
Development of the European mind from the seventeenth century to the present.
- 360 AMERICAN ECONOMIC HISTORY (5)  
American economic development from colonial times to the present, with particular emphasis upon later periods.
- 361 BLACK HISTORY IN AMERICA (5)  
The culture and achievement of black Americans.
- 365 GREAT PERSONALITIES IN AMERICAN HISTORY (3)  
Biographical approach based on evaluation of careers of typical leaders in public affairs, the arts and ideas.
- 366 AMERICAN SOCIETY AND THOUGHT: ORIGINS, 1620-1800 (5)  
Social and intellectual development during the colonial and early national periods.
- 367 AMERICAN SOCIETY AND THOUGHT: 1800-1900 (5)  
Transcendentalism, Romanticism, Slavery, the Utopias; intellectual impact of the Civil War, Social Darwinism as trends in American history.
- 368 AMERICAN SOCIETY AND THOUGHT: THE TWENTIETH CENTURY (5)  
Intellectual developments in twentieth century America.
- 371 HISTORY OF AMERICAN TECHNOLOGY (5)  
Major technological and scientific developments in America; influence upon rise of the United States as a world power.
- 375 THE INDIAN IN AMERICAN HISTORY (5)  
Events and persons critical to history of North American Indians; review of interpretations of Indian cultures and history.
- 385 AFRICA (5)  
African history from 16th century to present.
- 391 HISTORY AND GOVERNMENT OF WASHINGTON (3)  
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.
- 400 SPECIAL PROBLEMS (1-5)  
Prerequisite: permission of department.
- 408 WORLD WARS OF THE TWENTIETH CENTURY (5)  
Military analysis of the Great Wars with emphasis on the strategic and tactical considerations which governed their course.

## History

- 410 ANCIENT NEAR EAST (5)  
Prerequisite: History 105 or Gen Ed 121. Genesis of Western civilization; our cultural debt to the ancient Mesopotamians, Egyptians, Hittites, Phoenecians, Aramaeans, Hebrews, Assyrians, and Persians.
- 411 GREECE TO 404 B.C. (3)  
Prerequisite: History 105 or Gen Ed 121; open to sophomores with permission of instructor. The Greek world from Minoan-Mycenaean period to end of Peloponnesian War.
- 412 GREECE: 404 TO 220 B.C. (3)  
Prerequisite: History 105 or Gen Ed 121; open to sophomores with permission of instructor. Greece from the end of the Peloponnesian War to the intervention of Rome.
- 413 THE ROMAN REPUBLIC (3)  
Prerequisite: History 105 or Gen Ed 121; open to sophomores with permission of instructor. From the foundation of Rome (753 B.C.) to the end of the Republic.
- 414 THE ROMAN EMPIRE (3)  
Prerequisite: History 105 or Gen Ed 121; open to sophomores with permission of instructor. From the foundation of the Roman Empire to the death of Theodosius (395 A.D.) and the division of the Empire.
- 415 THE BYZANTINE EMPIRE (5)  
Prerequisite: History 105 or Gen Ed 121; open to sophomores with permission of instructor. From the dedication of Constantinople to its fall (330-1453).
- 416 EUROPE: THE EARLY MIDDLE AGES (5)  
Prerequisite: History 105 or Gen Ed 121; open to sophomores with permission of instructor. Religious, intellectual, social, artistic and economic changes in Europe from decay of Roman Empire to about 1050 A.D.
- 417 EUROPE: THE LATER MIDDLE AGES (5)  
Prerequisite: History 105 or Gen Ed 121; open to sophomores with permission of instructor. Religious, intellectual, social, artistic and economic changes in Europe; new scientific movements, 1050-1450.
- 418 MEDIEVAL ENGLAND (5)  
Political, social and constitutional history of England from the Roman conquest to War of the Roses.
- 420 THE RENAISSANCE AND THE REFORMATION (5)  
Prerequisite: History 106 or Gen Ed 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)  
Development of the modern state system and the conflict between monarchs and the growing middle class.
- 426 MODERN EUROPE, 1789-1850 (5)  
Political, economic, social, and diplomatic developments between the French Revolution and mid-19th century.
- 427 MODERN EUROPE, 1850-1914 (5)  
From the age of "Realpolitik" to First World War.
- 428 MODERN EUROPE, 1914-1945 (5)  
Results of World War I, attempts at world organization, the Succession States of Central Europe, World War II.
- 429 EUROPE SINCE 1945 (5)  
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)  
From the Thirty-Years War to the Congress of Vienna; the rise of Brandenburg-Prussia; European affairs.
- 431 GERMANY SINCE 1815 (5)  
Since the Congress of Vienna; national unification, the German state system; role in international affairs.
- 432 RUSSIA, ORIGINS AND DEVELOPMENT TO 1801 (3)  
Political, social, economic, and diplomatic history from the beginnings to 1801; influences on development of the modern Russian state.
- 433 RUSSIA IN THE NINETEENTH CENTURY (1801-1917) (3)  
Political, social, economic, and diplomatic history from 1801 to the Bolshevik Revolution.
- 434 RUSSIA SINCE 1917 (5)  
The revolutions of 1917 and the Soviet regime.
- 435 DIPLOMATIC HISTORY OF SOVIET RUSSIA (3)  
Theory and practice of Soviet foreign policy since 1917.



- 436 ENGLAND, 1485-1688 (5)  
Political, social, economic, and constitutional history of England from the end of the Wars of the Roses to the Glorious Revolution.
- 437 ENGLAND, 1688-1815 (5)  
Political, social, economic, and diplomatic history of England from the Glorious Revolution to end of Napoleonic Wars; constitutional developments of the period.
- 438 ENGLAND, 1815-1906 (5)  
Political, social, economic, and diplomatic history of England from Waterloo to the Liberal Government of 1906; development of parliamentary institutions.
- 439 ENGLAND SINCE 1906 (5)  
Role of England in the World Wars of the twentieth century; impact of these wars on English politics, economics, and society.
- 440 FRANCE, 1643-1815 (5)  
Political, social, and economic development from Louis XIV through Napoleon.
- 441 FRANCE SINCE 1815 (5)  
Political, social, and economic development of France since Napoleon.
- 444 ITALY, 1789-1922 (5)  
Political, social, and economic development from Napoleon to Mussolini.
- 445b CURRENT TRENDS IN AMERICAN HISTORY (1-5)  
Recent and contemporary writings in American history; revisionist and interpretive historical literature.
- 448 EAST CENTRAL EUROPE TO 1945 (5)  
Emphasis on Poland and the Balkans.
- 450 AMERICAN COLONIAL HISTORY (5)  
The colonial period from the discovery of America to the beginning of the Revolution.
- 451 THE AMERICAN REVOLUTION AND CONFEDERATION PERIOD (5)  
Colonial reaction to British imperial policies within the colonies; military and diplomatic aspects of the Revolutionary War; political, economic, and social aspects of the Confederation period to the adoption of the Constitution.
- 452 THE EARLY NATIONAL PERIOD: FEDERALISTS AND JEFFERSONIANS (5)  
Establishment of the federal government and origin of the party system; partisan conflict over constitutional interpretations; economic issues; foreign policy from the Constitutional Convention to War of 1812.
- 453 THE AGE OF JACKSON (5)  
The United States from 1812 through Mexican War.
- 454 THE CIVIL WAR AND RECONSTRUCTION (5)  
Development of rival nationalisms; problems of war in North and South; efforts toward reunion; new problem in 1877.
- 455 THE UNITED STATES, 1877-1900 (5)  
Social, economic, and political development of the American nation after Reconstruction.
- 457 AMERICA ENTERS THE TWENTIETH CENTURY (5)  
American political, socio-economic, and intellectual currents, 1900-1920.
- 458 THE UNITED STATES: 1920-1941 (5)  
Political, social, and economic trends during the interwar years.
- 459 THE UNITED STATES SINCE 1941 (5)  
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)  
Relationship of the United States to world politics from colonial times to the present.
- 463 AMERICAN CONSTITUTIONAL HISTORY (5)  
Prerequisite: History 203 or equivalent. Constitutional development from the Revolutionary era to the present.
- 465 THE AMERICAN WEST (5)  
Westward movement from the Allegheny Mountains to the Pacific Ocean, with special emphasis upon the Far West.
- 466 THE RISE OF THE AMERICAN CITY (5)  
The impact of urbanization on American political, social, and economic history from the late 19th century to the present.

## History

- 467 REFORM AND RADICALISM IN TWENTIETH CENTURY AMERICA (5)  
Origin, leadership, objectives, and impact of major reform and radical movements of the period.
- 469 HISTORY OF AMERICAN BANKING (3)  
Development of banking institutions from Colonial times to present.
- 471 CANADA (5)  
From period of French colonization to present.
- 473 LATIN AMERICA (5)  
From the period of early Spanish and Portuguese colonization to the present.
- 480 CHINA TO 756 A.D. (5)  
Formation of Chinese civilization and early development of the Chinese empire.
- 481 IMPERIAL CHINA, 756-1912 (5)  
China from the mid-T'ang period to fall of the empire.
- 482 REPUBLICAN AND COMMUNIST CHINA (5)  
China from the Revolution of 1912 to the present.
- 483 TRADITIONAL JAPAN (3)  
Development of Japanese civilization to the Meiji Restoration of 1868.
- 484 MODERN JAPAN (3)  
Japan from the Meiji Restoration to the present.
- 485 THE COMMUNIST MOVEMENT IN CHINA (3)  
Prerequisite: History 280. The Communist Movement in China prior to 1949.
- 486 MODERN INDIA (5)  
Modern India in its political, social, economic and cultural development.
- 487 THE NEAR EAST (5)  
Cultural and historical background of Arab and Turkish lands of North Africa, the Near East; decline of Islamic influence in early times, its revival in the twentieth century.
- 488 CONTEMPORARY AFRICA SOUTH OF THE SAHARA (3)  
European imperialism in Africa in late nineteenth and twentieth centuries; recent development of African nationalism.
- 490 SENIOR SEMINARS (1-5)  
Prerequisite: permission of instructor.  
490a Latin America  
490b Modern American Society and Thought  
490c American Economic and Business History  
490d Canadian-American Relations  
490e Russia  
490f Twentieth Century America  
490g China  
490h The South in American History  
490j The Age of Jackson
- A maximum of two seminars may be counted toward a history major, or one toward a minor.
- 494 HISTORY OF AMERICAN HISTORIOGRAPHY (4)  
Prerequisite: open only to undergraduates of senior standing or fifth year students who are majors or minors in history, with permission of the instructor. Not applicable for graduate credit towards master's programs in history.
- 495 PHILOSOPHICAL PROBLEMS OF HISTORY (5)  
Problems in the critical and speculative aspects of the philosophy of history; explanation, objectivity and causality in historical inquiry; speculative approaches to "meaning" in history; relationship of history to the social and the physical sciences; open to graduate and undergraduate students in history and other departments with permission of instructor.
- 497f U.S. AND REGIONAL MARITIME HISTORY (5)  
Maritime development in the North Pacific region; Spring 1970.
- 499 HISTORICAL RESEARCH (3)  
Introduction to historical research methods; analysis of an historical field; an assigned special project.
- 500 CONFERENCE (1-5)  
Special problems in history.
- 501 HISTORIOGRAPHY I (4)  
Selected historiographical studies—Western Europe.
- 502 HISTORIOGRAPHY II (4)  
Selected historiographical studies—United States.
- 504 WRITING SEMINAR (4)  
Materials and methodology of historical research.
- 505 WRITING SEMINAR (4)  
Prerequisite: History 504. Continuation of research begun in History 504.



506 WRITING SEMINAR: THESIS (4)

Prerequisite: History 505.

511-591 GRADUATE SEMINARS (4)

Prerequisite for each of these seminars: completion of undergraduate major in history or permission of department; History 511, 512, 533, 558, 571, 573 require an appropriate upper division course as prerequisite.

- 511 Ancient Greece
- 512 Roman History
- 520 Renaissance and Reformation
- 533 Russian History
- 536 English History
- 537 British Empire and Commonwealth
- 540 Modern European History
- 550 Colonial American History
- 554 Civil War and Reconstruction
- 556 Progressive Movement
- 558 Recent American History
- 560 American Economic History
- 563 American Constitutional History
- 566 Early American Society and Thought
- 567 Twentieth Century American Thought
- 571 Canada
- 573 Latin America
- 581 Imperial China
- 582 Republican and Communist China
- 586 Modern India
- 591 The Pacific Northwest

594\* SEMINAR IN THE TEACHING OF HISTORY (2)

Prerequisite: permission of department. Alternative teaching strategies at the community and four-year college levels.

595a,b,c\* PRACTICUM IN COLLEGE TEACHING (2)

Prerequisite: permission of department. Directed classroom teaching at college level.

596a,b,c\* PRACTICUM IN COLLEGE TEACHING (4)

Prerequisite: permission of department. Directed classroom teaching at college level.

597q-x SEMINAR IN COMMUNITY COLLEGE TEACHING (2 ea)

597y,z PRACTICUM IN COMMUNITY COLLEGE TEACHING (10 ea)

599a,b SEMINARS IN HISTORICAL RESEARCH AND WRITING (4 ea)

Materials and methodology of historical research.

\*No more than 4 credits from History 594, 595, 596 allowed toward a degree; these courses do not meet requirement for subject matter seminars.

# HOME ECONOMICS

## HOME ECONOMICS)

*Professor:* Ramsland (Chairman).

*Associate Professor:* Stewart.

*Assistant Professors:* Barron, Bieler, Larrabee, Reddick, Roberts.

*Instructors:* Kest, Peach.

*Lecturers:* Aegerter, Frick, Thomas.

## TEACHER EDUCATION

*Major Concentration* 70 credits  
(Satisfies both major and minor)

- Home Econ 100, 101, 120, 150, 151, 164, 175
- Home Econ 210, 224, 230, 253, 260, 261, 272
- Home Econ 310, 320, 321, 334, 338, 353, 370, 375
- Home Econ 410, 420, 424, 432, 441, 442
- Supporting course: Economics 201

It is recommended that Chemistry 115 be taken in meeting the general education chemistry requirement.

*Minor* 25 credits

- Courses selected under departmental advisement. Preliminary consultation is essential before undertaking a minor.

### *Teaching Competence*

Recommendation for teaching competence in home economics normally requires completion of the major with a grade average of 2.5 or better.

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.

## ARTS AND SCIENCES

*Major Concentrations* 70 credits  
plus Supporting Courses

(These concentrations satisfy both a major and a minor.)

*Common core:* Home Econ 100, 101, 120, 150, 166 or 260, 175, 210, 224, 230, 310, 334, 370, 410

In addition to the common core courses, select one of the following concentrations:

### *General Home Economic Emphasis*

- Home Econ 151, 164, 253, 272, 320 or 321, 338, 375, 424, 430 or 432
- Home economics electives: 16-21 credits
- Supporting courses: Chem 115, Econ 201 plus 35 credits under advisement from art, sociology, psychology, economics, chemistry, biology, technology or philosophy

### *Foods, Nutrition, or Foods-Nutrition Combined Emphasis*

- 30 credits selected from Home Econ 151, 153, 250, 253, 272, 273, 350, 351, 353, 354, 372, 434, 450, 451, 453, 455
- Home economics electives: 12-15 credits
- Supporting courses: 40 credits to be selected under advisement from chemistry, biology, economics, statistics, psychology, sociology/anthropology, technology or zoology

### *Child Development and Family Relationships Emphasis*

- Home Econ 320, 321, 338, 350, 420, 422, 423, 424, 425, 443
- Home economics electives: 14-17 credits

- Supporting courses: Econ 201, Psych 201 and 351, Soc 201, 366 and 481, plus 14 credits under advisement

### *Housing, Equipment and Furnishings Emphasis*

- Home Econ 164, 267, 272, 273, 364, 371, 372, 375, 376, 470, 475, 476
- Home economics electives: 8-11 credits
- Supporting courses: 40 credits under advisement from technology, art, physics, economics, speech, sociology/anthropology, or geography

### *Minor 25 credits*

- Courses selected under departmental advisement; prior consultation is essential before undertaking a minor

A one or two year program is planned for students who may wish to transfer or who have special needs for less than a degree program. Consult department for details.

## **COURSES IN HOME ECONOMICS**

- 100 INTRODUCTION TO HOME ECONOMICS (1)  
Restricted to home economics majors or minors or admission by permission of department. Orientation in the five areas of home economics and a review of the field in terms of history, philosophy, professional opportunities.
- 101 DESIGN ORIENTATION (3)  
Not open to students with credit in Art 101, 102, or 103. Fundamental art principles and design concepts, emphasizing color, pattern, texture, and space.
- 120 THE PRE-SCHOOL CHILD IN THE FAMILY (2)  
Intellectual, physical, social, and emotional development of the pre-school child, with emphasis upon the relationship of the child to the family.

- 150 HUMAN NUTRITION (3)  
Prerequisite: general education chemistry requirement or high school biology. Basic nutrition principles and nutritive needs of people, food habits, nutrition education.
- 151 HUMAN NUTRITION LABORATORY (2)  
Prerequisites: Home Econ 150, Biol 101 and permission of department; general education chemistry requirement recommended. Application of methods of dietary studies, research and laboratory experiences.
- 153 SOCIAL AND CULTURAL ASPECTS OF FOOD (2)  
Prerequisite: Gen Ed 105. Social and cultural development of people as related to the acceptance and use of food.
- 164 TEXTILES FOR THE CONSUMER (3)  
Identification and evaluation of textiles for clothing and household purposes.
- 166 CLOTHING DESIGN AND SELECTION (2)  
Prerequisites: Home Econ 101 or Art 101 or 102 and Home Econ 164 recommended; not open to home economics majors with credit in 260. Selection of clothing from aesthetic and consumer aspects.
- 175 PERSONAL ENVIRONMENTAL DESIGN (2)  
Introduction to furniture, decorative arts, architecture and landscaping for the home.
- 210 CONCEPTS IN HOME ECONOMICS (1)  
Prerequisite: Home Econ 100. Concepts common to the five areas of home economics.
- 224 MARRIAGE AND FAMILY LIVING (2)  
Prerequisite: Gen Educ 105. Legal, economic, and interpersonal relationships in dating, mate selection, and marital interaction.
- 230 DECISION-MAKING IN THE FAMILY (2)  
Home management concepts applied to decision making in the family.
- 250 NUTRITION: ASPECTS OF HUMAN GROWTH (2)  
Prerequisites: Home Econ 150, Biol 101. Nutritional needs during pregnancy, lactation, growth, and old age; indices of nutritional status.
- 252 FOOD AND MEAL MANAGEMENT (men) (2)  
Basic principles related to food, its preparation and service.

## Home Economics

- 253 FOODS (3)  
Prerequisites: Home Econ 150 and permission of department. Basic principles of food preparation and selection; laboratory experience and demonstration.
- 260 CLOTHING SELECTION AND CONSTRUCTION (5)  
Prerequisites: Home Econ 164, Home Econ 101 or Art 102, and permission of department; open only to home economics majors and minors. Selection of clothing from the aesthetic and consumer aspects; new construction techniques and methods.
- 261 CLOTHING ANALYSIS (2)  
Prerequisites: Home Econ 260. New developments and techniques applied to methods of teaching clothing.
- 267 WEAVING DESIGN (3)  
Weaving taught through the use of a variety of looms and materials. Also offered as Technology 201.
- 272 HOUSEHOLD EQUIPMENT I (3)
- 273 HOUSEHOLD EQUIPMENT II (2)  
Prerequisite or concurrent: Home Econ 253. Non-electrical and electrical appliances in relation to food preparation and demonstration.
- 300 SPECIAL PROBLEMS IN HOME ECONOMICS (1-5)  
(See Home Econ 400)
- 310 HOME ECONOMICS RESEARCH METHODS (1)  
Prerequisite: Home Econ 210. Analysis of research purposes and methods in the five areas of home economics.
- 320 CHILD DEVELOPMENT (3)  
Prerequisites: Home Econ 120, Gen Ed 105. Development of the child from birth to adolescence from a developmental viewpoint.
- 321 ADOLESCENT DEVELOPMENT (2)  
Prerequisite: Psych 351. Development of the adolescent; implications for guidance in the family and group situations.
- 334 CONSUMER ECONOMICS (2)  
Prerequisites: Gen Educ 105, Econ 201. The consumer in the economic world; his responsibilities and protections. Formerly offered as 338.
- 338 FAMILY FINANCE (3)  
Prerequisites: Home Econ 334, Gen Educ 105, Econ 201. Management of family income and expenditures in the changing family cycle.
- 350 CHILD NUTRITION (2)  
Prerequisite: Home Econ 150, Biol 101. Nutrition for human growth and development; indication of nutritional status; application of principles of nutrition to care and feeding of infants and children.
- 351 FIELD STUDIES IN CHILD NUTRITION (2-5)  
Prerequisites: Home Econ 151, 350, and permission of department. Survey and application of research studies with children; supervised field work with programs in early childhood education, public health and governmental agencies.
- 353 FAMILY MEAL MANAGEMENT (3)  
Prerequisites: Home Econ 150, 253, and permission of department. Concepts of management applied to meal service for the family.
- 354 GROUP FOOD SERVICE (3)  
Prerequisite: Home Econ 353 or permission of department. Preparation and management of food for groups.
- 361 CLOTHING AND HUMAN BEHAVIOR (3)  
Implications and significance of clothing in Western society, with special emphasis on stages of life cycle, development of self, and the phenomenon of fashion.
- 362 FAMILY CLOTHING (2)  
Prerequisite: Home Econ 260 or 261, or permission of department. Selection and construction of clothing for the family.
- 363 FLAT PATTERN AND DRAPING (3)  
Prerequisite: Home Econ 260 or 261. Basic theory and principles of pattern and draping techniques.
- 364 TEXTILES FOR HOME FURNISHINGS (3)  
Prerequisite: Home Econ 164 and 175 or 375. Historical and contemporary design of decorative and functional textiles for home furnishing.
- 365 NEW FABRICS AND FINISHES (2)  
Prerequisite: Home Econ 164 recommended. New developments in fabrics and finishes.
- 368 HISTORY OF COSTUME (3)  
Historical costumes from the Egyptian period to the present day.

- 370 HOUSING I (3)  
Prerequisites: Home Econ 101 or Art 102; Home Econ 175; permission of department. Housing for the family; historical, aesthetic and cultural implications.
- 371 HOUSING II (3)  
Prerequisite: Home Econ 370 and 372. Housing for the family; its planning and design.
- 372 ADVANCED HOUSEHOLD EQUIPMENT (3)  
Prerequisites: Home Econ 272, Tech 313. Factors affecting lighting, heating, ventilation and plumbing.
- 375 HOME FURNISHINGS (3)  
Prerequisites: Home Econ 101 or Art 102; Home Econ 175 and permission of department; Home Econ 164 recommended. Laboratory experiences with selection, arrangement, design of home furnishings.
- 376 HISTORY OF FURNITURE AND DECORATIVE ARTS (3)  
Prerequisites: Home Econ 101 or Art 102, Home Econ 175. Development of furniture and decorative arts from ancient to contemporary times.
- 397b THE FAMILY AS A CONSUMER IN AN AFFLUENT SOCIETY (3)  
Financial information for the changing family life cycle; taxes, housing, insurance, investments; consumer aids, consumer responsibilities. Extension, 1970.
- 400 SPECIAL PROBLEMS IN HOME ECONOMICS (1-5)  
Prerequisite: permission of department chairman. Advanced students with a creditable record in home economics may work on a special problem by conference arrangement.
- 410 SEMINAR IN HOME ECONOMICS (1)  
Prerequisite: Home Econ 310. Current issues.
- 420 LABORATORY EXPERIENCE WITH THE PRE-SCHOOL CHILD (3)  
Prerequisites: Home Econ 120, Psych 351 and permission of department; a tuberculosis test required in compliance with state law. Observation and participation in nursery school laboratory.
- 422 NURSERY EDUCATION (3)  
Prerequisite: Educ 431 or permission of department. Development of curriculum for nursery school age children emphasizing experiences that develop language and physical coordination, inquiry and creativity, and readiness for kindergarten and grade one. Also offered as Ed 432.
- 423 ADVANCED CHILD DEVELOPMENT (3)  
Prerequisites: Home Econ 320 and permission of department. Examination and analysis of theories in the areas of child development.
- 424 FAMILY RELATIONSHIPS (3)  
Prerequisite: Home Econ 120 and 224; Soc 351 recommended. Concepts of the family; current issues, family life education.
- 425 FAMILY COUNSELING (3)  
Prerequisites: Home Econ 424; permission of department. Analytical consideration of causes and development of family problems; counseling techniques.
- 430 HOME MANAGEMENT (2)  
Prerequisites: Home Econ 230, senior standing and permission of department. Philosophy and theory of management and decision making in the family from an interdisciplinary standpoint.
- 432 HOME MANAGEMENT LABORATORY (3)  
Prerequisites: Gen Educ 105, Home Econ 353, 230, and permission of department. Application of concepts and principles of home management to group and home living.
- 434 FOOD ECONOMICS (3)  
Prerequisites: Econ 201 and Home Econ 334. World consumption patterns, governmental agencies involved in international cooperative programs of food production; legal agencies and aspects of purchase, production and distribution.
- 441 HOME ECONOMICS EDUCATION (3)  
Prerequisites: Psych 371, senior status, and 36 credits in prescribed home economics; to be taken immediately preceding student teaching. Philosophy and curriculum, emphasizing current concepts in home economics programs of the junior and senior high school.
- 442 CURRICULUM IN HOME ECONOMICS EDUCATION (3)  
Prerequisite: Home Econ 441 and student teaching or teaching experience. Development of a functional home economics program for junior and senior high and adult education through analysis and synthesis of concepts with emphasis on courses of study, scope and sequence, department management and planning department facilities.
- 443 ADULT AND PARENT EDUCATION (3)  
Principles and procedures for working with adult groups and individuals.

## Home Economics

- 448 EVALUATION IN HOME ECONOMICS (2)  
Prerequisite: Home Econ 441 or equivalent, supervised teaching in home economics or graduate status. Application of current concepts in evaluation to home economics.
- 450 PROBLEMS IN NUTRITION (3)  
Prerequisite: Home Econ 150, Biol 101; senior status or permission of department. Significant current research in human nutrition.
- 451 RESEARCH PROJECTS IN NUTRITION (2-5)  
Prerequisites: Home Econ 151, 450, general education chemistry requirement; permission of department. Techniques of nutritional research, application to selected problems.
- 453 RESEARCH PROJECTS IN FOODS (2-5)  
Prerequisites: Home Econ 455 and permission of department. Problems and procedures pertaining to food studies; group food service; interpretation and evaluation of recent research; field work.
- 455 EXPERIMENTAL FOODS (3)  
Prerequisite: Home Econ 253, general education chemistry requirement, and permission. Application of scientific principles and experimental procedures to food processes.
- 460 TAILORING (3)  
Prerequisite: Home Econ 260 or 261, or permission of department. Modern tailoring techniques.
- 469 SPECIAL PROBLEMS IN CLOTHING CONSTRUCTION (3)  
Prerequisite: Home Econ 260, or permission of department. Construction and fitting problems; individual projects.
- 470 HOUSING AND SOCIETY (3)  
Prerequisite: Soc 366. The personal environment and its relation to the community.
- 475 ADVANCED HOME FURNISHINGS (3)  
Prerequisites: Home Econ 164, 175, 375, and permission of department. Traditional and contemporary design in home furnishings; advanced planning problems.
- 476 CONTEMPORARY DESIGN IN HOME FURNISHINGS (2)  
Prerequisite: Home Econ 175. American and international influences on contemporary design.
- 497k NEW INSTRUCTIONAL RESOURCES FOR TEACHING HOME ECONOMICS (3)  
Prerequisite: Home economics teaching experience and permission of department. Experimentation, utilization, and design; educational games, single concept films, individualized instruction packets, programmed learning. Summer 1970.
- 497m PARENT EDUCATION (2)  
Prerequisite: teaching experience and permission of department. Formulation, organization, presentation and evaluation of programs for parents; community interaction. Summer 1970.
- 497n SOUTH AMERICAN TOUR OF ART AND DESIGN (5)  
Prerequisite: permission of department. Summer tour, 1970; art, design, architecture, home furnishings, industrial design, arts and crafts of countries visited.
- 497p CONSUMER EDUCATION IN HOME ECONOMICS (2)  
Role of consumer education in Home Economics curriculum with implications for developing performance objectives for middle, junior and senior high schools.
- 498 SCANDINAVIAN TOUR OF DESIGN AND ART (5)  
Prerequisite: permission of department. Summer tour of Norway, Sweden, Finland, and Denmark; study of art, design, architecture, home furnishings, industrial design, arts and crafts.
- 500 SPECIAL PROBLEMS IN HOME ECONOMICS (1-5)  
(See Home Econ 400.)





# - LIBRARY SCIENCE

Library Science constitutes an instructional unit attached to the Department of Education. The faculty serving this area include:

*Professor:* McGaw.

*Associate Professors:* Fennimore, Mathes, Rahmes.

*Lecturer:* Dodson.

## - TEACHER EDUCATION

### *State Standards*

18 credits for preparation of librarians with less than 400 enrollment: Library Science 305, 307, 308 (whichever is appropriate); 401, 402, 403, 404; Education 450. A library school degree is required in larger schools.

*Minor* 24 credits

- Library Science 305, 308, 401, 402, 403, 404
- Education 450, 451

(Students wishing to prepare for elementary school library work should substitute 306 or 309 for 308.)

## - COURSES IN LIBRARY SCIENCE

### 125 LIBRARY ORIENTATION (1)

Introduction to books and libraries, and to the Wilson Library in particular, with emphasis on effective use of standard reference tools.

### 305 BOOKS FOR ELEMENTARY SCHOOLS (3)

Examination, reading, and discussion of books most generally useful in work with boys and girls; emphasizing standards for selection of books, book lists, reviews of current books, modern trends in book production, and relation of books to the curriculum and reading interests of children.

### 306 INTRODUCTION OF BOOKS TO CHILDREN (3)

Prerequisite: Library Science 305. More intensive reading and discussion of books appropriate for primary and intermediate grades, with emphasis on preparation of bibliographies, and methods of arousing interest in books.

### 307 BOOKS FOR JUNIOR HIGH SCHOOLS (3)

Examination and discussion of books most generally useful in work with junior high school students emphasizing standards for selection of books, book lists, reviews of current books, modern trends in book production, and relation of books to the curriculum and to reading interests.

### 308 BOOK SELECTION (3)

Selection, examination, and discussion of books for libraries, especially those most suitable for young adults.

### 309 STORYTELLING (3)

Prerequisite: Library Science 305 or permission of instructor. 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.

### 497a LIBRARY MATERIALS FOR TEACHERS (3)

Prerequisite: a course in children's literature or permission of instructor. Evaluation and use of children's books and non-print materials (filmstrips, records, etc.) in their implementation of the elementary school curriculum.

# MATHEMATICS

*Professors:* Hashisaki (Chairman), Abel, Broman, Chaney, Marshall, Reay, Rygg, Samuelson, Woll.

*Associate Professors:* Craswell, Duemmel, Froderberg, Gray, F. Hildebrand, Jewett, Sanderson, Witter.

*Assistant Professors:* Atneosen, Chalice, Hu, Kauffman, Kelley, Levin, Lindquist, Read.

*Lecturers:* Menninga, Purtil, Webb.

The study of college level mathematics should begin with Math 122 for the student who has a command of:

- (a) one and one-half years of algebra
- (b) one year of geometry
- (c) one-half year of trigonometry
- (d) one additional year of work including mathematical logic, sets, and the real number system, equations, inequalities, and functions and their graphs

Math 121 is offered for students needing a knowledge of the topics listed in (d). The student who is deficient in (a) should enroll in Math 100; students deficient in (c) should enroll in Math 105. These courses, if needed, should be completed before enrolling in Math 122.

Transfer students must complete at this institution a minimum of nine upper division credits for a major in mathematics or five upper division credits for a minor.

## TEACHER EDUCATION

*Major* Elementary 45 credits

- Math 121 (if needed), 122, 222, 241, 305, 360
- Math 321 for 281 in Elementary Teaching Minor
- One course from the 400 level other than 481
- Electives under departmental advisement

*Major* Secondary 45 credits

- Math 121 (if needed), 122, 201 and 202, or 301, 222, 223, 241 or 305, 325, 483
- One course from Math 360, 460, 461
- One course from 400 level other than Math 483
- Electives from Computer Science 270 and upper division courses under advisement

*Minor* 24-30 credits

- Math 121 (if needed), 122, 222, 223, 321, 360
- Math 481 or 483

## Combined Major Concentration

See Chemistry Department section for Mathematics-Chemistry Combination

## Teaching Competence

Recommendation for teaching competence normally requires completion of the appropriate major with a minimum grade point average of 2.20.

Qualification for teaching competence for junior high school level mathematics may be obtained as above, or by completing with a minimum grade point average of 2.20, an augmented minor which includes Math 122, 222, 223, 201 and 202, or 301, 241 or 305, 360 or 460, 321 or 401, 483.

## ARTS AND SCIENCES

*Major* 60 credits plus Supporting Courses

- Math 121 (if needed), 122, 222, 223, 325
- Math 201 and 202 or 301
- Not less than 18 credits in approved courses numbered 400 or above
- Select 16 credits from 401, 402, 403, 420, 421 or 424, 425, 426

- Electives under departmental advisement
- Supporting courses: one of the following completed sequences—
  - Physics 231, 232, 233
  - Econ 201, 202, 301, 302
  - Psych 301, 302, 413
  - Computer Science 370, 371, 372
  - Chem 121 and 122 or 124; 123, 127
- Language competency in French, German, or Russian strongly recommended for B.A. majors; it may be satisfied by five quarters of one language or three quarters of two languages, or by passing the competency examination.

**Major Concentration** Mathematics-Computer Science  
80 credits plus Supporting Courses  
(Satisfies both a major and a minor)

- Math 122, 222, 223; 201-202 or 301, 331, 332 or 430, 325, 401, 420
- Computer Science 270, 370, 371, 372, 375, 475, 476
- 18 additional credits in computer science and mathematics as advised
- Supporting courses: Physics 231, 232, 233, or 15 credits as advised in an area related to the major

**Minor** 25 credits

- Math 121 (if needed), 122, 222, 223; 201-202 or 301
- Electives from Math 241, Computer Science 270 and upper division courses as advised

**Minor** Computer Science

**Option I** 24 credits, plus supporting courses (not open to mathematics majors):

- Math 202, 331
- Computer Science 270, 271 or 370, 375
- 8 credits in mathematics or computer science as advised
- Supporting courses: Math 122, 201 and 202 or 301, 222, 223

**Option II** 25 credits (not open to majors in chemistry, mathematics or physics):

- Math 122 or 220
- Computer Science 270, 271, 273
- 11 credits in computer science as advised

### Combined Majors

The Mathematics Department cooperates with other departments in offering combined (or double) majors for students wishing to achieve considerable depth in both areas. These concentrations satisfy both the major and the minor for an Arts and Sciences degree.

**Economics-Mathematics**--See Economics Department section for details.

**Physics-Mathematics**--See Physics Department section for details.

**Physics-Mathematics Special Honors Concentration** · See Physics Department section for details.

## DEPARTMENTAL HONORS

### Arts and Sciences

In order to graduate with "honors in mathematics," a student must complete Math 331, 401, 402, 403, 424, 425, 426; 18 additional upper division or graduate credits in mathematics as advised by the Honors Committee, at least 12 credits of which must be at the 400 or 500 level; attain a 3.5 grade average in the courses taken for the above, and a 3.0 grade average on all college courses; complete an Arts and Sciences major in mathematics together with supporting courses; complete two non-departmental Honors colloquia; be recommended by the departmental Honors Committee and the Honors Board.

In special cases, with the approval of the departmental Honors Committee, the student may elect to write a senior thesis.

## Mathematics

### Teacher Education

In order to graduate with "honors in mathematics," a student must complete Math 325, 401, 425, two quarters of geometry, and additional upper division credits in mathematics as advised by the Honors Committee to total 30 credits; attain a 3.5 grade average in the above courses and a 3.0 grade average in all college courses; complete the requirements for a teacher education major in mathematics; complete two non-departmental Honors colloquia; be recommended by the departmental Honors Committee and the Honors Board.

In special cases, with the approval of the departmental Honors Committee, the student may elect to write a senior thesis.

### GRADUATE STUDY

For concentrations in mathematics leading to Master of Education, Master of Arts, or Master of Science degrees, see the *Graduate Bulletin*.

## COURSES IN MATHEMATICS

(See also Computer Science courses listed below.)

### 100 ALGEBRA (4)

Prerequisites: clearance of mathematics entrance test; one year of high school algebra. For students who do not have sufficient preparation for college level mathematics. Credit not allowed for students with 3 years high school mathematics.

### 105 TRIGONOMETRY (3)

Prerequisites: clearance of mathematics entrance test; one and one-half years high school algebra or Math 100 and one year high school geometry. Angles and angle measurement, logarithms, trigonometric functions, identities, conditional equations, inverse functions, solution of plane triangles, complex numbers.

### 121 INTRODUCTION TO COLLEGE MATHEMATICS (5)

Prerequisites: clearance of mathematics entrance test; one and one-half years of algebra, one-half year of trigonometry. Mathematical logic, sets, the real number system, equations, inequalities, and functions and their graphs.

### 122 ANALYTICAL GEOMETRY AND CALCULUS (5)

Prerequisite: Math 121 or equivalent. Coordinate geometry of the plane; limits, the derivative, differentiation, the differential, and elementary applications of differential calculus; introduction to integration.

### 151 INTRODUCTION TO MATHEMATICS (3)

Prerequisite: clearance of mathematics entrance test. Logic, sets, and the real number system. Not open to students who have credit in Math 121.

### 201, 202 INTRODUCTION TO LINEAR ALGEBRA (3 ea)

Prerequisite: Math 121 or 220; 201 prerequisite to 202; to be taken concurrently with calculus. Vector spaces, subspaces, dependence, independence, bases, linear transformation, matrices.

### 220 INTRODUCTION TO CALCULUS (5)

Prerequisite: Math 100. An intuitive approach to the integral and differential calculus especially designed for students majoring in biology, economics, psychology, and other social sciences. Not open to students who have credit in Math 122.

### 222, 223 ANALYTIC GEOMETRY AND CALCULUS (5, 4)

Prerequisite: Math 122; 222 prerequisite to 223. Elementary treatment of coordinate geometry of the plane and solid spaces. Math 222—the integral and integration, the differentiation of transcendental functions, and parametric equations; Math 223—methods of integration, improper integrals, indeterminate forms, infinite series, series expansion of functions, partial differentiation, and multiple integration.

### 240 INTRODUCTION TO STATISTICS (3)

Prerequisite: Math 100 or equivalent. Statistical reasoning treating the nature of statistics; statistical description; ideas of probability, measurement, sampling distributions, and organization of data.

### 241 INTRODUCTION TO PROBABILITY (3)

Prerequisite: Math 100 or 121. Introduction to probability with applications.

- 281 THEORY OF ARITHMETIC (4)  
Prerequisite: Math 100, 105, 121, 151 (one course); not open to students with credit in Math 301 or 321. Systems of numeration, sets, relations and number systems, and integration of these concepts.
- 297a,b INTRODUCTION TO CALCULUS AND COMPUTER SCIENCE (4 ea)  
Prerequisites: Math 100; Math 297a prerequisite to 297b. Not open to students with credit in Math 220, 122, or 270. Calculus and a computer language; writing computer programs to investigate and illustrate elementary topics in the calculus: definite integral, derivative, maximum and minimum problems.
- 301 VECTORS AND MATRIX ALGEBRA (4)  
Prerequisite: Math 223 or permission of instructor. Linear spaces, subspaces, dimension, linear transformations, matrices of transformations, and determinants.
- 305 NUMBER THEORY (4)  
Prerequisite: Math 222; not open to students who have had Math 401. The properties of integers, Euclid's algorithm, Diophantine equations, congruences, continued fractions and residues.
- 321 THE ALGEBRAIC FOUNDATION OF MATHEMATICS (4)  
Prerequisite: Math 222; not open to students with credit in 400 level courses. Algebraic systems; the concept of order and completeness; the natural numbers and construction of rational and real numbers.
- 325 INTERMEDIATE ANALYSIS (4)  
Prerequisites: Math 223 and 202 or 301. Sequences, limits, continuity, differentiation, Riemann-Stieltjes integral.
- 331 APPLIED ANALYSIS (4)  
Prerequisite: Math 223 and corequisites either Math 202 or 301. Sequences and series, improper integrals, absolute convergence, uniform convergence, power series and Taylor's series, the gamma function, Fourier series and orthogonality, nonlinear differential equations.
- 332 APPLIED ANALYSIS (4)  
Prerequisite: Math 331. General existence theorem, systems of equations, phase space, differential inequalities, linear differential equations and the Laplace transform, the Dirac distribution, series solutions, Legendre functions, Bessel's equation, Green's function.
- 335 INTRODUCTION TO MATHEMATICAL PROGRAMMING (4)  
Prerequisites: Math 202 or 301; Computer Science 270. Linear and quadratic programming; applications to game theory and to allocation and transportation problems.
- 341, 342 STATISTICAL METHODS (4 ea)  
Prerequisites: Math 121, 241, 270; 341 prerequisite to 342. Elementary course in statistical methodology with emphasis on point estimates and confidence interval estimation, hypothesis testing, and analysis of variance.
- 360 EUCLIDEAN AND NON-EUCLIDEAN GEOMETRY (3)  
Prerequisites: Math 202, 223; not open to students with credit in 400 level mathematics. Metric development of Euclidean geometry, and consideration of non-Euclidean geometries.
- 375 NUMERICAL METHODS (4)  
Prerequisite: Computer Sci 270; Math 223. Elementary discussion of error, solution of nonlinear algebraic equations, polynomial interpolation, least squares approximation, numerical quadrature, Gaussian solution of systems of linear equations; same as Computer Sci 375.
- 381 MATHEMATICS FOR ELEMENTARY TEACHERS (3)  
Prerequisite: one year of teaching or Math 281. Informal geometry; measurement; data collection and organization.
- 396a,b,c HONORS TUTORIAL (2 ea)  
Prerequisite: permission of department.
- 399 MATHEMATICS SEMINAR (1-3)
- 400 SPECIAL PROBLEMS (1-5)  
An opportunity for individual study under departmental supervision.
- 401, 402, 403 INTRODUCTION TO ABSTRACT ALGEBRA I, II, III (4 ea)  
Prerequisites: Math 223 and 202 or 301, or permission of instructor; each course prerequisite to the next. Vector spaces, linear transformations, matrices and determinants, introduction to algebraic structure, groups, rings, integral domains, fields and field extensions.
- 415 CONVEXITY (4)  
Prerequisite: Math 201-202 or 301 or permission of instructor. Geometry of convex bodies and polytopes, separation and support theorems, combinatorial analysis, Helly's Theorem and its relatives, integral representation of convex sets in terms of their external structure.

## Mathematics

### 420, 421 ADVANCED CALCULUS (4 ea)

Prerequisite: Math 325; 420 prerequisite to 421. Infinite series, elementary function; uniform convergence; calculus of Euclidean space, isometries of  $E^3$  and the derivative map of an isometry; calculus on surfaces.

### 424, 425, 426 MATHEMATICAL ANALYSIS (4 ea)

Prerequisite: Math 421 or permission of instructor; to be taken in sequence. Function spaces, linear algebra, application to analysis; normed linear spaces and their transformation; Hilbert spaces, Fourier series, differential equations; applications to physical problems.

### 430 APPLIED ANALYSIS (4)

Prerequisite: Math 331. Line integrals in the plane and Green's theorem; divergence theorem, Stoke's formula, line integrals in space with applications to field theory, fluid flow, heat flow, and hydrodynamics, partial differential equations including the vibrating string, the Dirichlet problem, double Fourier series, solutions by integrals, and elliptic, parabolic and hyperbolic equations.

### 431 INTRODUCTION TO COMPLEX VARIABLES (4)

Prerequisite: Math 325 or 425 or 331. Differentiation and integration of complex-valued functions; Cauchy integral theorem; calculations of residues.

### 435, 436 ADVANCED MATHEMATICAL PROGRAMMING (4 ea)

Prerequisites: Math 325, 335; 435 prerequisite to 436. Convex programming; duality and Lagrange multipliers; Kuhn-Tucher conditions and gradient methods; introductory dynamic programming; algorithms and applications.

### 441, 442, 443 MATHEMATICAL STATISTICS (4 ea)

Prerequisites: Math 202 or 301, 325; each course prerequisite to the next. Probability theory; development of distributions; generating functions; averages, moments, regression, correlation, variance, and statistical inference.

### 460 MODERN GEOMETRY (4)

Prerequisite: Math 202 or 301. General geometric structures, topics from affine and projective geometries.

### 461 MODERN GEOMETRY (4)

Prerequisites: Math 401. Bilinear functions, orthogonal groups, general symmetries.

### 475, 476 NUMERICAL ANALYSIS (4 ea)

Prerequisites: Computer Sci 375; Math 202 or 301, Math 331; 475 prerequisite to 476. Numerical solution of ordinary differential equations, solution of systems of linear equations, calculation of eigenvalues and eigenvectors, numerical solution of partial differential equations. Same as Computer Sci 475, 476.

### 481 MATHEMATICS IN GRADES 1 THROUGH 8 (4)

Prerequisite: Math 281 or permission of instructor. The teaching of mathematics in terms of objectives and methods of presentation.

### 483 MATHEMATICS IN THE SECONDARY SCHOOL (3)

Prerequisites: upper division courses in algebra and in geometry. Mathematics content of advanced high school courses from teacher's viewpoint; the major experimental programs.

### 491 MODERN MATHEMATICS FOR TEACHERS (3)

Sets, set operations and relations, systems of numeration, rational numbers.

### 492 MODERN MATHEMATICS FOR TEACHERS (3)

Real number system, congruence classes, set operations and relations, intuitive geometry, coordinate geometry.

### 495 EXPERIMENTAL MATHEMATICS IN THE ELEMENTARY SCHOOL (3)

Prerequisite: Math 281. Experimental elementary school mathematics projects with emphasis on the mathematical context of such programs.

### 496a,b,c HONORS TUTORIAL (2 ea)

Prerequisite: permission of department.

### 497f CURRICULUM DEVELOPMENT IN SECONDARY SCHOOL MATHEMATICS: VECTOR GEOMETRY I (UICSM) (10)

Three dimensional Euclidean geometry through the concept of a vector space; development of formal mathematical system from sequence of plausible intuitions.

### 497g CURRICULUM DEVELOPMENT IN SECONDARY SCHOOL MATHEMATICS: VECTOR GEOMETRY II (UICSM) (10)

Continuation of 497f; orientation of the plane, angle, trigonometry; work with determinants germane to this development; logic and proof.

### 497h APPLIED ANALYSIS (4)

See Math 430.

### 499 MATHEMATICAL SEMINAR (1-3)

500 SPECIAL PROBLEMS (1-5)

Prerequisites: advanced standing and permission of instructor.

501, 502, 503 ADVANCED ABSTRACT ALGEBRA (3 ea)

Prerequisite: Math 403 or permission of instructor; to be taken in sequence. Topics selected from theory of fields and Galois theory, theory of rings and ideals, representation theory and groups with operators.

505 THEORY OF NUMBERS (5)

Prerequisite: permission of instructor. Properties of natural numbers, divisibility, Euclidean algorithm, congruences, primitive roots, quadratic residues, and diophantine equations.

510, 511 INTRODUCTION TO ALGEBRAIC TOPOLOGY (3 ea)

Prerequisite: Math 424 or 520; 510 prerequisite to 511. Theory of complexes, homology, co-homology theory, homotopy theory.

517, 518, 519 TOPOLOGY (3 ea)

Prerequisite: Math 426; to be taken in sequence. Topological spaces, metric spaces, convergence, connectedness, compactness, product and quotient spaces, function spaces.

520 INTRODUCTION TO ANALYSIS (4)

Prerequisite: Math 426. Metric spaces, topological space and concepts.

521, 522 ANALYSIS (3 ea)

Prerequisite: Math 520 or equivalent; 521 prerequisite to 522. Measure theory, Lebesgue integration, Fourier series, function spaces.

525, 526, 527 THEORY OF FUNCTIONS OF A REAL VARIABLE (3)

Prerequisite: Math 522 or permission of instructor; to be taken in sequence. Topological concepts in analysis; general measure theory; integration in locally compact Hausdorff spaces, LP spaces, abstract Hilbert spaces; classical representation theorems; related topics.

531, 532, 533 COMPLEX VARIABLES (3 ea)

Prerequisite: Math 426; to be taken in sequence. Complex numbers as a field; function theory including analytic functions; exponential and logarithmic functions; derivatives; linear and bilinear transformations; the complex integral calculus; Cauchy-Goursat Theorem; Cauchy Integral Formula; power series, residues and poles; conformal mappings.

550 MATHEMATICAL LOGIC AND SETS (5)

Prerequisite: graduate status in mathematics. Introduction to formal symbolic logic and to set theory with an emphasis on mathematical examples.

555 HISTORY OF MATHEMATICS (5)

Prerequisite: permission of Summer Institute Director. Introduction to history of mathematics, with emphasis on evolution of branches of current importance and on mathematicians most prominent in this development.

561 MODERN GEOMETRY (4)

Prerequisite: graduate status or permission of instructor. Modern geometry approached from the standpoint of linear algebra and convex sets.

570 THESIS (variable credit)

580 MATHEMATICS SEMINAR AND SPECIAL PROBLEMS (1-4)

581a,b,c RESEARCH DESIGN AND LITERATURE IN MATHEMATICAL LEARNING (2 ea)

Critical examination of research studies; emphasis on research design, the findings, and their implications.

582 PROBLEMS OF CONCEPT DEVELOPMENT AND MATHEMATICAL LEARNING (3)

The current state and applicability of topics for cognition, child development, concept attainment, memory, perception, attention, and other human factors important in mathematical learning.

583 CURRICULUM DEVELOPMENT IN SCHOOL MATHEMATICS (3)

Underlying assumptions on which programs were generated; curriculum design and modification; problems in individualization of instruction; experience in mathematics media laboratory.

590 SEMINAR ON SPECIAL METHODS IN MATHEMATICS EDUCATION (1)

Prerequisite: admission to the Master-Teacher program. The mathematics curriculum in the public schools.

598 RESEARCH (variable credit)

599 MATHEMATICS SEMINAR (1-3)

699 MATHEMATICS SEMINAR (1-3)

Prerequisite: graduate course in the area of the seminar.

**COURSES IN COMPUTER SCIENCE\***

**270 INTRODUCTION TO COMPUTERS AND PROGRAMMING (3)**

Prerequisite: Math 122 or 220 or 240. Computers, algorithms and a compiler language; laboratory computer experience.

**271 COMPUTER PROGRAMMING (2)**

Prerequisite: Computer Sci 270. Intermediate projects using a compiler language; laboratory computer experience.

**273 INTRODUCTION TO DISCRETE STRUCTURES (4)**

Prerequisites: Computer Sci 270, Math 122 or 220. Basic algebraic structures including groups and semigroups; Boolean algebra and propositional logic; elementary theory of directed and undirected graphs; application to computer science; laboratory computer experience.

\*The facilities of the Computer Center, including an IBM 360/40 with large scale disk capacity and telecommunications capability, are available to qualified students free of charge for instruction in computer techniques, for research, and for general education in computer applications. Computer Science 270 provides basic instruction in the use of the computer.

**370, 371, 372 COMPUTERS AND ASSEMBLER LANGUAGE PROGRAMMING (3 ea)**

Prerequisite: Computer Sci 270. Computer structure and system organization. Machine language, instruction execution, addressing techniques and digital representation of data; structure of assemblers; program segmentation and linkage; input/output and interrupts; operating system services; laboratory computer experience.

**375 NUMERICAL METHODS (4)**

Prerequisites: Computer Sci 270; Math 223. Elementary discussion of error, solution of nonlinear algebraic equations, polynomial interpolation, least squares approximation, numerical quadrature, Gaussian solution of systems of linear equations; also offered as Math 375.

**475, 476 NUMERICAL ANALYSIS (4 ea)**

Prerequisites: Computer Sci 375; Math 202 or 301, Math 331. Numerical solution of ordinary differential equations, solution of systems of linear equations, calculation of eigenvalues and eigenvectors, numerical solution of partial differential equations; also offered as Math 475, 476.

**497e THEORY OF COMPUTABILITY (4)**

Prerequisite: permission of instructor. Turing machines, strings, Church's hypothesis, the halting problem and other unsolvability problems.





# MUSIC

*Professors:* Frank, North, Regier.

*Associate Professors:* Ager (Chairman), Cole, Detrekoy, Glass, Hamm, LaBounty, Scandrett, Schaub, Stoner, Walter.

*Assistant Professors:* McIntyre, Teresy-Smith, Wellman, Zoro.

*Affiliated:* Baerg, Black, Bochard, L. Bussard, N. Bussard, Davenport, Haley, North, Ramm.

*Associate in Arts:* Tanizaka.

## MUSIC PERFORMANCE

All students majoring in music must be members of a major performance group on their major instrument during each quarter of residence except the quarter in which teacher education students are enrolled in student teaching. Pianists in the Arts and Science program may, under advisement, substitute up to 6 credits in Chamber Music for this requirement.

## APPLIED PERFORMANCE PROFICIENCY

All entering students in applied instrumental or vocal private study will be expected to demonstrate their proficiency before a faculty committee to assist in their proper placement in the program. This placement audition will be arranged for all incoming students during the first week of the quarter in which the student enters the program. All applied private music study is included in the student's regular fees. All music majors (except Elementary) are expected to study privately during each quarter in residence except during the student teaching quarter.

Minimum applied performance proficiency levels required for entrance to private applied music study are as follows:

**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. Major and harmonic minor scales, hands together 4 octaves.

**VOICE**—Two songs of contrasting styles demonstrating potential beauty and body of tone, innate sensitivity to pitch and rhythm.

**ORGAN**—Ability to play, at the piano, a Bach *CHORALE* and a Bach *TWO-PART INVENTION*.

**VIOLIN**—Mazas, *SPECIAL STUDIES*, opus 36, Book 1, edited by Hermann or Saenger; Handel, Corelli, Vivaldi or other sonatas. Solo pieces through 5 positions; scales 2 octaves (major and melodic minor).

**VIOLA**—Handel, Purcell or other sonatas; Telemann Concerto in G major or Vivaldi Concerto in E minor. Scales 2 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 Marcelllo. Scales through the fourth position.

**DOUBLE BASS**—Simandl, *NEW METHOD FOR THE DOUBLE BASS*, Book 1. Scales through half, first and second positions.

**FLUTE, OBOE, CLARINET, BASSOON, SAXOPHONE, FRENCH HORN, TRUMPET**—Units one and two as described in the outline of the Rubank *ADVANCED METHOD* Vol 1 by Voxman and Gower; major and minor scales through four sharps and four flats.

## Music

**TROMBONE**—Units one and two as described in the outline of the Rubank *ADVANCED METHOD FOR TROMBONE AND BARITONE*, Vol 1 by Voxman and Gower. Major and minor scales through four sharps and four flats.

**BARITONE AND EUPHONIUM**—See the requirements for Trombone.

**TUBA** Units one and two as described in the outline of the Rubank *ADVANCED METHOD FOR TUBA*. Major and minor scales through four sharps and four flats.

**PERCUSSION**—Demonstrate ability on the snare drum and/or timpani, including ability to read at sight percussion parts from Class A High School Band or Orchestra Literature.

### THEORY PLACEMENT EXAMINATION

A placement examination is required for all incoming music students to determine their correct status in the theory program. This examination will be given for freshmen prior to the opening of fall quarter. Prospective music majors will be advised as to time and examination requirements. Those not passing will enroll in Music 130 as a prerequisite to Music 131. All students transferring with advanced standing will also take a theory placement examination given during registration at the beginning of the quarter in which they enter the college. Additional information can be obtained from the Music Department office.

### CONCERT ATTENDANCE

All music majors and all freshmen enrolled in first year theory courses are required to attend at least six concerts each quarter, with the exception of the quarter spent in supervised teaching, in order to complete their total departmental music program.

### PIANO COMPETENCY

All music majors are required to pass a piano competency examination in order to complete this

program. Students who enter as freshmen must take it by the end of their sophomore year. Transfer students should take the examination during their first quarter at Western; they must take it before completing their first full year at this college.

### SCHOLARSHIPS

In addition to general college scholarships, several awards are available from off-campus music organizations. For further information, consult the Music Department.

### ARTS AND SCIENCES

*Major* 70 credits plus Performance Requirement

- Theory: Music 131, 132, 133, 231, 232, 331, 332, 333
- Ear Training: Music 135, 136, 137, 235, 236
- Form and Analysis: Music 335
- History: Music 341, 342, 343; Music 443 (one course in the series)
- Conducting: Music 309, 310, or Music 307, 308
- Applied Music: major performing instrument or voice, minimum of 12 credits, three of which must be in courses numbered 411-415
- Additional study in major applied instrument or voice, or all or part in a secondary instrument or voice, 6 credits
- Music 326, 3 credits
- Major performing group as stated above for all majors
- Approved Senior Recital
- Concert attendance and piano competency requirements as stated above

**Minor** 25 credits

- Theory: Music 131, 132, 133, 231, 232
- Ear Training: Music 135, 136, 137, 235, 236
- History: one from Music 341, 342, 343, under advisement
- Applied Music: major performing instrument or voice, 4 credits
- Piano competency requirement as stated above for all majors and minors

Note: Music 131, 132, 133 are prerequisite to all other non-performance courses in the minor.

**TEACHER EDUCATION****Major Concentration** 64 credits  
plus Performance Requirement

This Specialist in Music Education concentration satisfies requirements for both a major and a minor.

- Theory: Music 131, 132, 133, 231, 232
- Ear Training: Music 135, 136, 137, 235, 236
- Form and Analysis: Music 335
- History: Music 341, 342, 343
- Conducting: Music 309, 310, or Music 307, 308
- Music 351
- Music 451, 452 (Elementary emphasis), or
- Music 462, 464 (Secondary emphasis)
- Methods: Music 105, 106, 204, 205, 301, 302 plus two courses selected from Music 107, 206, 207, 303. Those with voice as major instrument, replace Music 105, 106, 107 with equal credits in music electives
- Applied Music: major performing instrument or voice, minimum of 11 credits, with a minimum of 5 credits numbered 311-315 or above
- Major performing group as stated above for all majors
- Concert attendance and piano competency requirements as stated above

**Major**

## Elementary 39 credits plus Performance Requirement

- Theory: Music 131, 132, 133, 231, 232
- Ear Training: Music 135, 136, 137, 235, 236
- History: Music 341, 342, 343
- Education: Music 351 (for Music 350) in Elementary Teaching minor; Music 451
- Methods: Music 105, 106, 107. Those with voice as major instrument, replace Music 105, 106, 107 with equal credits in music electives under advisement
- Applied Music: major performing instrument or voice, minimum 6 credits, with a minimum of 3 credits numbered 311-315 or above
- Major performing group as stated above for all majors
- Concert attendance, piano competency requirements as stated above
- Music 335 recommended as an elective as it is prerequisite to graduate study

**Minor** 25 credits

- Theory: Music 131, 132, 133, 231, 232
- Ear Training: Music 135, 136, 137, 235, 236
- History: one from Music 341, 342, 343
- Methods: Music 105
- Applied Music: major performing instrument or voice, 3 credits in courses numbered 211-215 or above
- Piano competency as stated above

Note: Music 131, 132, 133 are prerequisite to all other non-performance courses in the minor.

**Applied Music Challenge**

A student transferring without credit in applied music may challenge any level below that on which he is entering as a student (e.g. students entering as juniors could challenge 200 level courses).

## Music

### Teaching Competence

Recommendation for teaching competence in music normally requires completion of the major with a grade average of 2.5 or better.

### Supervised Teaching

Students enrolling in the 64 credit major will complete a 16 credit supervised teaching assignment in secondary or elementary music; those enrolling in the 39 credit elementary major will complete supervised teaching in elementary music and in a general elementary assignment.

## GRADUATE STUDY

For concentrations in music leading to the Master of Arts and Master of Education degrees, see the *Graduate Bulletin*.

## COURSES IN MUSIC

### 101, 102, 103 BEGINNING CLASS PIANO (1 ea)

Prerequisite: open to music majors and minors only; each course prerequisite to the next. Functional techniques for utilizing the piano as a tool for musical study, and preparation for competency examination.

### 105, 106, 107 CLASS VOICE AND PEDAGOGY (1 ea)

Prerequisite: open to music majors and minors only; each course prerequisite to the next. Tone production, song repertoire, interpretation and pedagogy.

### 121 WESTWIND CHORUS (1 ea)

Open to all women students who demonstrate ability to sing part-songs.

### 130 FUNDAMENTALS OF MUSIC (2)

Basic components of music notation; rhythm and melody; major and minor scales, intervals, chords, and keys.

### 131 ELEMENTARY HARMONIC PRACTICE (3)

Prerequisite: passing of Theory Placement Examination or Music 130. Intervals; triads in root position; harmonic progression and cadences; four-part and keyboard writing; first inversion of triads and the cadential six-four; figured bass; harmonization of a melody; analysis; keyboard practice.

### 132 ELEMENTARY HARMONIC PRACTICE (3)

Prerequisite: Music 131. Non-harmonic tones; modulation; secondary dominants, second inversions of triads; seventh chords, sequences; analysis of chorales and simple binary constructions; keyboard practice.

### 133 ELEMENTARY HARMONIC PRACTICE (3)

Prerequisite: Music 132. Secondary harmonies, the secondary dominant irregular resolutions of seventh chords; augmented sixth chords and the Neapolitan; writing for various media, construction of a score; analysis of binary and ternary constructions; keyboard harmony.

### 135 ELEMENTARY EAR TRAINING (1)

Prerequisite: passing of Theory Placement Examination or Music 130. Sight singing and musical dictation; melodic, harmonic, and rhythmic materials.

### 136 ELEMENTARY EAR TRAINING (1)

Prerequisite: Music 135. Sight singing and musical dictation.

### 137 ELEMENTARY EAR TRAINING (1)

Prerequisite: Music 136. Sight singing and musical dictation.

### 140 THE ART OF LISTENING TO MUSIC (3)

Non-technical basis for enjoyable listening to music; performance practices relating to symphony orchestras, instrumental ensembles, opera, choral groups, and solo performance.

### 197a APPLIED PRIVATE STUDY FLUTE AND SAXOPHONE (1)

### 201, 202, 203 INTERMEDIATE CLASS PIANO (1 ea)

Prerequisite: Music 103; open to music majors and minors only; each course prerequisite to the next; continuation of Music 101, 102, 103. Sonata literature.

### 204 BRASS TECHNIQUES AND PEDAGOGY (1)

Basic principles and techniques of playing and teaching brass instruments.

205 CLARINET TECHNIQUES AND PEDAGOGY (1)

Basic principles and techniques of playing and teaching clarinet.

206 PERCUSSION TECHNIQUES AND PEDAGOGY (1)

Basic principles and techniques of playing and teaching percussion instruments.

207 WOODWIND TECHNIQUES AND PEDAGOGY (1)

Prerequisite: Music 205 or equivalent. Basic principles and techniques of playing and teaching flute, oboe, and bassoon.

211-215 INDIVIDUAL INSTRUCTION (1 ea)

Prerequisite: Minimum Applied Performance Placement audition (see above); active enrollment in a major performing group. One half hour private lesson per week.

- 211 Organ
- 212 Piano
- 213 Strings
- 214 Band instruments
- 215 Voice

221 COLLEGE SINGERS (1)

Preparation and performance of major choral works. Open to all interested students having the ability to sing mixed voice part-songs.

223 SYMPHONIC BAND (1)

Open to all students with band experience.

229 WORKSHOP BAND (1)

Prerequisite: permission of instructor. Performance and interpretation of contemporary jazz in an ensemble situation; recent developments in the idiom; performance of student compositions and arrangements.

231 ADVANCED HARMONIC PRACTICE (2)

Prerequisite: Music 133. Ninth and eleventh chords; irregular resolutions of augmented sixth and diminished seventh chords; chromatic modulations using the Neapolitan, the Augmented Sixth and change of mode; harmonic analysis of longer periodic homophonic compositions; keyboard harmony.

232 ADVANCED HARMONIC PRACTICE (2)

Prerequisite: Music 231. Harmonic analysis of Baroque Suites, Sonatas and Concerti; Classic and Romantic short pieces, sonatas, quartets, symphonies, lieder and arias.

235 ADVANCED EAR TRAINING (1)

Prerequisite: Music 137. Sight singing and musical dictation.

236 ADVANCED EAR TRAINING (1)

Prerequisite: Music 235. Sight singing and musical dictation.

280 ELEMENTARY COMPOSITION (1-2)

Prerequisite: permission of instructor. Elementary craft of melodic, harmonic, rhythmic, instrumental and contrapuntal writing; participation in concomitant composition seminars.

297a EVOLUTION OF MUSICAL STYLE IN JAZZ AND OTHER CONTEMPORARY MUSIC (3)

297b SUZUKI STRING TECHNIQUES (1)

Philosophy, techniques, curriculum, activities and source materials for teaching violin and string instruments in the Suzuki method.

301, 302, 303 STRING TECHNIQUE AND PEDAGOGY (1 ea)

Each course prerequisite to the next. Principles and techniques of playing and teaching string instruments.

307, 308 INSTRUMENTAL CONDUCTING (3 ea)

Prerequisites: Music 232 and 236. Music 307 prerequisite to 308. Instrumental conducting techniques, score reading, and interpretative analysis.

309, 310 CHORAL CONDUCTING (3 ea)

Prerequisites: Music 232 and 236. Music 309 or 308 prerequisite to 310. Choral conducting techniques, score reading, and interpretative analysis.

311-315a,b INDIVIDUAL INSTRUCTION (1-2 ea)

Prerequisite: upper division examination; active participation in a major performing group. One half hour private instruction per week for "a" courses, one credit; one hour per week for "b" courses, two credits. ("b" courses require permission of area coordinator.)

- 311a,b Organ
- 312a,b Piano
- 313a,b Strings
- 314a,b Band Instruments
- 315a,b Voice

321 CONCERT CHOIR (1)

Prerequisite: permission of instructor. Selected group experience, vocal ability, reading skill, musicianship, and interest in serious choral music considered for membership.

322 COLLEGE SYMPHONY ORCHESTRA (1)

Prerequisite: permission of instructor; open to all students who qualify.

## Music

- 323 WIND ENSEMBLE (1)  
Prerequisite: permission of instructor.
- 326 CHAMBER MUSIC (1)  
Prerequisite: permission of instructor. Participation in small string and wind ensembles; string trio, quartet, brass and woodwind.
- 327 CHAMBER CHOIR (1)  
Prerequisite: permission of instructor. Trios, quartets, and madrigal groups.
- 331, 332, 333 COUNTERPOINT (3 ea)  
Prerequisite: Music 232. Vocal and instrumental counterpoint from the 16th through the 19th centuries in theory and practice.
- 335 FORM AND ANALYSIS (3)  
Prerequisite: Music 232. Study and analysis of harmonic and contrapuntal structures.
- 341 HISTORY OF MUSIC TO 1600 (3)  
Prerequisite: Music 232. Music styles, forms and composers up to 1600; performance of representative composition.
- 342 HISTORY OF MUSIC FROM 1600-1800 (3)  
Prerequisites: Music 232, 341. Main styles, forms and composers in 17th-18th centuries; performance of representative compositions.
- 343 HISTORY OF MUSIC 1800 TO PRESENT (3)  
Prerequisites: Music 232, 342. Main styles, forms and composers from 1800 to present; performance of representative compositions.
- 350 MUSIC FOR ELEMENTARY TEACHERS (3)  
For elementary classroom teachers, *not music majors*. The skills of singing, reading, writing, playing, and hearing music; techniques and materials used in the elementary grades.
- 351 ELEMENTARY MUSIC EDUCATION (3)  
Prerequisite: Music 232 and music major. Teaching techniques, materials, and organization of the elementary music program; observations and laboratory experience.
- 397a FUNDAMENTALS OF IMPROVISATION (3)
- 400 SPECIAL PROBLEMS (1-5)  
Individual study under departmental supervision.
- 402 VOCAL PEDAGOGY (1)  
Prerequisite: 1 year of private voice study or permission of instructor. Vocal problems and their corrections; suitable collections of repertoire.
- 403 VOCAL PEDAGOGY (1)  
Prerequisite: Music 402. Vocal problems and their corrections; suitable collections of repertoire.
- 404 VOCAL PEDAGOGY (1)  
Prerequisite: Music 403. Vocal problems and their corrections; suitable collections of repertoire.
- 405 VOCAL TECHNIQUE AND PEDAGOGY (2)  
Vocal problems and their corrections; suitable collections of repertoire for young soloists.
- 411a,b-415a,b INDIVIDUAL INSTRUCTION (1-2 ea)  
Prerequisite: upper division examination; active participation in a major performing group. One half hour private instruction per week for "a" courses, one credit; one hour per week for "b" courses, two credits ("b" courses require permission of area coordinator).
- 411a,b Organ  
412a,b Piano  
413a,b Strings  
414a,b Band Instruments  
415a,b Voice
- 424 OPERA PRODUCTION (1)  
Admission by audition. Preparation of opera scenes and a major musical production offered for public performance.
- 426 APPLIED CHAMBER MUSIC (2)  
Open to string, woodwind, and piano performers by permission of instructor. Summers only.
- 430 HARMONIC STRUCTURE AND FORM (3)  
Prerequisite: Music 232. Traditional harmonic usage emphasizing harmonic analysis and the function of harmony in musical forms.
- 431 ORCHESTRATION (3)  
Orchestration, with special reference to the needs of the instrumental director.
- 432 TWENTIETH CENTURY HARMONIC PRACTICE (3)  
Harmonic techniques since the period of Brahms, Wagner, and Franck; correlated sight singing, dictation, and analysis.
- 455 BRASS AND PERCUSSION TECHNIQUES AND MATERIALS (2)
- 456 WOODWIND TECHNIQUES AND MATERIALS (2)

- 433 LATE 19TH CENTURY MUSICAL STYLES (4)  
Harmonic and formal materials of prominent composers of the period; e.g., Wagner, Brahms, Strauss, Franck, Tchaikowsky, Scriabin.
- 435, 436 COMPOSITION (3 ea)  
Prerequisite: Music 335. Writing pieces in part forms, variation form, and sonata form, for solo instruments, voice, and small ensembles.
- 437 STAGE BAND ARRANGING (3)  
Prerequisite: Music 232 or permission of instructor. Scoring and arranging for ensembles in jazz and other contemporary popular idioms.
- 440 COLLEGIUM MUSICUM (1)  
Study of musical literature and historical performance practices.
- 442 AMERICAN MUSIC (3)  
History and development of American music from colonial times to the present.
- 443 HISTORY OF MUSICAL MEDIA (4 ea)  
443a Choral Music  
443b Solo Song  
443c Opera  
443d Keyboard Music  
443e Chamber Music  
443f Symphonic Music  
443g Concerto  
Prerequisite: Music 343. Development and literature of important musical media from their origin to the present.
- 451 MUSIC LISTENING AND LITERATURE FOR ELEMENTARY SCHOOLS (3)  
Literature, activities, and teaching techniques; correlation with other classroom studies; out-of-classroom activities and programs.
- 452 CONTEMPORARY MUSIC TEACHING METHODS FOR ELEMENTARY SCHOOLS (3)  
Introduction to Kodaly method as used in elementary and middle schools.
- 453 ADVANCED MUSIC CONCEPTS FOR ELEMENTARY TEACHERS (1-5)  
Techniques, activities, and materials in a program of music development for grades one through six.
- 454 STRING TECHNIQUES AND MATERIALS (2)  
Summers only.
- 459 COACHING SMALL ENSEMBLES (3)  
Organization, coaching, and repertoire for small vocal and instrumental ensembles of high school students.
- 460 MARCHING BAND TECHNIQUES (3)  
Marching band organization, parade marching, and show routine.
- 462 THE PUBLIC SCHOOL INSTRUMENTAL PROGRAM (3)  
Problems, organization, techniques, and materials of an elementary and secondary program in instrumental music.
- 463 MUSIC IN GENERAL EDUCATION (3)  
Organization, content, literature, and methods of teaching the history and appreciation of music in secondary school humanities courses, music classes, and performance groups.
- 464 THE PUBLIC SCHOOL CHORAL PROGRAM (3)  
Problems, organization, techniques, and materials of the secondary program in choral music.
- 465 GENERAL MUSIC WORKSHOP (2)  
Offered summers only.
- 466 STRING TEACHER WORKSHOP (2)  
Offered summers only.
- 467 BIRCH BAY BAND MUSIC WORKSHOP (2)  
Offered summers only.
- 468 CHORAL MUSIC WORKSHOP (2)  
Offered summers only.
- 470 MUSIC SEMINAR (1)  
Readings and discussion of major issues and development in music and music education.
- 497a ADVANCED IMPROVIZATION (3)
- 497b A STUDY OF OCEANIC AND POLYNESIAN MUSIC (3)  
Music of the peoples of the Pacific Islands with emphasis on ear training of intervals, rhythmic development, instrumental skill and the Kodaly strategy of instruction.
- 500 SPECIAL PROJECTS (1-5)  
Individual study under departmental supervision.
- 501 INSTRUMENTAL CONDUCTING AND REHEARSAL TECHNIQUES (3)  
Advanced work in baton technique, interpretation, score preparation, and rehearsal technique.

## Music

- 502 CHORAL CONDUCTING AND LITERATURE (3)  
Techniques in developing and conducting choral groups; score analysis of outstanding choral works; laboratory experience in conducting.
- 503 RESEARCH MATERIALS IN MUSIC (4)  
Sources and availability of music recordings, and literature about music through its entire history; preparation of a bibliography in an area of concentration.
- 504 RESEARCH TECHNIQUES IN MUSIC (5)  
Prerequisite: Music 503. General research methods in music with concentrated study and research techniques related to the thesis area.
- 505 THESIS (6)
- 506 SEMINAR IN CURRENT ISSUES AND TRENDS OF MUSIC EDUCATION (1)  
Curriculum, teaching practices, and trends of public school music.
- 507 INTRODUCTION TO GRADUATE STUDY OF MUSIC (3)  
Documentation, standard references, abstract writing, paraphrasing, annotation and technique of writing about music.
- 511-515 INDIVIDUAL INSTRUCTION—GRADUATE LEVEL (2 ea)  
Prerequisite: permission of department.  
511 Advanced Organ  
512 Advanced Piano  
513 Advanced Strings  
514 Advanced Band Instruments  
515 Advanced Voice
- 516, 517 PERFORMANCE MASTER CLASS (3 ea)  
Study and performance of solo and ensemble literature; musical style, interpretation and technique.
- 531 ARRANGING (3)  
Practical techniques in arranging and composing for large and small ensembles. Summer only.
- 533 ADVANCED COUNTERPOINT (4)  
Prerequisite: Music 333. Writing and analytical study of contrapuntal forms and literature of the 16th to the 18th centuries.
- 534 COMPOSITION (4)  
Prerequisite: Music 436. Composition in the classic forms for solo instruments or small ensembles.
- 535 COMPOSITION (4)  
Prerequisite: Music 436. Composition for solo voice accompanied by piano or small ensembles; composition of choral works both a capella and accompanied.
- 536 COMPOSITION (4)  
Prerequisite: Music 436. Composition for large instrumental groups: band, orchestra, or a combination of these with chorus, voice, or solo instrument.
- 541 SEMINAR IN THE HISTORY OF MUSIC (5)  
Prerequisite: 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.
- 552 SUPERVISION OF ELEMENTARY SCHOOL MUSIC (3)  
Advanced work in methods, materials, organization, and supervision of the music program. Summer only.
- 553 PSYCHOLOGY OF MUSIC (3)  
Recent advances in the psychological foundations of total organization, perception, and function underlying music education's objectives and procedures. Summer only.
- 554 DIRECTED READINGS AND RESEARCH (3)  
Seminar discussion of areas of needed research in music education. To be taken concurrently with Educ 501.
- 555 CURRICULUM FOR PERFORMANCE GROUPS (3)  
Content, literature, sequence, teaching techniques, and demonstration used to meet the broad aims of music in general education.
- 556 AESTHETICS IN MUSIC (3)  
The aesthetic basis of music, the role of aesthetic principles in the critical evaluation of musical composition, performance, and theories of music education.





# PHILOSOPHY

*Professor:* Daugert (Chairman).  
*Associate Professors:* Karason, Purtill.  
*Assistant Professors:* Fleetwood, Jones, Montague, Morrow.  
*Lecturers:* Downing, Landrum.

## ARTS AND SCIENCES

*Major* 50 credits

- Philosophy 102, 111, 113, 202, 220, 303, 410, 420
- Philosophy 304, 306, 310, 407
- One course from Philosophy 305, 307, 308
- Electives under departmental advisement

*Minor* 25 credits

- Philosophy 102, 111 or 113, 202, 220, 303, 310
- Electives under departmental advisement

## TEACHER EDUCATION

*Minor* 25 credits

- Philosophy 102, 111 or 113, 202, 220, 303, 310
- Electives under departmental advisement

## DEPARTMENTAL HONORS

A philosophy major who wishes to graduate "with honors" must meet the general requirements for all honors students. In addition, he must take advanced courses in philosophy beyond the major. He must achieve a grade average of 3.3 in philosophy courses.

## COURSES IN PHILOSOPHY

- 102 INTRODUCTION TO LOGIC (3)  
Introduction to the techniques of formal reasoning. Acceptable general education alternative to Math 151 for students with 3 years high school mathematics.
- 111 INTRODUCTION TO PHILOSOPHY (3)  
Great recurrent philosophical problems and some of the answers which have been developed; reading and discussion of selected writings.
- 113 INTRODUCTION TO CONTEMPORARY PHILOSOPHY (3)  
Prerequisite: Phil 102 or 111 recommended. Major philosophers, great problems and schools of philosophy of the 20th century, including Russell, Wittgenstein and Sartre; Positivism, Existentialism, and Ordinary Language Philosophy.
- 202 LOGIC FOR PHILOSOPHY (4)  
Prerequisite: Phil 102; intended primarily for philosophy majors and minors. Systems of logic and their application to philosophical problems.
- 210 PHILOSOPHY AND PERSONAL VALUES (3)  
Philosophical and critical exploration of personal values; the literature of personal values.
- 215 INTRODUCTION TO EXISTENTIALISM (3)  
Prerequisites: Phil 111, 113, or permission of instructor. Influential texts of existentialism, including such figures as Kierkegaard, Nietzsche, Husserl, Heidegger, Jaspers, Sartre, and Tillich.
- 220 INTRODUCTION TO THE PROBLEMS OF ETHICS (3)  
Nature of moral problems and judgments; emphasis upon meaning of such concepts as "goodness," "rightness," "evil," "duty," and "happiness."
- 230 SOCIAL AND POLITICAL PHILOSOPHY (3)  
Concepts and principles involved in analysis and appraisal of social institutions with attention to natural rights, natural law, social utility, social function, and justice.
- 250 PROBLEMS IN THE PHILOSOPHY OF RELIGION (3)  
Definition of religion, existence and nature of God, free will, immortality, and such problems.

## Philosophy

- 301 HISTORICAL INTRODUCTION TO PHILOSOPHY (4)  
Prerequisite: fifth year status or permission of instructor; for graduate students with limited background in philosophy. Not open to students with credit in Phil 304, 305, or 306. Types and problems of philosophy in historical context.
- 302 ADVANCED LOGIC (4)  
Further development of the tools and techniques of logic; applications in mathematics, science, and philosophy.
- 303 PHILOSOPHY OF LANGUAGE (3)  
Prerequisite: Phil 202. The nature of symbols; notions of synonymy, meaning, and reference; semantical and syntactical analysis applied to natural and artificial languages.
- 304 HISTORY OF PHILOSOPHY: ANCIENT TO EARLY MIDDLE AGES (4)  
Prerequisite: Phil 102 or 202 and one additional philosophy course, or permission of instructor. Great philosophical thinkers from the early Greeks to the early Middle Ages; special attention to Plato and Aristotle.
- 305 HISTORY OF PHILOSOPHY: MIDDLE AGES TO RENAISSANCE (4)  
Prerequisite: Phil 102 or 202 and one additional philosophy course, or permission of instructor. 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.
- 306 HISTORY OF PHILOSOPHY: RENAISSANCE TO THE AGE OF REASON (4)  
Prerequisite: Phil 102 or 202 and one additional philosophy course, or permission of instructor. Great philosophical thinkers including Descartes and the rationalists, Locke and the empiricists.
- 307 HISTORY OF PHILOSOPHY: THE NINETEENTH AND TWENTIETH CENTURIES (4)  
Prerequisite: Phil 102 or 202 and one additional philosophy course, or permission of instructor. Kantian and post-Kantian philosophy with some attention to other significant movements such as utilitarianism, early existentialism, and pragmatism.
- 308 AMERICAN PHILOSOPHY (3)  
Prerequisite: Phil 102 or 202 and one additional philosophy course, or permission of instructor. Main currents in American philosophical thought from Jonathon Edwards to the present.
- 310 THEORY OF KNOWLEDGE (3)  
Prerequisites: Phil 202 and one course numbered above 200. The attempt to understand the possibility, nature, origins, and limits of knowledge; problems and concepts.
- 350 ORIENTAL PHILOSOPHY AND RELIGION (3)  
Major philosophical and religious traditions of the Orient.
- 400 CONFERENCE IN PHILOSOPHY (2-5)  
Prerequisite: permission of instructor. Special problems for individual students.
- 404 SEMINAR IN PHILOSOPHY (3)  
Prerequisite: permission of instructor. Concentration upon the thought of an individual philosopher, a particular problem, or a movement.
- 405 AESTHETICS (3)  
Philosophical study of beauty and of the creation, appreciation, and criticism of works of art.
- 406 PHILOSOPHY OF LITERATURE (2)  
The nature of literature and the relation of its aesthetic to its moral and cognitive values.
- 407 CONTEMPORARY PHILOSOPHY (4)  
Prerequisite: permission of instructor. Critical discussion of the "analytic" and "linguistic" trends; such figures as Moore, Wittgenstein, and J. L. Austin.
- 410 METAPHYSICS (3)  
Prerequisite: Phil 202 and one additional course numbered above 200. Philosophical issues surrounding such notions as particular and universal, space, time, existence, substance and attribute; views of contemporary and traditional philosophers.
- 411 PHILOSOPHY OF SCIENCE (3)  
Prerequisite: permission of instructor. Varying theories as to the nature, presuppositions, limitations and interrelations of the sciences.
- 420 ETHICAL THEORY (3)  
Prerequisite: Phil 220 or permission of instructor. Critical analysis of writings of several major theorists in ethics—ancient, modern, and contemporary—and their treatment of ethical problems.
- 460 PHILOSOPHY OF HISTORY (3)  
Prerequisite: seven credits in philosophy or permission of instructor. The idea of history; concepts and categories allied to it—process, permanence and change, cause, time.

483 SOCIAL CHANGE AND THE MORAL ORDER IN LITERATURE (4)

Also offered as Eng 483 and Soc 483.

515 PHILOSOPHY OF EDUCATION (3)

Critical analysis of theoretical positions in educational philosophy; emphasis on modern and contemporary discussions of educational theory. Also offered as Ed 515.



## PHYSICAL EDUCATION, HEALTH EDUCATION, AND RECREATION

### MEN'S DEPARTMENT

*Professor:* Tomaras (Chairman).

*Associate Professors:* Albaugh, Lappenbusch, Lounsberry.

*Assistant Professors:* Bowman, Bryant, Hamilton, Long, Randall, Vance, Wiseman.

### WOMEN'S DEPARTMENT

*Professor:* Aitkin (Chairman).

*Associate Professors:* Arnett, Hansen, Peterson.

*Assistant Professors:* Gutchow, Hamilton, Wiseman.

*Instructor:* Gallemore.

*Lecturer:* Ames.

The departmental programs encompass activity courses to meet general education requirements; activity courses as electives; professional study in fields of physical education, health education, and recreational leadership; intramural sports and dance; intercollegiate athletics.

### GENERAL EDUCATION REQUIREMENTS

The student selects a minimum of three activity courses to meet the general education requirements. Students may select activities of their own choosing as available, except for the following restrictions:

## Physical Education

- (1) All students must satisfactorily pass the minimum swimming proficiency test or take PE 112 or 113, as advised.
- (2) Women students may be required to take PE 101 or 102w on the basis of scores in the Physical Education Placement Test to be taken by all entering women students who have not completed physical education requirements.

### TEACHER EDUCATION—MEN

#### *Major* Secondary 48\* credits

- PE 203m, 208m, 209m, 232m, 236m, 238m, 242m, 244m, 245m, 247m, 251m, 256m
- PE 302, 303, 304, 308m, 401m, 404m, 407, 490
- Health Ed 350, 450
- Zoology 348

Students must establish competence in activities listed in the 200 series above before approval is granted for student teaching in physical education. Prerequisite to the 200 series is a skill and knowledge test scheduled by the department, or completion of 100 level courses in aquatics, badminton, tennis, basketball, wrestling, soccer, and volleyball.

Successful performance in each activity is also a prerequisite to teaching competence recommendation for certification.

#### *Major* Elementary 48\* credits

- PE 203m, 208m, 211, 238m, 242m, 244m, 245m, 247m, 251m, 256m (Prerequisite to this series is a skill and knowledge test scheduled by the department or completion of a 100 level course in aquatics, basketball, wrestling, soccer, and volleyball)
- PE 302, 311, 326, 402, 403, 407
- Health Ed 252, 350, 450
- Zoology 348
- Electives under departmental advisement

\*Includes general education requirement.

#### *Major Concentration* 70 credits

Specialist in Physical Education and Health Education for grades K-12; satisfies both the major and minor requirement.

- PE 203m, 208m, 209m, 232m, 236m, 238m, 242m, 244m, 245m, 247m, 251m, 256m
- PE 302, 303, 304, 308m, 311, 343m, 401m, 403, 404m, 407, 410m, 490
- Health Ed 151, 152, 350, 450
- 8 credits from PE 217, 380m, 381m, 382m, 383m, 384m
- Zoology 348

#### *Minor—Physical Education* 25 credits

- PE 203m, 208m, 209m, 232m, 236m, 238m, 242m, 244m, 245m, 247m, 251, 256m
- PE 304, 308m, 407
- Electives under departmental advisement

#### *Minor—Athletic Coaching* 25 credits

(This minor is not open to PE majors.)

- PE 302, 304m, 343m, 406m
- Zoology 348
- 8 credits from PE 217, 251m, 380m, 381m, 382m, 383m, 384m

#### *Minor—Health Science* 25 credits

- Health Ed 151, 152, 252, 350, 450
- Home Economics 150
- Zoology 348, 349
- Balance of credits from Biology 371, 345; Health Ed 352; Home Economics 224; Psych 313, 321

### TEACHER EDUCATION—WOMEN

All students entering the women's physical education majors will take beginning knowledge and skill tests in basketball, softball, soccer, swimming, badminton,

## Physical Education

tennis, folk and square dance and rhythms. Competency above the beginning level must be established before taking courses from the professional sequence. Beginning courses in the above areas cannot be applied to the major requirements.

### Major Secondary 48 credits\* plus Supporting Courses

- Professional activities—12 credits selected from PE 203w, 209w, 211, 223w, 232w, 234w, 236w, 241w, 242w, 244w, 250w, 251w, 256w
- Advanced proficiency—4 credits; intercollegiate or performing activities and/or officiating selected from one of the following areas: team sports, individual and dual sports, dance or aquatics
- PE 201w, 202w, 302a, 303a, 307, 401w, 402, 404w, 407, 490
- Health Ed 252
- Supporting courses: Zool 348-349

### Major

#### Elementary 39 credits\* plus Supporting Courses

- Professional activities 6 credits from PE 203w, 211, 223w, 244w, 251w, 256w and other activities in the professional sequence
- Advanced proficiency 2 credits in intercollegiate or performing activities selected from one of the following areas: team sports, individual and dual sports, dance, or aquatics
- PE 201w, 202w, 302a, 303a, 307, 311, 313, 326, 402, 403
- Health Ed 252
- Supporting courses: Zool 348-349

### Major—Dance 48 credits\* plus Supporting Courses

- Professional activities 6 credits selected from PE 203w, 209w, 211, 223w, 251w and other professional activities
- 6 credits in advanced techniques class, PE 220
- PE 201w, 202w, 302a, 303a, 307, 313 or 401w, 407
- PE 226, 322, 324, 325, 326, 424, 425 or 426
- Supporting courses: Zool 348-349

\*Includes general education credits

### Major Concentration—Specialist 62 credits\* plus Supporting Courses

For the specialist in elementary and secondary girls' physical education; includes a major and a health science minor.

- Professional activities—12 credits selected from PE 203w, 209w, 211w, 223w, 232w, 234w, 236w, 241w, 242w, 244w, 250w, 251w, 256w
- Advanced proficiency—4 credits in intercollegiate or performing activities and/or officiating selected from one of the following areas: team sports, individual and dual sports, dance or aquatics
- PE 201, 202, 302a, 303a, 307, 311, 313 or 401w, 326, 402, 403, 404w, 407
- Health Ed 252, 350, 447, 450
- Supporting courses: Home Econ 150; Zool 348-349

### Minor—Physical Education 27-28 credits\*

- Professional activities—10 credits selected from PE 203w, 209w, 211, 223w, 232w, 234w, 236w, 241w, 242w, 244w, 250w, 251w, 256w
- Advanced proficiency—2 credits in intercollegiate or performing activities and/or officiating selected from one of the following areas: team sports, individual and dual sports, dance or aquatics
- Select from 201w, 202w, 307 and 404w (secondary) or 311, 313, 403 (elementary)
- Health Ed 252
- Four to six credits selected under advisement

(Supplemental work is required if teaching competency is sought with a minor. Select appropriate courses under departmental advisement.)

### Minor—Dance 25 credits

- PE 209w, 220, 223w, 225, 226
- PE 322, 324, 325, 425 or 426
- PE 307, 313 or 401w
- Electives under advisement

\*Includes general education credits

## Physical Education

### Minor—Health Science 25 credits

- Health Ed 252, 350, 447, 450
- Home Econ 150
- Zool 348-349
- Electives under advisement

### Teaching Competence

Recommendation for teaching competence for girls' physical education normally requires completion of a major or an augmented minor with a grade average of 2.5 or better. Participation in intramural activities is required of all women majors and minors during four quarters of the first two years.

## ARTS AND SCIENCES—MEN AND WOMEN

### Major—Dance 85 credits

- PE 122, 126, 128, 225, 226, 227, 321, 322, 323, 324, 325, 326, 424, 425, 426
- 4 credits in PE 220
- Supporting courses: Zool 348-349; PE 302; Art 190; six credits from Art 193, 194, 195; Music 140; Phil 405; three credits from Phil 111, 113; Soc 201; Psych 201; five credits from Soc 361, 362, 363, 364; Speech 130

### Minor—Dance 25 credits

- PE 122, 126, 128, 225, 226, 322, 324, 325, 425, or 426
- Philosophy 405
- 6 credits under departmental advisement

### Minor—Health Science 25 credits

- Health Ed 350, 447
- Zool 348-349, Home Econ 150
- 6 credits selected under departmental advisement

### Major Concentration—Recreation

See Interdepartmental Programs, page 201, for detailed requirements.

### Minor—Recreation

See Interdepartmental Programs, page 201, for detailed requirements.

## GRADUATE STUDY

For concentrations in physical education leading to the Master of Education degree, see *Graduate Bulletin*.

## ACTIVITIES COURSES

Activities courses, with the exception of varsity sports, may not be repeated for credit. Courses marked "m" are for men students only; those marked "w" are for women only.

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)

101	Adapted Physical Education Prerequisite: PE Placement Exam.
102	Developmental Physical Education Prerequisite: PE Placement Exam.
103	Jogging
106m	Body Conditioning
108m	Weight Training
109m	Intermediate Weight Training

## 110-119 AQUATICS (1 ea)

- 112 Beginning Swimming  
(For non-swimmers.)
- 113 Intermediate Swimming  
Prerequisite: PE 112 or ability to swim twenty-five yards and support self in deep water.
- 114 Advanced Swimming  
Prerequisite: PE 113 or ability to swim 100 yards with one stroke and to use a variety of other strokes.
- 115 Aquatic Art  
Prerequisite: PE 114 or equivalent.
- 116 Advanced Aquatic Art
- 118 Scuba Diving  
(The student pays cost of specialized instruction and basic equipment.)

## 120-129 DANCE (1 ea)

- 120 Beginning Social Dance
- 121 Intermediate Social Dance
- 122 Beginning Folk and Square Dance
- 123 Intermediate Folk and Square Dance
- 125 Modern Dance
- 126 Intermediate Modern Dance
- 128 Beginning Ballet

## 130-139 DUAL SPORTS (1 ea)

- 130 Beginning Handball
  - 131 Beginning Squash
  - 132 Beginning Badminton
  - 133 Intermediate Badminton
  - 134 Fencing
  - 136 Beginning Tennis
  - 137 Intermediate Tennis
  - 138m Beginning Wrestling
  - 139m Intermediate Wrestling
- The student furnishes equipment for PE 130, 131, 136, 137.

## 140-149 TEAM SPORTS (1 ea)

- 141w Field Hockey
- 142m,w Basketball
- 143m,w Softball
- 144m,w Speedball and Soccer
- 145m,w Volleyball
- 147m Touch Football
- 148w Lacrosse

## 150-162 INDIVIDUAL SPORTS (1 ea)

- 150 Archery
- 151m,w Gymnastics and Tumbling
- 152 Beginning Bowling  
(Bowling alley fee, \$6.)
- 154 Beginning Golf
- 155 Intermediate Golf

- 156m,w Track and Field
- 157 Beginning Skiing
- 158 Intermediate Skiing
- 159 Advanced Skiing
- 160 Sailing and Canoeing  
Prerequisite: swimming exemption test.
- 161 Mountain Climbing
- 162 Horseback Riding

The student enrolling in 157, 158, 159, 160, 162 pays cost of transportation and individual instruction. Students in 157, 158, 159, 161 also furnish equipment.

## 180-192 INTERCOLLEGIATE SPORTS (1 ea)

- 180m Intercollegiate Football
- 180w Intercollegiate Field Hockey
- 181m,w Intercollegiate Basketball
- 182m Intercollegiate Baseball
- 182w Intercollegiate Softball
- 183m,w Intercollegiate Track and Field
- 184m Intercollegiate Wrestling
- 185m Intercollegiate Golf
- 186m,w Intercollegiate Tennis
- 188m Intercollegiate Swimming
- 189m Intercollegiate Cross Country
- 190m Intercollegiate Crew
- 191w Intercollegiate Gymnastics
- 192w Intercollegiate Volleyball

## 197a INTERMEDIATE FENCING (1)

Prerequisite: PE 134 or equivalent, Extension 1970.

## PROFESSIONAL COURSES

## 201w BIOMECHANICS I (2)

Prerequisites: physical education major or minor, physical education placement examination. Analysis of prerequisites of efficient movement, including physical qualities of strength, flexibility and endurance, and basic mechanical principles of gravity, equilibrium, force and leverage; basic locomotor movements and calisthenic-type activities.

## 202w BIOMECHANICS II (2)

Prerequisite: PE 201w. Application of basic mechanical principles to sports, rhythmic and aquatic skills; buoyancy and motion; use of implements; angles of spin and rebound; trajectory of projectiles.

## Physical Education

### 203w-256w PROFESSIONAL ACTIVITIES, WOMEN

Required of majors and/or minors in women's physical education. Prerequisite: competency in skills and knowledge as established by proficiency tests given when student enters the major field.

- 203w Aquatics (1)
- 209w Social, Folk and Square Dance (2)
- 223w Modern Dance (1)
- 232w Badminton (1)
- 234w Fencing (1)
- 236w Tennis (1)
- 241w Hockey (1)
- 242w Basketball (1)
- 244w Soccer—Speedball (1)
- 250w Archery—Golf (1)
- 251w Gymnastics (Olympic) (1)
- 256w Track and Field (1)

### 203-256 PROFESSIONAL ACTIVITIES COURSES, MEN

Prerequisites: skill and knowledge test or completion of a 100 level course in the following activities: aquatics, badminton, tennis, basketball, wrestling, soccer, volleyball.

- 203m Aquatics (2)  
Prerequisite: intermediate level swimmer.
- 208m Weight Training (1)
- 209m Dance (1)
- 232m Badminton (1)
- 236m Tennis (1)
- 238m Wrestling (1)
- 242m Basketball (1)
- 244m Soccer (1)
- 245m Volleyball (1)
- 247m Football (1)
- 251m Gymnastics (2)
- 256m Track and Field (1)

### 211 EDUCATIONAL GYMNASTICS (1)

### 216 LIFESAVING AND WATER SAFETY (2)

Prerequisite: satisfactory performance in swimming proficiency test. Instruction leading to qualification for the American Red Cross Lifesaving Certificate.

### 217 WATER SAFETY INSTRUCTORS' COURSE (2)

Prerequisite: current American Red Cross Senior Lifesaving Certificate. Stroke analysis and methods of teaching lifesaving and aquatics skills; instruction leading to qualification as an American Red Cross Water Safety Instructor.

### 220 CONTEMPORARY DANCE TECHNIQUE (2)

Prerequisites: PE 125, 208w or permission of instructor. Development and practice of skills to enhance the body as an instrument of dance; emphasis on control, discipline and refinement of movement technique; may be repeated.

### 225 INTRODUCTION TO DANCE (2)

Dance as an art form; its historical background in education; range of vocational opportunities.

### 226 FUNDAMENTALS OF RHYTHM (2)

Prerequisite: PE 125 or equivalent. Inherent factors of rhythm as applied to the forms of nature, art, and movement.

### 227 MOVEMENT NOTATION (3)

Labanotation—a system of reading and notating bodily movements emphasizing the elements of direction, level, leg and arm movements.

### 300 SPECIAL PROBLEMS IN THE AREA OF PHYSICAL EDUCATION (2-5)

Prerequisite: permission of department chairman.

### 302 KINESIOLOGY (3)

Prerequisite: Zool 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.

### 302a KINESIOLOGY (5)

Prerequisite: Zool 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 MUSCULAR EXERCISE (3)

Prerequisite: Zool 348. Application of physiological facts to the problems of conditioning; relation to physical activities.





- 303a **PHYSIOLOGY OF EXERCISE (4)**  
 Prerequisites: Zool 348, 349. Nature of neuromuscular activity, circulation and respiration adjustment during exercise, metabolic and environmental aspects, fatigue and training, fitness and health; includes laboratory experiments.
- 304 **ATHLETIC INJURIES AND TRAINING (3)**  
 Prerequisite: Zool 348. Treatment for injuries; procedures for building physical stamina; experience in taping procedures.
- 305w **METHODS AND MATERIALS FOR TEACHING SPORTS (4)**  
 Prerequisites: PE 302 and professional activities sequences. Preparation for teaching individual and team sports to secondary school girls.
- 306a,b **PHYSICAL EDUCATION FOR ELEMENTARY SCHOOL (3)**  
 Prerequisite: Psych 352. Purposes and requirements of the program; developmental aspects of curriculum.  
 (a) Emphasis in grades K-3  
 (b) Emphasis in grades 4-6  
 (ab) General elementary grades K-6
- 307 **MOTOR LEARNING (3)**  
 Prerequisite: 10 credits in PE professional sequence. Neuro-physiological theories of learning, individual differences, retention of skills, transfer of training, reinforcement, visual and kinesthetic perception, motivation; methods of instruction.
- 308m **METHODS AND MATERIALS OF PHYSICAL EDUCATION FOR BOYS (3)**  
 Prerequisite: completion of activities requirements for majors and minors, or permission. Activities and appropriate methods of instruction for secondary school boys.
- 311 **MOVEMENT DISCOVERY FOR CHILDREN (3)**  
 Prerequisite: PE 211. Use of movement experiences in child centered education; methods, activities in gymnastics, games and sports, gross motor skills for pre-school through grade six.
- 313 **PHYSICAL EDUCATION LABORATORY EXPERIENCE WITH CHILDREN (1)**  
 Prerequisites: PE 306 or 311.
- 320 **METHODS AND MATERIALS FOR TEACHING DANCE (3)**  
 Prerequisites: PE 120, 122, 125, or equivalent. Teaching modern, folk, social, and square dancing.
- 321 **MUSICAL ACCOMPANIMENT AND MOVEMENT (3)**  
 Prerequisite: PE 226. Music mediums: instrumental, voice, percussion, electronic; music structures and their relationship to movement and dance.
- 322 **ELEMENTARY DANCE COMPOSITION (3)**  
 Prerequisite: PE 126 and 226. Fundamentals of composition emphasizing theme and development; form or design; time, force and spacial aspects in solo and duet studies.
- 323 **ADVANCED DANCE COMPOSITION (3)**  
 Prerequisite: PE 322. Composition in pre-classic and modern forms.
- 324 **THEORY AND PRACTICE OF CONTEMPORARY DANCE (2)**  
 Prerequisites: PE 125, 126, or equivalent. Backgrounds for various dance styles provided by professional schools of modern dance.
- 325 **CONCERT DANCE (1)**  
 Prerequisite: permission of instructor. Group and individual experience in dance as a theatre art; participation in the dance concert.
- 326 **DANCE FOR CHILDREN (3)**  
 Dance activities for the elementary school-age child; singing games, creative dance, and dramatizations, ball and rope rhythms, simple square and folk dances.
- 341w, 342w, 343w **OFFICIATING IN WOMEN'S SPORTS (1 ea)**  
 Officiating techniques in volleyball, basketball, tennis, track and field.
- 343m **OFFICIATING IN TEAM SPORTS (3)**  
 Principles, techniques and practice of officiating in team sports for men.
- 380m **COACHING FOOTBALL (3)**  
 Theory of football, with methods and materials of organization.
- 381m **COACHING BASKETBALL (3)**  
 Theory of basketball with methods and materials of organization.
- 382m **COACHING BASEBALL (2)**  
 Theory of coaching baseball with methods and materials of organization.

## Physical Education

- 383m COACHING TRACK (2)  
Theory of track and field events and organization and administration of a track meet.
- 384m COACHING WRESTLING (2)  
Practical and theoretical aspects of teaching wrestling with special consideration to wrestling skills, methodology, class organization, equipment and officiating.
- 400 SPECIAL PROJECTS IN PHYSICAL EDUCATION (2-5)  
Prerequisites: senior status and permission of instructor and department chairman. Individual instruction in special projects under supervision.
- 401m SUPERVISED FIELDWORK IN PHYSICAL EDUCATION (1-3)  
Prerequisites: professional activity requirements, PE 308. Practical experience in teaching activity classes under supervision. (One credit is given for each activity class; two credits required in major.)
- 401w LABORATORY EXPERIENCES IN SECONDARY SCHOOLS (1)  
Prerequisite: PE 307. Preparing and presenting materials to activity classes.
- 402 CORRECTIVE PHYSICAL EDUCATION (3)  
Prerequisites: Zool 348-349 or equivalent; PE 302. Implications of growth patterns, coordinations and postural deviations relating to the physical education program; conditioning techniques, corrective procedures.
- 403 PHYSICAL EDUCATION PROGRAM FOR THE ELEMENTARY SCHOOL (3)  
Prerequisites: Psych 352; PE 312, 326 or permission of instructor. Criteria for selecting activities; selection and maintenance of facilities and equipment; evaluative procedures and techniques; administrative policies.
- 404m ADMINISTRATION OF PHYSICAL EDUCATION IN SCHOOLS (3)  
Prerequisite: PE 308m. Organization and administration of the secondary school program for boys: service, intramural, recreational, and athletic.
- 404w ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION FOR SECONDARY SCHOOL GIRLS (3)  
Prerequisites: PE 307. Criteria for the selection of activities, the organization of classes, departmental personnel and policies, purchase and care of equipment.
- 405 PRINCIPLES OF PHYSICAL EDUCATION (3)  
Prerequisites: PE 205, 306, and 305w or 308m. Scientific and philosophical principles related to physical education, its purposes, scope, and curriculum.
- 406 THE ADMINISTRATION OF ATHLETICS (3)  
Prerequisite: senior status or permission of instructor. Organization and administration of policies and procedures for competitive athletic programs with special emphasis on management of contests, financing, care and maintenance of facilities and equipment.
- 407 HISTORY AND PHILOSOPHY OF PHYSICAL EDUCATION (3)  
Prerequisite: PE major or minor; senior status. Philosophical and historical considerations, social, cultural and aesthetic aspects of sports and dance.
- 410m INTRAMURAL SPORTS (3)  
Problems, planning, and content of intramural sports programs in schools and colleges.
- 410w EXTRA-CLASS ACTIVITIES IN PHYSICAL EDUCATION FOR GIRLS (2)  
Intramural programs, tournaments, play days, sports days, and G.A.A. for secondary school.
- 417a EXERCISE THEORY AND SPORTS PERFORMANCE (3)  
Prerequisite: teaching experience. Characteristics of champion athletes; basic theory of exercise regimens applied to sports performance; a critique of training programs designed to improve sports performance. Summer 1970.
- 424 DANCE PERFORMANCES (2)  
Lighting, costuming and make-up; formulating, developing, and presenting various types of dance programs.
- 425 HISTORY AND PHILOSOPHY OF THE DANCE TO 1450 (3)  
Historical and philosophical development of the dance from primitive man through the late middle ages.
- 426 HISTORY AND PHILOSOPHY OF THE DANCE SINCE 1450 (3)  
Historical and philosophical development of the dance from the Renaissance through the contemporary period.

- 445 CURRENT TRENDS IN PHYSICAL EDUCATION (3-6)  
 445a Physical Education for the Elementary School (3)  
 445b Modern Concepts in Coaching Baseball (3)  
 445c Developmental Physical Education for Children (6)  
 445d Teacher's Workshop in Creative Movement for Children (3)
- 490 MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION (3)  
 Prerequisite: Psych 371 or permission of instructor. Application of measurement theory to physical education; selection and administration of appropriate tests and interpretation of results.
- 491m FIELD EXPERIENCE IN AFTER-SCHOOL ACTIVITIES (3)  
 Prerequisites: senior standing and permission of department. Practical experience in local public schools in conducting activity programs.
- 495 PHYSICAL EDUCATION FOR THE MENTALLY RETARDED (4)  
 Prerequisite: senior or graduate status. The characteristics and needs of the mentally retarded child as they relate to physical education; adaptation of methods, materials and techniques.
- 497x SEMINAR IN ATHLETIC ADMINISTRATION (3)  
 Current and emergent problems in athletic administration. Summer 1970.
- 497y TECHNIQUES OF TEACHING ADVANCED GYMNASTICS (3)  
 Prerequisite: intermediate level gymnastics. Methodology and practice in teaching advanced skills on competitive gymnastics apparatus. Winter 1970.
- 497z VIDEO MEDIA IN PHYSICAL EDUCATION (3)  
 Use and application of video taping and playback equipment. Spring 1970.
- 498 STRAIGHT LINE PHILOSOPHY (3)  
 Administration of human conduct in activities as straight-line enclosures. Not limited to those with athletic experience.
- 499 PHYSICAL FITNESS AND THE PUBLIC SCHOOL (3)  
 Prerequisite: senior or graduate status. Organization and development of physical fitness programs in the public schools.
- 500 PROBLEMS IN PHYSICAL EDUCATION (2-5)  
 Prerequisite: teaching experience. Controversial issues in the field; the professional problems pertinent to the individual members of the group.
- 501 SURVEY OF PROFESSIONAL LITERATURE (3)  
 Prerequisite: teaching experience. Selected research, published books, dissertations and periodicals which have influenced physical education thought and practice.
- 502 DEVELOPMENTAL AND ADAPTED PHYSICAL EDUCATION (3)  
 Prerequisites: Zool 348, PE 302 and 402. Development of programs of adapted activities for the low-fitness and handicapped elementary and secondary school student, with emphasis on common postural deviations, screening techniques and adapted activities.
- 503 PHYSICAL EDUCATION EQUIPMENT AND FACILITIES (2)  
 Functional design and planning of gymnasiums and other physical education facilities, and the purchase and care of athletic and physical education equipment.
- 504 CURRICULUM IN PHYSICAL EDUCATION (3)  
 Prerequisite: teaching experience. Physical education programs based on the needs, interests, abilities of students.
- 506 RESEARCH DESIGN AND TECHNIQUE IN PHYSICAL EDUCATION (5)  
 Prerequisite or concurrent: PE 303, Ed 501. Utilization of laboratory equipment and techniques pertinent to research; design of experiments, conduct of laboratory research, evaluation of research reports.
- 507 MOTOR LEARNING: ADVANCED (3)  
 Prerequisites: PE 307 or permission of instructor. Factors affecting the acquisition of skill; individual and group differences, retention, transfer of training, motivation in learning motor skills.
- 508 HUMAN GROWTH AND MOTOR DEVELOPMENT (3)  
 Growth characteristics and sequence of motor development to maturity; implications for motor performance.
- 530 SEMINAR: ADMINISTRATION OF PHYSICAL EDUCATION AND ATHLETICS (3)  
 Prerequisite: teaching experience. Administration of school physical education and athletic programs; current problems, plant, personnel, structure and organization, public relations and emergent patterns.

## Physical Education

- 531 SEMINAR: COMPARATIVE PHYSICAL EDUCATION (3)  
Prerequisite: PE 407. Physical education systems in major countries; backgrounds, types, aims and present function: comparison with the American system.
- 532 SEMINAR: CURRENT DEVELOPMENTS IN PHYSICAL EDUCATION (3)  
Prerequisite: teaching experience. Developments of current significance in the field of physical education, including health education, athletics, and recreation.
- 533 SEMINAR: CURRICULUM AND SUPERVISION IN ELEMENTARY PHYSICAL EDUCATION (2)  
Prerequisite: permission of instructor. Design and development of curriculum and materials, administrative policies, supervision, facilities and equipment.
- 534 SEMINAR: SUPERVISION OF INSTRUCTION IN PHYSICAL EDUCATION (3)  
Prerequisite: teaching experience. Fundamentals for supervision of physical education instruction in the public schools; procedures, organization, evaluation of programs.
- 540 SEMINAR: EXERCISE PHYSIOLOGY (3)  
Prerequisite or concurrent: PE 506. Review of research in exercise physiology; topics such as: cardiovascular dynamics, stress, fatigue, neural control of muscular activity and metabolism.
- 541 SEMINAR: SPORT PSYCHOLOGY (3)  
Prerequisite: teaching experience. Application of data from psychology to sport activity, athletics, performance and coaches.
- 542 SEMINAR: SOCIOLOGY OF SPORT (3)  
Prerequisite: teaching experience. Role and nature of sport in society: affluence and sport, urban life and leisure, amateur and professional sport, politics and sport.
- 543 SEMINAR: BIOMECHANICS (3)  
Prerequisite: PE 302. Application of mechanical principles to analysis of motor skills and athletic events.
- 544 SEMINAR: ELECTROMYOGRAPHY IN PHYSICAL EDUCATION RESEARCH (2)  
Prerequisite or concurrent: PE 506. Electromyographic instrumentation and techniques applicable to motor performance analysis.
- 597a ELECTROMYOGRAPHY IN PHYSICAL EDUCATION RESEARCH (2)  
Summer 1970; see PE 544.

## COURSES IN HEALTH EDUCATION

- 150 CONSUMER HEALTH (1)  
Analysis of spurious health practices, consumer protection, health superstitions and evaluation of health advertising.
- 151 STIMULANTS AND DEPRESSANTS (2)  
Pharmacology and addiction and/or habituation of stimulants and depressants.
- 152 SOCIETY AND SEX (1)  
Sociological, psychological, and biological aspects of sexuality.
- 252 FIRST AID (2)  
First aid for common injuries and illnesses based on the American Red Cross Standard and Advanced First Aid courses. The student qualifies for the American Red Cross Certificate.
- 350 CURRENT INFORMATION FOR HEALTH INSTRUCTION (3)  
Developments in personal and consumer health, mental and emotional health, and family life education.
- 352 THE FIRST AID INSTRUCTOR (1)  
Prerequisite: H Ed 252 or a current advanced American Red Cross First Aid Certificate; instruction leading to qualification for the American Red Cross First Aid Instructor Certificate.
- 447 COMMUNITY HEALTH AND HYGIENE (3)  
Prerequisite: 10 credits in biology or health education. Community, national, and world health problems.
- 450 HEALTH EDUCATION IN THE PUBLIC SCHOOLS (3)  
Prerequisite: H Ed 350 or equivalent. Basic principles of health instruction, organization, methods and materials, and school health services.
- 451 FIELD EXPERIENCE IN PUBLIC HEALTH (1-3)  
Prerequisites: H Ed 350, 447, and health science minor. Practicum in public health agencies and programs.
- 500 PROBLEMS IN HEALTH EDUCATION (2-5)  
For the graduate student concerned with a special problem in the field.

# PHYSICS

*Professors:* McLeod (Chairman), Lindsay.  
*Associate Professors:* Atneosen, Brown, Davidson, Rupaal, Veit.  
*Assistant Professors:* Barrett, Dittrich, Kotzer, Maksymowicz, Spanel, Sprague, Thoifsen, Vawter.

## TEACHER EDUCATION

*Major* Secondary 45 credits  
plus Supporting Courses

- Physics 231 to meet the general education requirement
- Physics 232, 233, 341, 371, 381, 382, 398 (one credit)
- Physical Science 492 or Physics 492
- Electives under departmental advisement, 10 credits
- Supporting courses: 15 credits in mathematics including calculus

*Minor* 25 credits plus Supporting Courses

- Physics 231 (or 131) to meet the general education requirement
- Physics 232, 233 (or Physics 132, 133)
- Physics 381
- Physical Science 492 or Physics 492
- Electives, 3 credits (or 6 credits if Physics 131, 132, 133 is taken)
- Supporting courses: 15 credits in mathematics including calculus

## Major Concentration—Physics-Mathematics

70 credits

This concentration provides depth leading to recommendation for teaching competence in both areas; it satisfies requirements for both a major and a minor.

- Mathematics 121 and Physics 231 to meet the general education requirement
- 20 credits in physics under departmental advisement
- 20 credits in mathematics under departmental advisement
- 20 additional credits including methods courses in one or both of these fields

## ARTS AND SCIENCES

*Major* 50 credits plus Supporting Courses

- Physics 231 to meet the general education requirement
- Physics 232, 233, 341, 371, 381, 382, 383
- One course from Physics 407, 408, Gen Sci 405
- Upper division electives, 12 credits
- Supporting courses: 30 credits in mathematics, including Math 121, 122, 222, 223, 301 (or 201-202), 331, 332

Also recommended: reading knowledge of a foreign language and 10 credits in chemistry.

*Minor* 25 credits plus Supporting Courses

- Physics 231 for general education requirement
- Physics 232, 233
- Two courses from Physics 341, 371, 381
- Electives, 2 credits
- Supporting courses: 18 credits in mathematics including Math 222

## Physics

### Major Concentration—Physics-Mathematics

110 credits

This combined concentration provides depth in both fields and satisfies the requirements for both a major and a minor.

- Math 121 and Physics 231 for general education requirements
- 100 credits in mathematics and physics under advisement

Recommended courses include Physics 232, 233, 341, 371, 381, 382, 383, 441, 442, 471, 472 and other upper division electives; Computer Science 270; Math 222, 223, 301, 325, 331, 332, and 400 level electives. Courses will normally be distributed equally between mathematics and physics, depending somewhat on the student's high school background. Ten to fifteen credits in related courses may be included.

### Major Concentration—Physics-Mathematics Honors Program

107 credits plus Supporting Courses

This combined major satisfies requirements for a major and a minor. It is open to superior students; a grade average of 3.0 is required for admission to and continuation in this program. Apply for admission jointly to the departments of mathematics and physics during the second year of college study in lower division calculus and general physics.

- Math 121, 122, 222, 223, 301, 325, 331, 332, 420, 421
- Computer Science 270
- 8 credits from approved 300 and 400 level courses (at least 4 credits in the latter)
- Physics 231, 232, 233, 341, 371, 381, 382, 383
- 15 credits in upper division courses, including Physics 481, 482, 483 or Physics 485, 486, 487
- Supporting courses: 10 credits under advisement

## DEPARTMENTAL HONORS

Physics majors who wish to graduate "with honors" should consult the department chairman for special requirements.

## GRADUATE STUDY

For concentrations in physics and in physical science leading to the Master of Education and the Master of Science degrees, see *Graduate Bulletin*.

## COURSES IN PHYSICS

Laboratory instruction is included in Physics 101, 132, 133, 155, 231, 232, 233, 235, 255, 312, 335, 355, 381, 382, 401, 402, 403, 435, 455

### 101 ELEMENTARY PHYSICS (4)

Not available for credit to students with high school physics nor to science majors. Introduction to physical methods through a survey of topics in mechanics, electricity, magnetism, optics, and modern physics; historical and philosophical foundations.

### 102 MODERN PHYSICS FOR NON SCIENTISTS (3)

Prerequisite: Physics 101 and completion of mathematics general education requirement. Selected topics in modern physics using Physics 101 as a foundation; not available for credit to science majors.

### 105 INTRODUCTION TO SOLAR SYSTEM ASTRONOMY (3)

Prerequisite: one and one-half years high school algebra or Math 100. The real and apparent motion of stars; the solar system's physical characteristics and theories of origin.

### 131 PRINCIPLES OF PHYSICS (4)

Prerequisites: high school algebra and geometry or equivalent; concurrent enrollment in college level algebra recommended. Classical mechanics.

### 132 PRINCIPLES OF PHYSICS (4)

Prerequisite: Physics 131. Electricity and magnetism.

- 133 PRINCIPLES OF PHYSICS (4)  
Prerequisite: Physics 132. Introduction to relativity, quantum theory and nuclear physics.
- 155 ELEMENTARY ELECTRONICS (2)  
Prerequisite: one and one-half years high school algebra or Math 100 or 151, or permission of instructor. A.C. and D.C. circuits, design of rectifiers, amplifiers, and oscillators.
- 201, 202, 203 MATHEMATICAL METHODS IN THE PHYSICAL SCIENCES (2 ea)  
Prerequisite: Math 121 or permission; Physics 201 prerequisite to 202, 203. (Math 122 recommended concurrent with 201.) Application to solution of physical problems; use of differential equations, linear algebra, and matrices; vector integration; elementary computer methods and applications.
- 205 INTRODUCTION TO STELLAR ASTRONOMY (3)  
Prerequisite: one and one-half years high school algebra and 3 credits in college physics. Physical characteristics of stars, nebulae and galaxies studied through inferential methods.
- 231 GENERAL AND ENGINEERING PHYSICS (5)  
Prerequisite or concurrent: Math 222, or permission of instructor. Basic concepts of physics using calculus; particle mechanics.
- 232 GENERAL AND ENGINEERING PHYSICS (5)  
Prerequisite: Physics 231. Rigid body mechanics, kinetic theory and thermodynamics.
- 233 GENERAL AND ENGINEERING PHYSICS (5)  
Prerequisite: Physics 232. Electricity and magnetism.
- 235 INTRODUCTION TO OPTICS (3)  
Prerequisites: Math 100 and 102, or equivalents. Reflection and refraction at plane and spherical surfaces; thin lenses and their aberrations; optical instruments; interference, diffraction at single and multiple slits, diffraction grating, resolving power; production and detection of polarized light; lecture and laboratory.
- 300 SPECIAL PROJECTS OR PROBLEMS (1-2)  
Prerequisites: 15 credits in physics and permission of instructor. Projects or independent study under supervision.
- 311 RADIATION BIOPHYSICS (3)  
Prerequisite: Physics 133 or 233 and Math 121 or permission of instructor. Physical and biological effects of penetrating radiations.
- 312 RADIATION BIOPHYSICS LABORATORY (3)  
Prerequisite: Physics 133 or 233; Physics 311 or permission of instructor; Computer Sci 270. Techniques of radiation dosimetry and bioassay.
- 321, 322 ATMOSPHERE SCIENCE (3 ea)  
Prerequisites: one year of college physics; Physics 321 prerequisite to 322. The nature and motion of the atmosphere.
- 335 PHYSICAL OPTICS (4)  
Prerequisites: one year college physics and Math 222. Interference; laser light and theory of coherence; interferometers; Fraunhofer and Fresnel diffraction; polarization; laboratory.
- 341 ANALYTICAL MECHANICS (4)  
Prerequisites: Physics 233 and Math 222. Vector treatment of the laws of motion; Lagrange's equations.
- 355 FUNDAMENTALS OF ELECTRONICS (3)  
Prerequisite: Physics 233 or permission of instructor. A.C. circuit analysis, A.C. bridges, filters, network theorems, vacuum tubes, solid state diodes and transistors, transistor amplifiers; laboratory.
- 356 ELECTRONIC CIRCUITS (3)  
Prerequisites: Math 222, Physics 355 or permission of instructor. Multistage amplifiers, feedback and feedback oscillators, modulation and demodulation; laboratory.
- 361, 362 THERMODYNAMICS AND STATISTICAL MECHANICS (3 ea)  
Prerequisites: Physics 233 and Math 224 or permission of instructor; Physics 361 and Math 331 prerequisite to Physics 362. Kinetic theory, the laws of thermodynamics, classical statistical mechanics.
- 371 ELECTRICITY AND MAGNETISM (4)  
Prerequisites: Physics 233 (or 133) and Math 222. Laws of electrostatics; dielectrics; magnetic fields of steady currents, magnetic induction, induced electromotive forces, magnetic properties of matter; alternating current.
- 381, 382, 383 MODERN PHYSICS (4 ea)  
Prerequisites: Physics 233 (or 133), Math 222; to be taken in sequence. Theory of relativity; basic interactions of elementary particles; quantum properties of waves and particles; atomic models; quantum mechanics applied to atomic structure; multielectron atoms; molecular physics, structure and property of solids; structure, properties, and decay of atomic nuclei; basic nuclear reactions; laboratory.

## Physics

- 398 LABORATORY INSTRUCTION (1 ea quarter)  
Laboratory programs and instructional methods in general physics laboratories. Limited to maximum of three credits.
- 399 SEMINAR IN PHYSICS (1)  
Prerequisites: 25 credits in physics and permission of instructor.
- 400 SPECIAL PROJECT OR PROBLEMS (1-3)  
Prerequisite: permission of instructor. Special projects or independent study under supervision.
- 401, 402 SENIOR LABORATORY (2-3 ea)  
Prerequisites: Physics 341, 371, 381. Advanced experimentation in classical and modern physics.
- 403 SENIOR LABORATORY (3)  
Prerequisite: Physics 382. Advanced experiments in nuclear reaction physics.
- 407 FOUNDATIONS OF PHYSICS (3)  
Prerequisite: one year college physics. Development of concepts from the Greek period through the eighteenth century.
- 408 FOUNDATIONS OF PHYSICS (3)  
Prerequisite: Physics 407. Development of concepts during the 19th and 20th centuries.
- 431 INTRODUCTION TO SOLID STATE PHYSICS (4)  
Prerequisites: Physics 381, Math 331 (or concurrent). Theoretical and experimental description of mechanical, electrical, and magnetic properties of solids.
- 435 SPECTROSCOPY (3)  
Prerequisites: Physics 335 and 381. Advanced topics in optics with emphasis on interferometry and spectroscopy in the visible region; holography; laboratory.
- 441, 442 ANALYTICAL MECHANICS (3 ea)  
Prerequisites: Physics 341, Math 331 (or concurrent). Hamiltonian mechanics; dynamics of rigid bodies; oscillations.
- 451 ELEMENTS OF NUCLEAR PHYSICS (3)  
Prerequisites: Physics 341, 371, 382; Math 331. Basic nuclear properties, nuclear models; interaction of radiation with matter; radioactive decay; elementary nuclear reactions.
- 455 PULSE AND DIGITAL CIRCUITS (3)  
Prerequisite: Physics 356 or permission of instructor. Pulse, switching and digital circuits; linear and operational amplifiers; pulse height and time analyzers; laboratory.
- 471, 472 INTRODUCTION TO ELECTROMAGNETIC THEORY (3 ea)  
Prerequisites: Physics 371 and Math 331; Physics 471 prerequisite to Physics 472. Potential theory, Maxwell's field equations, electromagnetic waves.
- 481, 482, 483 INTRODUCTION TO QUANTUM MECHANICS (3 ea)  
Prerequisites: Physics 371, 381, 442; Math 331, 332; each course in the sequence prerequisite to the next. Wave mechanics, Schrodinger equations, angular momentum, approximation methods.
- 485, 486, 487 MATHEMATICAL METHODS OF PHYSICS (3 ea)  
Prerequisites: 30 credits in physics and Math 332, or permission of instructor; courses not necessarily sequential. Complex variable, evaluation of integrals, integral transforms, special functions, numerical methods, probability and statistics, tensor analysis, group theory and relativity formalism.
- 491 ASTROPHYSICS (3)  
Prerequisites: Physics 341, 381, 382; Math 331; permission of instructor. Theories of stellar processes and stellar evolution.
- 492 HIGH SCHOOL PHYSICS PROGRAMS (3)  
Prerequisites: general physics; Physics 381 (or concurrent). Materials and methods of curricula such as P.S.S.C. and H.P.P.
- 498 RESEARCH PROJECTS IN PHYSICS (6)  
Prerequisite: permission of instructor. Investigation of a problem in physics under the sponsorship and supervision of the physics faculty; project must extend over a minimum of two quarters.
- 499 SEMINAR IN PHYSICS (1-3)  
Prerequisite: junior or senior status and permission of instructor.
- 500 SPECIAL PROBLEMS IN ADVANCED PHYSICS (1-3)  
Prerequisite: graduate standing and permission of the instructor. Detailed study of a special problem in physics.
- 531, 532 SOLID STATE PHYSICS (3 ea)  
Prerequisites: 45 credits in physics; Physics 531 prerequisite to 532. Properties of solids and the experimental basis of the modern theory of solids.



541, 542, 543 CLASSICAL DYNAMICS (3 ea)

Prerequisite: 45 credits in physics including Physics 487.  
Selected topics in advanced classical dynamics.

551, 552 NUCLEAR THEORY (3 ea)

Prerequisite: 45 credits in physics; Physics 551 prerequisite to 552. Theory and experimental basis for the structure of the atomic nucleus and nuclear properties and reactions.

561, 562 PHYSICS OF PLASMAS (3 ea)

Prerequisite: 45 credits in physics; Physics 561 prerequisite to 562. The physics of fully ionized gases; fusion, gas dynamics, effects of simultaneous electric and magnetic fields, magneto-hydrodynamics, and developments in plasma research.

571, 572 ELECTROMAGNETIC THEORY (3 ea)

Prerequisite: 45 credits in physics; Physics 571 prerequisite to 572. General properties of vector fields, electromagnetic field equations, and boundary value problems; wave propagation.

581, 582 QUANTUM THEORY (3 ea)

Prerequisite: 45 credits in physics including 483 and 487; Physics 581 prerequisite to 582. Advanced concepts in quantum theory including matrix formalism, quantization of the electromagnetic field, the Dirac theory of the electron, the interaction of radiation with matter.

591, 592, 593 RELATIVITY THEORY (3 ea)

Prerequisite: 45 credits in physics including Physics 487. Special relativity mechanics and electrodynamics in Physics 591; design theory of high energy particle accelerators in Physics 592; general relativity theory including planetary motion, electrodynamic formulations, and brief reviews of the status of unified field theories in Physics 593.

598 GRADUATE SEMINAR (1-3)

599 RESEARCH (3-9)

Prerequisite: permission of instructor and department chairman. Investigation of an original problem in physics under supervision.

## POLITICAL SCIENCE

*Professors:* Payne, Schwarz, Vernon, Wuest.  
*Associate Professors:* Clarke (Chairman), Hebal, Mather, Rutan.

*Assistant Professors:* Chard, Hogan, Ziegler.

*Lecturers:* Arkley, Foisy, Kepl, Krauss, Miner.

## ARTS AND SCIENCES

*Major* 65 credits

- Political Science 101, 250 and either 270 or 271-272
- 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.

*Comparative Government:* Political Science 305, 372, 401, 402, 403, 404, 405, 406, 407, 408, 409, 430, 431, 453, 472

*Politics and Government:* Political Science 340, 346, 440, 447, 450, 453, 455

*Public Administration:* Political Science 265, 320, 346, 353, 420, 421, 422, 423, 424, 425, 428, 453

*Public Law:* Political Science 310, 315, 410, 411, 412, 428

*Political Theory:* Political Science 265, 360, 442, 460, 461, 462, 463, 465

*International Relations:* Political Science 375, 376, 405, 411, 470, 474, 475, 476

## Political Science

### Minor 25 credits

- Political Science 101, 250 and either 270 or 271-272
- Five credits in each of *two* of the areas listed above

### Minor—East Asian Studies

This may be added to the major for a Major Concentration.

See Interdepartmental Programs, page 198, for specifications.

## TEACHER EDUCATION

### Major

No teacher education major is offered. Students interested in political science as a teaching field, see Social Studies Major, or combine an extended minor of 33-35 credits with a major in history. Recommendation for teaching competence for junior or senior high school may be obtained in this way.

### Minor 25 credits

- Political Science 101, 250, and either 270 or 271-272
- Five credits from each of *two* areas selected under departmental advisement

### Minor—East Asian Studies

See Interdepartmental Programs, page 198, for specifications.

## DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, a political science major who wishes to graduate "with honors" 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). He must also submit a senior thesis and have a grade average of 3.5 in upper division political science courses.

## INTERNSHIPS

Students are encouraged to obtain internships in state, local, or national government agencies, political parties, and interest groups. Credit may be obtained by prior arrangement. The academic relevance and adequacy must be determined by the department through a written evaluative report.

## GRADUATE STUDY

For a concentration in political science leading to the Master of Arts degree, see *Graduate Bulletin*.

## COURSES IN POLITICAL SCIENCE

- 101 GOVERNMENT IN THE MODERN WORLD (5)  
Introduction to types of government and political problems of the world today; principles of political science.
- 250 AMERICAN NATIONAL GOVERNMENT (5)  
Principles and institutions of national government; its main functions.
- 265 RESEARCH METHODS IN POLITICAL SCIENCE (5)  
Prerequisite: Pol Sci 101 or permission of instructor. Empirical research methods, techniques, and materials and their application in analysis and evaluation of political phenomena.
- 270 INTRODUCTION TO INTERNATIONAL POLITICS (5)  
Prerequisite: Pol Sci 250 or junior standing. Interaction of states and other factors in the international system in terms of basic relationships of war and peace.
- 271, 272 INTRODUCTION TO INTERNATIONAL POLITICS (3, 2)  
Prerequisites: Pol Sci 250, or junior status; 271 prerequisite to 272. Same as Pol Sci 270 for students preferring a slower pace or more flexible scheduling.
- 305 INTRODUCTION TO FOREIGN GOVERNMENTS (5)  
Prerequisite: Pol Sci 101, 250 or permission of instructor. Basic types, institutions, and practices of foreign governments.

- 310 AMERICAN CONSTITUTIONAL LAW (5)  
Prerequisite: Pol Sci 250. Significant Supreme Court decisions interpreting major parts of the Constitution in practice.
- 315 LAW AND SOCIETY (3)  
Prerequisite: Pol Sci 250 or permission of instructor. Jurisprudence, the legal order, sources of law and the judicial process.
- 320 PUBLIC ADMINISTRATION (5)  
Prerequisite: Pol Sci 250, or one course from Soc/Anth 201 or 301 or Psych 201 or 340, or permission of instructor. The conduct of public business with emphasis on the executive branch of government; some treatment of other countries.
- 340 POLITICAL PARTIES (5)  
Prerequisite: Pol Sci 101 and 250, or permission of instructor. Political parties and party systems in the West.
- 346 POVERTY, MINORITIES, AND GOVERNMENT (5)  
Prerequisite: Pol Sci 250 or permission of instructor. 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)  
Prerequisite: Pol Sci 250 or permission of instructor. 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)  
Prerequisites: Pol Sci 101 and 250, or permission of instructor. Origin and evolution of major concepts of political theory.
- 372 POLITICAL CHANGE: AN INTRODUCTION TO POLITICAL DEVELOPMENT (5)  
Prerequisite: Pol Sci 101. Basic concepts such as modernization, social mobilization, institutionalization examined in a few selected countries.
- 375 FOREIGN POLICIES (5)  
Prerequisite: Pol Sci 270. International politics on the level of foreign policy decision making; emphasis on major powers other than U.S.; simulated foreign policy problems.
- 376 AMERICAN FOREIGN POLICY (5)  
Prerequisite: Pol Sci 270 or permission of instructor. Background organization of American foreign policy; the conduct of diplomatic relations with other states; current issues and problems in foreign affairs.
- 397a ASIA TODAY (5)  
Offered spring 1970.
- 400 SELECTED READINGS AND RESEARCH (2-5)  
Prerequisite: permission of department. Supervised readings and/or research in a selected area of political science.
- 401 UNITED KINGDOM (3)  
Prerequisite: Pol Sci 101 or permission of instructor. Analysis of the British system of government.
- 402 WESTERN EUROPE (5)  
Prerequisite: Pol Sci 101 or 305 or permission of instructor. Selected Western European political systems.
- 403 SOVIET UNION AND EASTERN EUROPE (5)  
Prerequisite: Pol Sci 101 or 305 or permission of instructor. The political system of the Soviet Union and other communist states in Eastern Europe.
- 404 LATIN AMERICA (5)  
Prerequisite: Pol Sci 101 or permission of instructor. Political, socio-economic and cultural problems of Latin America.
- 405 THE MIDDLE EAST (3)  
Prerequisite: Pol Sci 101 or permission of instructor. Political, cultural, and governmental problems of the Middle East.
- 406 CANADA (5)  
Prerequisite: Pol Sci 101 or permission of instructor. Canadian government and politics; problems such as federalism and position in the Commonwealth.
- 407 EAST ASIA (5)  
Prerequisite: Pol Sci 101 or 305 or permission of instructor. Survey course covering China, Japan, and Korea since the mid nineteenth century.
- 408 SUB-SAHARAN AFRICA (5)  
Prerequisite: Pol Sci 101 or permission of instructor. Politics of independent black African states with emphasis on nation-building and economic development; governments of white dominated southern portion.

## Political Science

- 409 SOUTHEAST ASIA (5)  
Prerequisite: Pol Sci 101 or 305 or permission of instructor. Selected political systems.
- 410 THE SUPREME COURT AND CIVIL RIGHTS (3)  
Prerequisites: Pol Sci 250 and 310. Leading decisions regarding First Amendment freedoms, procedural rights in trials. Fourteenth Amendment liberties, due process of law, and equal protection of the laws.
- 411 INTERNATIONAL LAW (5)  
Prerequisite: Pol Sci 270 or permission of the instructor. Origin, principles, and problems.
- 412 THE WARREN COURT (3)  
Prerequisite: Pol Sci 250. Case method approach to revolutionary and unique era of the U.S. Supreme Court under Chief Justice Earl Warren; primary emphasis on constitutional law and civil rights not covered in Pol Sci 310 and 410.
- 420 NATURAL RESOURCES: ADMINISTRATIVE AND POLICY PROBLEMS (3)  
Prerequisite: Pol Sci 320 or permission of instructor. Problems in forest policy, minerals, water and power, with emphasis on Western United States.
- 421 METROPOLITAN AREA GOVERNMENT (5)  
Prerequisite: Pol Sci 353 or permission of instructor. Decision-making structures of central city and suburban political systems; regional interaction, federal-state-local relations; problems related to minorities, poverty, and growth.
- 422 STAFFING THE PUBLIC BUREAUCRACY (3)  
Prerequisite: Pol Sci 320 or permission of instructor. Comparative analysis of public personnel systems in selected countries, with special attention to the United States; general principles of public administration and specialized aspects such as recruitment, training, and employee morale.
- 423 THE AMERICAN EXECUTIVE (3)  
Prerequisite: Pol Sci 250 or permission of instructor. The executive branch, its organization and problems.
- 424 ADMINISTRATIVE THEORY (3)  
Prerequisite: Pol Sci 320 or permission of instructor. Organizational theory relevant to public administrative settings.
- 425 THE BUDGETARY PROCESS (3)  
Prerequisite: Pol Sci 320 or permission of instructor. Theoretical, political, and administrative aspects of budgeting considered as a policy process.
- 428 THE REGULATORY PROCESS (3)  
Prerequisite: Pol Sci 320 or permission of instructor. Administrative regulation in relation to the political process.
- 429 ADMINISTRATION AND THE DEMOCRATIC STATE (5)  
Prerequisite: Pol Sci 320 or permission of instructor. Relationships of various administrative forms, processes, and behaviors to varying theoretical conceptions and empirical descriptions of democracy.
- 430 MODERN CHINESE POLITICS (3)  
Prerequisite: Pol Sci 407 or permission of instructor. Governments and political movements in the twentieth century.
- 431 MODERN JAPANESE POLITICS (5)  
Prerequisite: Pol Sci 407, or permission of instructor. Governments and politics since the Meiji Restoration.
- 435 CONTEMPORARY CANADIAN POLITICS (3)  
Prerequisite: Pol Sci 406. Examination of the governmental, political, and socio-economic problem areas of modern Canada and analysis of selected problems.
- 440 THE LEGISLATIVE PROCESS: THE STATE LEGISLATURE (5)  
Prerequisite: Pol Sci 353, or permission of instructor. Interaction of elected executives, legislators, administrators, political parties, pressure groups, the press, and public in the legislative process at the state level, with some emphasis on Washington State. Field research in Olympia.
- 441 THE LEGISLATIVE PROCESS: THE NATIONAL CONGRESS (3)  
Prerequisite: Pol Sci 101, 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.
- 442 POLITICAL BEHAVIOR (5)  
Prerequisites: Pol Sci 265 and 340 or permission of instructor. Human action in political settings, with emphasis on social class analysis, voting, and legislative behavior.
- 447 COMPARATIVE STATE AND PROVINCIAL POLITICAL SYSTEMS (3)  
Prerequisite: Pol Sci 353 or permission of instructor. Sub-national political systems, especially in Western United States and Canada; emphasis on decision-making structures and selected problems.

- 450 THE ELECTORAL PROCESS (5)  
Prerequisite: Pol Sci 340 or permission of instructor. The electoral process and voting behavior stressing the correlates of voting; reference to survey and aggregate data.
- 453 COMPARATIVE LOCAL GOVERNMENT (3)  
Prerequisite: Pol Sci 353 or permission of instructor. Structures and functions of local governments in relation to higher levels of government in the United States, Canada, Great Britain, and France.
- 455 COMMUNITY POLITICAL SYSTEMS (5)  
Prerequisite: Pol Sci 353 or permission of instructor. Interrelation of formal and informal decision-making structures at metropolitan and regional levels and below; power structure and "elite" literature.
- 460 POLITICAL THEORY: ANCIENT AND MEDIEVAL (3)  
Prerequisite: Gen Ed 121 or Pol Sci 360 or permission of instructor. Origin and evolution of major concepts in Western political thought from Pericles to Machiavelli.
- 461 POLITICAL THEORY: RENAISSANCE AND MODERN (3)  
Prerequisite: Gen Ed 122 or Pol Sci 360 or permission of instructor. Origin and evolution of major concepts in Western political thought from Machiavelli to Edmund Burke.
- 462 POLITICAL THEORY: CONTEMPORARY IDEOLOGIES (3)  
Prerequisite: Gen Ed 123 or Hist 107 or Pol Sci 360 or permission of instructor. Origin and evolution of major concepts in Western political thought from Edmund Burke to the present; development of modern conservatism, liberalism, Marxism, and Fascism or National Socialism.
- 463 AMERICAN POLITICAL THOUGHT (5)  
Prerequisites: History 203, 204, or equivalent, or Pol Sci 101 and/or 250. Major concepts in American political thought from the Colonial period to the present.
- 465 ANALYTICAL CONCEPTS OF POLITICAL THEORY (3)  
Prerequisite: Pol Sci 360 or permission of instructor.
- 470 ADVANCED INTERNATIONAL POLITICS (3)  
Prerequisite: Pol Sci 270. War and peace; strategic theory, bargaining and negotiation, arms control, peace-keeping forces, functional approaches to peace.
- 472 POLITICAL DEVELOPMENT (3)  
Prerequisite: Pol Sci 372. Advanced course concentrating on violent and non-violent means of change; special attention to recently independent or rapidly changing countries.
- 474 INTERNATIONAL ORGANIZATION (3)  
Prerequisite: Pol Sci 270 or permission of instructor. Development, organization, and activities of various types of international institutions, including the United Nations.
- 475 INTERNATIONAL RELATIONS IN THE WESTERN HEMISPHERE (3)  
Prerequisites: Pol Sci 270 or 404, or permission of instructor. Relations among countries in the Western Hemisphere with emphasis on the United States and Latin America.
- 476 AMERICAN-EAST ASIAN RELATIONS (5)  
Prerequisite: Pol Sci 407 or permission of instructor. Relations among the United States, China, Japan and Korea.
- 480 POLITICS, GOVERNMENT, AND RELIGION (3)  
Prerequisite: permission of instructor. Relationships between political activity and government structures on the one hand, and religious perceptions and organizations on the other; problem areas in relationships between politics, government, and religion; role of religion (perceptions and organizations) in modern political life and governmental structures.
- 496a,b,c HONORS TUTORIAL (2-5 ea)
- 497d DIPLOMATIC METHOD (3)  
Offered spring 1970.
- 497e CANADA AND THE UNITED STATES: PROBLEMS OF PROXIMITY (3)  
Political, economic, diplomatic, and societal relations; problem areas and present day diplomacy. Extension 1970.
- 497f CONTEMPORARY AMERICAN GOVERNMENT AND POLITICS (3)  
In depth study of the 1950's and 1960's. Extension 1970.
- Admission to graduate level courses requires a minimum background of 25 credits in political science and permission of the department.*
- 500 SPECIAL PROBLEMS (3-5)  
Individual studies to meet the needs of a student's program.

# PSYCHOLOGY

*Professors:* Meyer (Chairman), Adams, Blood, Budd, Elich, Harwood, Kintz, Kuder, Mason, Meade, Nugent, Ross, Thompson, Woodring.  
*Associate Professors:* Carnean, Crow, Diers, Jones, L. Lippman, MacKay, Panek, Tyler, Wilkins.  
*Assistant Professors:* Brislin, Cvetkovich, Grote, Heid, Helgoe, Klepac, Klichknecht, Long, Lonner, Marx, Miller, Prim, Reck, Shaffer, Smiley, C. Taylor, S. Taylor, Thorndike.  
*Lecturer:* M. Lippman.

## TEACHER EDUCATION

### *Major* Elementary

Prospective elementary teachers are advised to take the Arts and Science concentration in Child Development.

### *Minor* 20 credits

- Psychology 201
- 15 credits in psychology other than the required professional educational psychology courses; recommended courses include 301, 302

## ARTS AND SCIENCES

### *Major* 40 credits plus Supporting Courses

- Psychology 201, 301, 302
- Two courses from Psych 402, 403, 406, 407, 408, 409
- One course from Psych 421, 422, 423
- 12 credits in psychology under advisement
- Supporting courses: Phil 102, or one of the follow-

- 501 POLITICAL SCIENCE AS A DISCIPLINE (5)  
History of political science; description and critique of fields; trends and challenges.
- 502 RESEARCH TECHNIQUES IN POLITICAL SCIENCE (5)
- 505 SEMINAR IN COMPARATIVE GOVERNMENT AND POLITICS (3)  
Principles of government and politics in existing and developing states.
- 510 SEMINAR IN AMERICAN PUBLIC LAW (3)  
The tradition and emerging trends.
- 511 SEMINAR IN INTERNATIONAL LAW AND ORGANIZATION (3)  
Intensive concentration on international law and specific problems in the field of the "Law of the Sea."
- 520 SEMINAR IN PUBLIC ADMINISTRATION (3)  
Organizational theory and practice in public settings; comparative aspects.
- 530 SEMINAR IN MODERN CHINESE POLITICS (3)  
Prerequisite: Pol Sci 430 and permission of instructor. Individual readings and research.
- 531 SEMINAR IN MODERN JAPANESE POLITICS (3)  
Prerequisites: Pol Sci 431 and permission of instructor.
- 540 SEMINAR IN THE POLITICAL PROCESS (3)  
The influence of organizations and individuals in the formation of public policy.
- 550 SEMINAR IN STATE AND LOCAL GOVERNMENT (3)  
Problems at sub-national levels, both American and other, internally and in relation to national levels.
- 560 SEMINAR IN POLITICAL THEORY (3)  
Function and history of political theory; the crisis in traditional theory; emerging trends.
- 570 SEMINAR IN INTERNATIONAL AFFAIRS (3)  
The contemporary international scene, emerging international problems and possible solutions.
- 575 SEMINAR IN FOREIGN POLICY AND DIPLOMACY (3)  
Process of policy formation; emerging trends in modern diplomacy.
- 599 THESIS (6-9)

ing: 111, 113, 202, 302, 310, or 411 and one of the following sequences:

- (a) Chemistry 121, 122, 123, plus 5 credits advanced work
- (b) Physics 131, 132, 133, plus 5 credits of advanced work
- (c) Math 220, 241, 270
- (d) Zool 348, 349, or 261, 262; one course from Biol 301, 371, or Zool 361, 362, 366, 368, 461

Recommended additional electives: one year of a foreign language, upper division mathematics or science courses.

Students planning master's degree work in psychology should consult the *Graduate Bulletin* for prerequisite courses.

### Major Child Development 55 credits\*

- Psychology 201, 301, 302
- Three courses from Psych 408, 457, 458, 459, 460
- Electives: recommended courses include: Psych 313, 340, 341, 402, 403, 406, 407, 409, 411, 413, 421, 422, 423, 455, 456, Biology 371

Students planning to pursue graduate study are advised to take one of the supporting sequences of chemistry, physics, math, or biology listed above.

### Minor 24 credits

- Psychology 201
- Two courses from Psych 301, 302, 313, 320, 340, 341, 352, 402, 403, 407, 408, 409, 413
- Electives under advisement

(Psych 341, 403, 407, 409 are recommended for biology majors; Psych 320 for economics majors)

\*Prospective teachers electing concentration in Child Development are not required to take Psych 352 and are advised to take Psych 408 in lieu of Psych 351.

## DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, a psychology major who wishes to graduate "with honors" will work out a program of studies with the departmental honors adviser, complete Psychology 401 and prepare a thesis which he will defend before a faculty committee.

## GRADUATE STUDY

For concentrations in psychology leading to the Master of Education, the Master of Arts, or the Master of Science degrees, see *Graduate Bulletin*.

## COURSES IN PSYCHOLOGY

Courses in educational psychology include Psych 351, 352, 371, 431, 453, 459, 466, 471. With the exception of Psych 352, these courses are not applicable to the arts and sciences major.

### 201 GENERAL PSYCHOLOGY (5)

Examination of basic psychological processes utilizing results of research investigations; participation in at least two experiments or equivalent activities.

### 297a FIELD EXPERIENCES IN THE HUMAN SERVICES (1-12)

Prerequisite: enrollment in the New Careers Program. Two years on-the-job training to develop competence through experience; seminars.

### 300 SPECIAL PROBLEMS (1-3)

Prerequisite: permission of instructor.

### 301 EXPERIMENTAL PSYCHOLOGY AND STATISTICS I (5)

Prerequisite: Psych 201. Introduction to experimental methodology in psychology and statistical treatment of results. Lectures and laboratory.

### 302 EXPERIMENTAL PSYCHOLOGY AND STATISTICS II (5)

Prerequisite: Psych 301. Design and conduct of psychological research investigations and statistical treatment of results; individual research project; lectures and laboratory.

## Psychology

- 313 PERSONALITY (5)  
Prerequisite: Psych 201. Theoretical approaches to personality; major philosophical assumptions, historical position, and experimental data considered in evaluating personality theories.
- 320 INDUSTRIAL PSYCHOLOGY (4)  
Prerequisite: Psych 201 or Gen Ed 105. Application of psychological principles to industrial problems of personnel selection and appraisal, human relations, marketing, training and engineering psychology.
- 321 PROBLEMS OF CONSUMER PSYCHOLOGY (3)  
Prerequisite: Psych 201. A study of problems of consumer behavior utilizing psychological research methodologies.
- 340 SOCIAL PSYCHOLOGY (5)  
Prerequisite: Psych 201. The human as a social animal.
- 341 PHYSIOLOGICAL PSYCHOLOGY (5)  
Prerequisite: Psych 201. Biological foundations of behavior.
- 351 PRINCIPLES OF HUMAN LEARNING (3)  
Prerequisite: Gen Ed 105; not open to those with credit in Psych 408. Application of psychological principles of learning to classroom teaching.
- 352 HUMAN DEVELOPMENT AND PERSONALITY (5)  
Prerequisites: Psych 351; Biol 101; not open to students who have credit in Psych 456. Basic principles of development and personality with special attention to the school age child; implications for educational practices.
- 361 FIELD EXPERIENCES IN MENTAL HEALTH (2)  
Prerequisites: psychology major or minor; upper division status; permission of instructor. Research and treatment programs in mental health and mental retardation; volunteer service work at Northern State Hospital.
- 371 EVALUATION IN THE PUBLIC SCHOOL (3)  
Prerequisite: Psych 351. Evaluating pupil achievement; construction of instruments for determining what a student has learned and how much he has developed; use of standardized tests.
- 396a,b,c HONORS TUTORIAL (2-5)
- 397a COUNSELING AND PRACTICE (4)  
Prerequisite: enrollment in New Careers Program. Theoretical and practical issues in the human services for individuals employed in state agencies.
- 397b ADVANCED COUNSELING AND PRACTICE (1-4)  
Prerequisite: Psych 397a.
- 400 ADVANCED PSYCHOLOGICAL RESEARCH PROBLEMS (3)  
Prerequisite: Psych 302 and permission of instructor. Individual project in psychology based on empirical research.
- 401 HONORS SEMINAR (3)  
Prerequisite: permission of instructor. Intensive examination of selected problems in psychology.
- 402 MOTIVATION (5)  
Prerequisite: Psych 301. Experimental findings, and theoretical interpretations of the biological and psychological aspects of motivation; lectures and laboratory.
- 403 COMPARATIVE PSYCHOLOGY (5)  
Prerequisites: Psych 301. Phylogenetic comparison of animal behavior, learning, motivation, and sensory processes in selected species of animals; lectures and laboratory.
- 404 SENSORY FUNCTIONS (5)  
Prerequisite: Psych 301. Sensory receptors and the central nervous system transformation of operant activity in relation to psychophysical evidence and to adaptive significance of behavior; lectures and laboratory.
- 406 EXPERIMENTAL SOCIAL PSYCHOLOGY (5)  
Prerequisites: Psych 301 and 340. Psychological problems of man in a social setting. Lectures and laboratory.
- 407 PERCEPTION (5)  
Prerequisite: Psych 301. Sensory processes and stimuli necessary to perception; perceptual theory, classical and contemporary; lectures and laboratory.
- 408 LEARNING (5)  
Prerequisite: Psych 301. Students with credits in Psych 351 admitted by department approval only. Major principles of learning, empirical evidence underlying them, and their theoretical interpretation; lectures and laboratory.
- 409 PSYCHOPHYSIOLOGY (5)  
Prerequisite: Psych 301. Interrelationships between physiological and psychological aspects of behavior with special reference to human subjects. Lecture and laboratory.
- 411 PSYCHOPATHOLOGY (3)  
Prerequisite: Psych 313. Psychoses, neuroses, and other forms of behavior deviation; conceptions regarding these conditions.



- 413 FOUNDATIONS OF PSYCHOLOGICAL MEASUREMENT (3)  
Prerequisite: Psych 301. Theory basic to construction and other application of psychological tests and scaling techniques.
- 421 SEMINAR IN HISTORY AND SYSTEMS OF PSYCHOLOGY (3)  
Prerequisites: graduate or senior status, Psych 302, and permission of instructor. Historical development of the systematic viewpoints of psychology.
- 422 SEMINAR IN PSYCHOLOGICAL THEORY (3)  
Prerequisites: senior status, Psych 302, and permission of instructor. The logic of theory development in psychology and special problems of psychology as an independent discipline.
- 423 SEMINAR IN RECENT PSYCHOLOGICAL LITERATURE (3)  
Prerequisites: senior status, Psych 302, and permission of instructor. Selected topics which vary from year to year.
- 431 INTRODUCTION TO GUIDANCE SERVICES (3)  
Prerequisites: 15 credits in psychology and senior status. Roles of teacher, principal, psychologist, counselor, and other specialists in an integrated program; guidance and counseling techniques.
- 441 CULTURAL CONDITIONING OF PSYCHOLOGICAL PHENOMENA (3)  
Prerequisite: Psych 301. Theories, methodology and research data related to psychological phenomena as conditioned by culture.
- 442 SOCIAL BEHAVIOR IN ANIMALS (3)  
Prerequisite: Psych 301 or permission of instructor. Comparison of social organization and behavior patterns in various species; aggression, population control, communication systems; evolution of behavior.
- 443 COGNITION (3)  
Prerequisites: Psych 301, 406. Cognition, thinking, and the higher mental processes.
- 445 CURRENT TRENDS IN PSYCHOLOGY  
445a Advanced Human Learning (3)  
Prerequisite: Psych 351 or equivalent. Major concepts; recent developments in learning theory as related to the teaching-learning process.
- 453 INDIVIDUAL DIFFERENCES (3)  
Behavioral differences among individuals.
- 455 ADVANCED CHILD PSYCHOLOGY (3)  
Prerequisite: Psych 352 or equivalent. Research and theory in child development and behavior.
- 456 PSYCHOLOGY OF ADOLESCENCE (3)  
Prerequisite: Psych 352 or equivalent. Advanced study of development characteristics, behavior problems, personal and social adjustments of children and youth; implications for secondary education and guidance programs.
- 457 DEVELOPMENTAL PSYCHOLINGUISTICS (5)  
Prerequisites: Psych 301 and Linguistics 201, or permission of instructor. Experimental findings and theoretical interpretations of the biological, psychological, and linguistic aspects of language; special attention to implications for a theory of language acquisition.
- 458 COGNITIVE DEVELOPMENT (5)  
Prerequisite: Psych 301 or permission of instructor. Historical, theoretical, and empirical aspects of cognitive development of children; critical analysis of research and methodology.
- 459 EARLY EXPERIENCE (5)  
Prerequisite: Psych 301 or permission of instructor. Effects of early experience upon behavior of the organism at different stages of development.
- 460 SOCIAL DEVELOPMENT (5)  
Prerequisite: Psych 301 or permission of instructor. Development of social behavior from infancy to adulthood.
- 466 THE BRIGHT AND GIFTED CHILD (3)  
Prerequisite: teaching experience, permission of instructor, or 11 credits in psychology. Identification procedures, curriculum, and teaching methods suited to children with superior and special abilities.
- 471 STANDARDIZED TESTS (3)  
Prerequisite: Psych 371 or 413, or permission of instructor. Standardized group tests commonly used in the public schools; selection and administration of tests; interpretation of norms.
- 480 OPERANT CONDITIONING (3)  
Prerequisite: Psych 301. Free-operant behavior, schedules of reinforcement; application to problem areas; lecture and laboratory.
- 481 BEHAVIORAL MODIFICATION OF CHILDREN (3)  
Application of behavior principles to academic and social problems of children; lecture and laboratory.

## Psychology

- 496a,b,c HONORS TUTORIAL (2-5 ea)
- 497a BEHAVIORAL MODIFICATION OF CHILDREN AND ADOLESCENTS (10)  
Using behavioral principles to strengthen children's intellectual and social skills, and to help children and adolescents cope with educational and social problems in home, school, and community. Summer 1970.
- 497b INTERVIEWING: THEORY AND PRACTICE (3)  
Methods and techniques to assist a teacher in making conferences with students and parents more effective, and collection of research data more reliable. Extension 1970.
- 497w PROBLEMS IN RESEARCH AND TESTING (3)  
Prerequisite: teaching experience. Application in guidance and research of scores from tests currently used in schools. Extension 1970.
- 497x SUBHUMAN PRIMATE BEHAVIOR (3)  
Prerequisite: Psych 301. Variations in patterns of behavior in experimental settings; field studies in major groups of subhuman primates.
- 497y PHENOMENOLOGICAL AND ONTOLOGICAL PSYCHOLOGIES (3)  
Prerequisites: Psych 301 and permission of instructor. Readings in existential and depth psychology, ontology, phenomenology, general experiential and psychedelic phenomena, symbolism, ritual and mysticism as human involvement and problems. Winter 1970.
- 497z HUMAN CONFLICT (3)  
Prerequisites: Psych 301, 340. Recent empirical and theoretical work on human conflict, aggression and competition.
- 500 SPECIAL PROBLEMS (1-3)  
Prerequisite: permission of instructor.
- 501a PRO-SEMINAR: SYSTEMS OF PSYCHOLOGY (2)
- 501b PRO-SEMINAR: PERCEPTION (2)
- 501c PRO-SEMINAR: LEARNING (2)
- 501d PRO-SEMINAR: MOTIVATION (2)
- 501e PRO-SEMINAR: SOCIAL (2)
- 501f PRO-SEMINAR: PERSONALITY (2)
- 502, 503 DESIGN AND ANALYSIS OF EXPERIMENTS (3 ea)  
Prerequisite: Psych 301; 502 prerequisite to 503. Multi-dimensional analysis of variance, trend analysis, and analysis of covariance.
- 504 MULTIVARIATE ANALYSIS (3)  
Prerequisite: Psych 301, 413. Topics in correlation theory and application, including factor analysis and regression analysis.
- 511 INSTRUMENTATION FOR PSYCHOLOGICAL RESEARCH (1)  
Typical technological solutions to problems encountered in original research; lecture and laboratory.
- 520 SEMINAR IN PERCEPTION (3)  
Prerequisite: Psych 501b.
- 521 SEMINAR IN LEARNING (3)  
Prerequisite: Psych 501c.
- 522 SEMINAR IN MOTIVATION (3)  
Prerequisite: Psych 501d.
- 523 SEMINAR IN SOCIAL PSYCHOLOGY (3)  
Prerequisite: Psych 501e.
- 524 SEMINAR IN PERSONALITY (3)  
Prerequisite: Psych 501f.
- 525 SEMINAR IN PHYSIOLOGICAL PSYCHOLOGY (3)  
Prerequisite: permission of instructor.
- 526 SEMINAR IN COMPARATIVE PSYCHOLOGY (3)  
Prerequisite: permission of instructor.
- 527 SEMINAR IN DEVELOPMENTAL PSYCHOLOGY (3)  
Prerequisite: permission of instructor.
- 528 SEMINAR IN BEHAVIOR PATHOLOGY (3)  
Prerequisite: permission of instructor.
- 550 INTRODUCTION TO STUDENT PERSONNEL ADMINISTRATION (3)  
Prerequisite: admission to the program. 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.

551a,b,c SEMINARS: COLLEGE STUDENT PERSONNEL ADMINISTRATION (5 ea)

Prerequisite: Psych 550 and concurrent substantial employment in a college student personnel position. Intensive examination of the purposes, functions and operation of the various services; major issues in Student Personnel Work; observation and participation in research programs appropriate to the various services; major papers and extensive use of case studies.

53 INTRODUCTION TO CLINICAL AND COUNSELING PSYCHOLOGY (5)

Prerequisites: admission to clinical, counseling, or school psychologist program and permission of instructor; students in school psychology should also have Psych 431 (or concurrent). Theories of psychological counseling related to philosophical positions, social conditions, personality, and learning theory.

54 CLINICAL COUNSELING INTERVIEW (3)

Prerequisites: Psych 553 and permission of instructor. Counseling and clinical interview with laboratory.

55 PSYCHOLOGY OF OCCUPATIONS (3)

Prerequisite: Psych 431 or permission of instructor. Sources of occupational materials; theories of career development; applications to vocational counseling.

557 INDIVIDUAL APPRAISAL IN COUNSELING (3)

Prerequisite: Psych 471 or 413, 301, and 553. Collection, evaluation, application, and interpretation of data available to the school counselor.

558 INDIVIDUAL INTELLIGENCE TESTING (4)

Prerequisites: Psych 553 and permission of instructor. Theory and principles underlying construction of individual intelligence tests; supervised practice in administration of tests.

560 PERSONALITY ASSESSMENT (4)

Prerequisites: Psych 553, 554, 558. Clinical appraisal with special attention to value and limitations of personality and interest measures.

562 PRACTICUM IN PSYCHOLOGICAL EVALUATION (3)

Prerequisites: Psych 560 and permission of instructor. Diagnostic and interpretative work with selected cases under direct supervision.

564 PSYCHOTHERAPY AND COUNSELING: INDIVIDUAL (3)

Prerequisites: Psych 553, 554 and permission of instructor. Systematic presentation of approaches in individual counseling and psychotherapy with emphasis on theory, goals, and techniques; work with cases under direct supervision.

565 PSYCHOTHERAPY AND COUNSELING: GROUP (2)

Prerequisites: Psych 553, 554 and permission of instructor. Group approaches in counseling and psychotherapy with emphasis on theory, goals, and techniques; direct experience in group settings under supervision.

566 BEHAVIORAL THERAPIES (3)

Prerequisite: permission of instructor. Theories and techniques of behavior modifications; intensive research review, opportunities for supervised practice.

570 COUNSELING PRACTICUM I (5)

Prerequisite: permission of instructor. Practicum experience in counseling in selected settings with major responsibility for several cases under supervision.

571 COUNSELING PRACTICUM II (5)

Prerequisite: Psych 570. A second quarter of counseling practicum experience.

573 CLINICAL PRACTICUM I (5)

Prerequisite: Psych 562 and permission of instructor. Practicum experience in clinical psychology with major responsibility for several cases under supervision.

574 CLINICAL PRACTICUM II (5)

Prerequisite: Psych 573. A second quarter of practicum experience in clinical psychology.

575 SEMINAR IN CASE PRESENTATION (3)

Prerequisite: concurrent with 570 or 573. Presentation of actual cases to allow for team interaction and interdisciplinary evaluation by a variety of specialists as to procedure, referral, interaction, and follow-up.

576 SEMINAR IN CLINICAL AND COUNSELING RESEARCH (3)

Prerequisite: permission of instructor, Psych 501. Research investigation of selected theoretical and practical problems in psychopathology, clinical and counseling psychology. Each student will design an original research study.

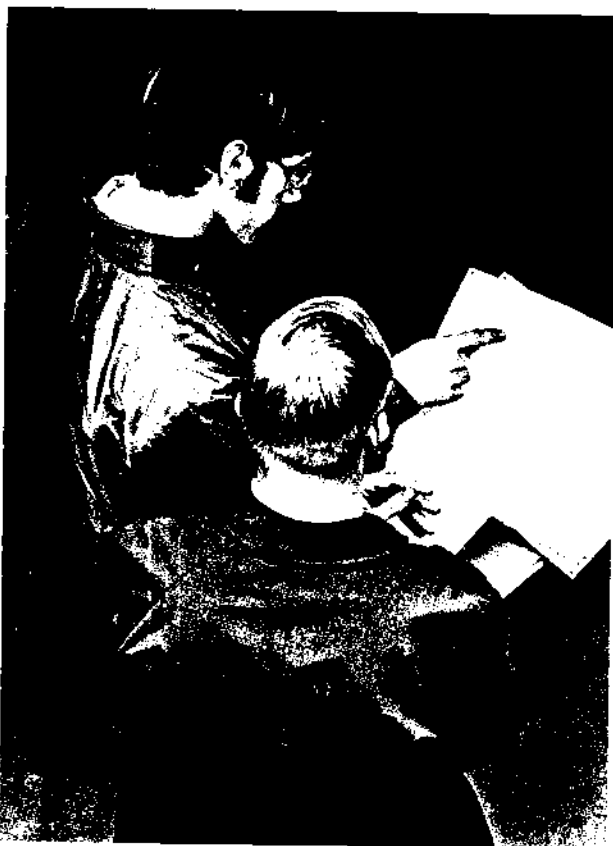
597q-x SEMINAR IN COMMUNITY COLLEGE  
TEACHING (2 ea)

597y,z PRACTICUM IN COMMUNITY COLLEGE  
TEACHING (10 ea)

599 THESIS (6-12)

648 PROFESSIONAL INTERNSHIP IN SCHOOL  
PSYCHOLOGY (1-3)

Prerequisites: master's degree in psychology or school psychology, and permission of department. An academic year of college supervised work during the first year in professional school psychology; this course and two years of experience required for State Standard Certificate in school psychology.



## SOCIOLOGY / ANTHROPOLOGY

*Professors:* Anastasio, Mazur, Taylor.

*Associate Professors:* Call (Chairman), Bosch, Harris.

*Assistant Professors:* Drake, Grabert, Rothbart, Stephen Thomas.

*Lecturers:* Allen, Gossman, Jacobs, Kamau, Tweddell, Wasson.

### TEACHER EDUCATION

*Major* Elementary 45 credits

- Two courses from: Soc/Anth 200, 201, 202
- One course from: Soc/Anth 370, 392
- Two courses from: Soc/Anth 361, 362, 363, 364, 451, 462, 463
- Electives under departmental advisement

(Note: no major is offered in secondary education.)

*Minor* 25 credits

- Two courses from Soc/Anth 200, 201, 202
- Electives under departmental advisement

**ARTS AND SCIENCES***Major* 55 credits

- Two courses from Soc/Anth 200, 201, 202
- Soc/Anth 370, 375, 392
- One course from Soc/Anth 361, 362, 363, 364, 451, 462, 463
- Electives under departmental advisement
- Supporting course: Psych 340

*Minor—Sociology/Anthropology* 25 credits

- Two courses from Soc/Anth 200, 201, 202
- Electives under departmental advisement

*Minor—Linguistics* 25 credits

- Linguistics 200, 201, 301, 302, 303
- Soc/Anth 448
- Electives under departmental advisement

**DEPARTMENTAL HONORS**

In addition to the general requirements for all honors students, a sociology/anthropology major who wishes to graduate "with honors" must demonstrate a reading knowledge of a foreign language and submit a senior thesis.

**COURSES IN SOCIOLOGY/ANTHROPOLOGY****200 HUMAN EVOLUTION AND PREHISTORY (5)**

The development of man; human origins and prehistory; criteria and theories of race classification; human diffusion, contacts and problems.

**201 CULTURE AND SOCIETY (5)**

Human behavior in our own and other societies; case studies leading to development of basic concepts, problems and points of view in the study of society.

**202 PRINCIPLES OF SOCIOLOGY (5)**

Introduction to the analytical study of social phenomena.

**270 FIELD COURSE IN ARCHEOLOGY (10)**

Prerequisites: Soc/Anth 200 or 201 or equivalent; permission of instructor. On-site training in methods and techniques of archeological survey and analysis.

**297c FIELD EXPERIENCE IN THE HUMAN SERVICES (1-12)**

Prerequisite: enrollment in the New Careers Program. Two year on-the-job training to develop competence through experience; seminars.

**300 SPECIAL PROJECTS (1-3)**

Prerequisites: 10 credits in Soc/Anth and permission of instructor. Supervised reading and/or research in selected areas.

**310 THE RISE OF CIVILIZATIONS (5)**

Prerequisites: Soc/Anth 200, 201 or permission of instructor. Village agricultural societies as revealed by archeology; crystallization of village farming societies into urban civilizations in the Near East, Egypt, India, China and New World parallel developments.

**311 WORLD DEMOGRAPHY (5)**

Prerequisite: Soc/Anth 201 or 202; Math 240. Growth, distribution and composition of human population; elementary demographic techniques essential to understanding the components of population change.

**320 ECONOMIC ORGANIZATION (5)**

Prerequisite: Soc/Anth 201 or 202. Economic behavior and its relationship to the wider social context in selected areas (societies) of the world.

**330 SOCIOLOGY OF RELIGION (5)**

Prerequisite: Soc/Anth 201 or 202. Comparative study of religious thought, belief, and behavior; relationship of religious experience and institutions to other aspects of culture and society.

**340 POLITICAL ORGANIZATION (5)**

Prerequisite: Soc/Anth 201 or 202. Political structure in selected areas (and societies) of the world; the relationship between political institutions and other aspects of the social system.

**347 RACIAL AND CULTURAL MINORITIES (3)**

Prerequisite: Soc/Anth 201 or 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.

## Sociology/Anthropology

- 351 FAMILY AND KINSHIP ORGANIZATION (5)  
Prerequisite: Soc/Anth 201 or 202. Types of family systems from selected societies, with emphasis upon variation of structure and socio-psychological functions.
- 354 SOCIOLOGY OF DEVIANT BEHAVIOR (5)  
Prerequisite: Soc/Anth 201 or 202. The collective aspects of non-normative or non-conforming behavior as a product of the social system.
- 361 PEOPLES OF THE AMERICAS (5)  
Prerequisite: Soc/Anth 201 or 202. Ethnographic survey of the peoples and cultures.
- 362 PEOPLES OF ASIA (5)  
Prerequisite: Soc/Anth 201 or 202. Ethnographic survey of the peoples and cultures.
- 363 PEOPLES OF AFRICA (5)  
Prerequisite: Soc/Anth 201 or 202. Ethnographic survey of the peoples and cultures of Africa south of the Sahara.
- 364 PEOPLES OF THE PACIFIC (5)  
Prerequisite: Soc/Anth 201 or 202. Ethnographic survey of the peoples and cultures of the Pacific area.
- 366 COMMUNITY ORGANIZATION (5)  
Prerequisite: Soc/Anth 201 or 202. The nature of "community" analyzed in terms of changing demographic, institutional, and interpersonal patterns.
- 370 INTRODUCTION TO RESEARCH METHODS (5)  
Prerequisite: Soc/Anth 201 or 202. The nature of scientific theory; the development of social research; the basic methods and techniques of data gathering, processing, and analysis.
- 375 SOCIAL STATISTICS (3)  
Prerequisite: Soc/Anth 201 or 202, Math 240 or equivalent. Critical evaluation of descriptive statistical methods applied to research problems, with emphasis on measures of variability and association.
- 390 HISTORY OF SOCIAL THOUGHT (5)  
Prerequisite: 15 credits in sociology/anthropology or permission of instructor. The development of social thought in Europe and America with major emphasis upon the period following August Comte.
- 391 CONTEMPORARY SOCIAL THEORY (5)  
Prerequisite: 15 credits in sociology/anthropology or permission of instructor; Soc/Anth 390 recommended. Major contemporary theories of society and social organization.
- 392 THEORY CONSTRUCTION (5)  
Prerequisite: 15 credits in sociology/anthropology or permission of instructor. Problems of concept formation, operationization and selection of indices based upon philosophy of science and logic of inquiry.
- 396a,b,c HONORS TUTORIAL (3-5 ea)
- 397b PROBLEMS OF COMPLEX ORGANIZATIONS (1-8)  
Prerequisite: enrollment in New Careers Program. Practical and theoretical issues in the operation of human service agencies and organizations.
- 397c ANALYSIS OF RACIAL PROTEST AND DISSENT (2)  
Recent and current protests by racial minorities; goals, methods and results. Extension 1970.
- 397d CULTURAL TRADITIONS IN PRIMITIVE ART (3)  
Prerequisite: 10 credits in sociology/anthropology, or permission of department. Arts and technologies of primitive peoples as related to social organization and cultural traditions. Summer 1970.
- 400 SPECIAL PROJECTS (1-3)  
Prerequisites: 25 credits in Soc/Anth and permission of instructor. Supervised reading and/or research in selected areas.
- 402 ARCHEOLOGICAL FIELD METHODS (3)  
Prerequisite: permission of instructor. Site surveys and evaluation; mapping methods and recording of data; field-experience in excavation techniques, preservation of artifacts.
- 403 ARCHEOLOGICAL ANALYSIS AND INTERPRETATION (3)  
Prerequisite: Soc/Anth 402 or permission of instructor. Archeological laboratory methods; artifact identification, classification, measurement; map reproduction, soil and feature profiles, use of photographs and other graphic methods.
- 411 DEMOGRAPHIC ANALYSIS (3)  
Prerequisites: Soc/Anth 311, 375, or equivalents. Theory and method of population analysis; measures of mortality, fertility and migration; population forecasting techniques.
- 417 SEMINARS (3)  
417a Human Ecology  
417b Medical Anthropology  
417c Population Problems  
417d Social Interaction and Group Dynamics  
417e Sociology of Education  
417f Mental Institutions

- 417g Archeology of the Northwest  
 417j Physical Anthropology  
 417m Sociology of Law  
 417n Contemporary Social Issues  
 417p New World Archeology  
 417t Drug Dependence  
 417w Cross Cultural Perspectives on Warfare
- 425 CULTURE AND PERSONALITY (5)  
 Prerequisites: 10 credits in sociology/anthropology and 5 credits in psychology. Relevant social and psychological theories with reference to socio-cultural influence in motivation, perception, and valuation.
- 430 THEORIES OF SOCIAL CHANGE (3)  
 Prerequisite: 15 credits in sociology/anthropology or permission of instructor. Theories of change, including evolutionary, cultural, and historical; the empirical evidence on which theories are based and their utility in prediction.
- 431 SOCIAL CHANGE IN AMERICA (3)  
 Prerequisite: 10 credits in sociology/anthropology or permission of instructor. Social change in the United States since 1900; contemporary theories of social change; problems in predicting change.
- 435 SOCIAL STRATIFICATION (5)  
 Prerequisite: 15 credits in sociology/anthropology or permission of instructor. Differentiation and evaluation of groups and individuals in society; the consequences for behavior in different spheres of society.
- 439 SOCIETY, CULTURE, AND ART (3)  
 Prerequisite: 15 credits in sociology/anthropology or permission of instructor. Relationship of folk and classical arts to larger social and cultural context in selected cultures.
- 441 PUBLIC OPINION (3)  
 Prerequisite: Soc/Anth 202 or permission of instructor. Factors involved in the formation of public opinion; the role of mass media of communication and propaganda in a contemporary society.
- 446 CRIME AND DELINQUENCY (5)  
 Prerequisite: Soc/Anth 202 or permission of instructor. Definition and distribution of crime and delinquency; socio-psychological, micro-social and macro-social factors; theoretical attempts to deal with the data.
- 448 LANGUAGE IN CULTURE AND SOCIETY (5)  
 Prerequisites: Soc/Anth 201 and Linguistics 200 and 201, or permission of instructor. Language as related to semantics and world view; speech communities, processes of change in language.
- 451 LATIN AMERICAN SOCIETY (5)  
 Prerequisites: Soc/Anth 201, 202 or permission of instructor. Analysis of major institutions of Latin America; special attention to contemporary developments and dynamics of change; relationship of urbanization, agrarian reform, population increase and revolution to traditional values.
- 462 INDIANS OF THE NORTHWEST COAST (3)  
 Prerequisite: Soc/Anth 201 or 202. Tribal distributions, social organization, and ecological adjustment with emphasis on the Indians of Western Washington; problems of adjustment to the modern world.
- 463 PEOPLES AND INSTITUTIONS OF SOUTH ASIA (3)  
 Prerequisite: Soc/Anth 201 or 202. Ethnographic survey of the peoples and cultures: Pakistan to the Philippines.
- 464 PEOPLES AND INSTITUTIONS OF EAST ASIA (3)  
 Prerequisite: Soc/Anth 201 or 202. Ethnographic survey of the peoples and cultures.
- 470 RESEARCH (3-5)  
 Prerequisite: permission of instructor. Investigation of a problem through field or library research.
- 475 ADVANCED QUANTITATIVE METHODS (3)  
 Prerequisite: Soc/Anth 375 or equivalent. Experimentation and tests of significance applied to research problems.
- 481 THE CHILD IN SOCIETY (3)  
 Prerequisite: 15 credits in sociology/anthropology or permission of instructor. The nature of childhood viewed from a cross-cultural perspective.
- 482 SOCIOLOGY OF ADOLESCENCE (3)  
 Prerequisite: junior status and permission of instructor. Adolescence viewed as a socio-cultural phenomenon, through the concepts of "Adolescent Society" and "Youth Culture," with emphasis on recent research findings.
- 483 SOCIAL CHANGE AND THE MORAL ORDER IN RECENT LITERATURE (4)  
 Also offered as Eng 483 and Phil 483.
- 484-489 READING AND CONFERENCE (3-5)  
 Prerequisite: permission of instructor. The specific study topic will be determined by the instructor, in consultation with each student; a list of topics is available in the department.

## Sociology/Anthropology

- 484 Sociology  
 485 Cultural Anthropology  
 486 Archeology  
 487 Demography  
 488 Linguistics  
 489 Physical Anthropology
- 490 SEMINAR IN SOCIAL THEORY (3)  
 Prerequisite: permission of instructor. Selected problems in social and cultural theory with emphasis upon contemporary literature in the field.
- 494 TEACHING-LEARNING PROCESSES IN INTRODUCTORY SOCIOLOGY (3)  
 Prerequisites: 25 credits in sociology/anthropology and permission of instructor. Practicum as discussion leaders in Soc/Anth 202.
- 495 TEACHING-LEARNING PROCESSES IN INTRODUCTORY ANTHROPOLOGY (3)  
 Prerequisite: 25 credits in sociology/anthropology and permission of instructor. Practicum as discussion leaders in Soc/Anth 200 or 201.
- 496a,b,c HONORS TUTORIAL (3-5 ea)
- 497h SEMINAR: CONTEMPORARY INDIANS OF THE UNITED STATES (3)  
 Prerequisite: permission of instructor. Present conditions of a "vanishing race" that did not vanish; relation to Bureau of Indian Affairs, Federal and State governments and the white society. Extension, fall 1969.
- 497j COMPARATIVE SOCIOLOGY (5)  
 Prerequisites: 10 credits in sociology/anthropology or permission of instructor. Theory and method; comparative research in cross-societal institutional structures. Summer 1970.
- 497k THEORY IN CROSS-CULTURAL RESEARCH (3)  
 Prerequisite: Soc/Anth 375 or Psych 301. Processes involved in development of theory; functions of theory including the heuristic; control and observation of inference. Summer 1970.
- 501 PROBLEM-FINDING AND THEORY-BUILDING (3)  
 Intended primarily for the student of sociology. Selection of a thesis subject relevant to contemporary theory; problems of operation design for empirical research.
- 511 SEMINAR: DEMOGRAPHY (3)  
 Prerequisite: Soc/Anth 311 or equivalent, Soc/Anth 375 or equivalent, or permission of instructor. Critical review of demographic theory, methods and applications in the light of contemporary world population problems.
- 515 SEMINAR: SOCIAL INTERACTION (3)  
 Theoretical approaches, research methods and findings concerning identity, communication, task, performance, deviation, sanctioning, leadership, and other processes occurring in face-to-face and extended social interaction contexts.
- 517 SEMINAR: SOCIAL CONTROL AND DEVIANCE (3)  
 Critical review of theories and concepts of deviance: analytic and philosophic problems of attempts at programmed social control.
- 530 SEMINAR: VALUES (3)  
 How scholars characterize cultures as wholes by reference to value configurations, themes, world views or philosophies; difficulties in characterization of value systems in unself-conscious societies.
- 531 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.
- 556 STUDENTS AND THE COLLEGE ENVIRONMENT (3)  
 Prerequisites: graduate status and permission of instructor. Historical and contemporary determinants of student subculture and its relationship to faculty, college administration and society in the academic community; particular reference to residential colleges and universities.
- 570 RESEARCH (3)
- 597q-x SEMINAR IN COMMUNITY COLLEGE (2 ea)  
 Prerequisite: admission to the E.P.D.A. program in sociology.
- 597y-z PRACTICUM IN COMMUNITY COLLEGE TEACHING (10 ea)  
 Prerequisite: admission to the E.P.D.A. program in sociology.
- 599 THESIS (3)





# SPEECH

*Professors:* Solomon (Chairman), Brewster, Carlie, Gregory, Schinske.

*Associate Professors:* Hartbauer, Herbold, Napiecinski, Olmstead, Sigler, Webb.

*Assistant Professors:* Catrell, Cornelison, Radliff, Seilo, Smith, Trew, VanderYacht.

*Lecturers:* McElroy, Richardson.

*Associate in Theatre Arts:* Adams.

## TEACHER EDUCATION

*Major—General Classroom* Elementary 45 credits

- Speech 130, 203, 319, 330, 331 or 433
- Speech 354, 355, 357, 373, 430
- Electives under departmental advisement

*Major—Speech Pathology & Audiology* 45 credits

- Speech 203, 352, 354, 355, 356, 357, 361, 373, 454, 455, 461
- Seven credits in clinical practice
- Electives under departmental advisement
- Directed teaching in the public schools under the supervision of a speech therapist. This experience requires elementary classroom teaching as a prerequisite.

The American Speech and Hearing Association recommendation for certification of speech therapists includes a minimum of 90 quarter hours preparation. Such preparation would extend into the fifth year or graduate degree program. Consult the department for details.

*Major Secondary* 45 credits

- Speech 130, 202, 205 or 486, 236, 236a, 319, 402
- Speech 332, 337, 350, 485
- Electives under departmental advisement

*Minor* 25 credits

- Speech 130, 205 or 486, 236, 319, 337, 402, 485
- Electives under departmental advisement

*Interdisciplinary Major Concentration* 80 credits

(Satisfies both major and minor and leads to teaching competency in both speech and English.)

*Speech* 40 credits

- Speech 130, 202, 205 (or 4 credits in 206 or 486), 235, 319, 332, 337
- Speech 340 (or Journalism 340 or 406), 350
- Speech 405 (or 204 or 307), 485
- One course from: Speech 402, 407, 480, 481, 483, 490, 491
- One course from: Speech 424, 425, 426, 427a,b,c

*English* 40 credits

- English 261, 263
- Two courses from English 321-326 series
- Two courses from English 331, 332, 333
- English 343, 386, 390, 405a or 405b, 496
- Electives in English under departmental advisement

## ARTS AND SCIENCES

*Major* 50 credits

- Common Core: Speech 130, 340, 350
- Two courses from General Speech
- Specialization of 20 credits from one of the major areas:
  - Rhetoric and Public Address
  - Speech Pathology and Audiology
  - Theatre and Dramatic Arts
- Electives under departmental advisement

## Speech

### Minor 25 credits

- Speech 130, 340, 350
- Electives under advisement from the above three areas

### GRADUATE STUDY

For concentrations in speech or speech pathology and audiology leading to the Master of Education or Master of Arts degree, see *Graduate Bulletin*.

### COURSES IN SPEECH

Courses in the Department of Speech cover a range of subject matter specializations. For ready reference, courses may be classified as follows:

#### GENERAL EDUCATION—100 and 301

*GENERAL SPEECH*—203, 303, 319, 345, 346, 350, 373, 419, 478, 484, 485, 501, 502, 585, 599

*RHETORIC AND PUBLIC ADDRESS*—202, 204, 205, 206, 240, 241, 307, 340, 341, 400, 401, 402, 404, 405, 407, 441, 480, 481, 482, 483, 486, 487, 488, 490, 491, 500, 505, 507, 540, 541, 595

*SPEECH PATHOLOGY AND AUDIOLOGY* 352, 354, 355, 356, 357, 358, 359, 360, 361, 400, 452, 454, 455, 456, 461, 462, 463, 500, 550, 551, 552, 553, 554, 557, 558, 559, 560, 561, 562, 563, 564, 573, 574

*THEATRE AND DRAMATIC ARTS* 130, 230, 231, 232, 235, 236, 236a, 236b, 237, 238, 310, 320, 325, 330, 331, 332, 333, 335, 336, 337, 338, 385, 400, 410, 420, 421, 422, 423, 424, 425, 426, 427a, 427b, 427c, 430, 431, 432, 433, 435, 436, 437, 438, 439, 500, 511, 527a, 527b, 527c, 527d, 527e, 528, 530, 537, 538, 539

#### 100 FUNDAMENTALS OF SPEECH (3)

Functional approach to effective communication; application of principles to practical problems of speech. Teacher education sophomores (or above) needing the general education requirement are advised to take Speech 301.

#### 130 INTRODUCTION TO THE THEATRE (3)

Appreciation and overview of the art of theatre.

#### 202 PARLIAMENTARY LAW (1)

Parliamentary principles and procedures.

#### 203 VOICE AND ARTICULATION IMPROVEMENT (3)

Background on the speaking process; theory and practice designed to improve articulation, projection, and voice quality. (See Speech Office for Exemption Test.)

#### 204 DISCUSSION AND CONFERENCE (3)

Fundamentals of effective participation in small problem-solving groups with topics of current interest.

#### 205 ARGUMENTATION AND DEBATE (4)

Application of principles of reasoned discourse to public discussion of controversial issues; the theory of debate.

#### 206 INTERCOLLEGIATE FORENSICS (1-3)

Impromptu, extempore, and after-dinner speaking; oratory, debate, and other phases of forensics. A maximum of 6 credits may be earned in intercollegiate forensics.

#### 230, 231, 232 THEATRE THEORY AND PRODUCTION (2 ea)

Instruction and experience in all aspects of theatre organization and production. A maximum of 6 credits may be earned.

#### 235 DESIGN FOR THE STAGE (3)

Aesthetic principles common to all contributory arts of the theatre; practical problems in scenic and costume design.

#### 236 INTRODUCTION TO STAGECRAFT AND LIGHTING (3)

Basic theory of planning, drafting, construction, and rigging of scenery and lighting.

#### 236a STAGECRAFT LABORATORY (2)

Practical experiences in scenery construction, painting, handling, and rigging; scene shop assignment on one production, backstage on a second.

#### 236b STAGE LIGHTING LABORATORY (2)

Practical experience in planning, handling, and rigging stage lighting and special effects; assignments on two major productions.

#### 237 STAGE MAKE-UP (2)

Theory and practice of applying make-up for the stage.

- 238 STAGE COSTUMING (3)  
Prerequisite: Speech 235 or permission. Costume design and execution; specific emphasis on draping and rudimentary flat pattern techniques.
- 240 INTRODUCTION TO BROADCASTING (3)  
Theory and technique of basic broadcast procedures; use of recording and transmitting equipment; fundamentals of broadcast speech; contemporary broadcast facilities and practice.
- 241 BROADCAST COMMUNICATION I (3)  
Prerequisite or concurrent: Speech 240, or permission. Laboratory practice in applying communication skills to broadcast media; gathering, preparation, and delivery of news.
- 301 SPEECH FOR THE TEACHER (3)  
Open only to teacher education students without Speech 100. Theory and practice, when applicable, in discussion, oral interpretation, public speaking, speech science, theatre.
- 303 VOICE IMPROVEMENT FOR PUBLIC PERFORMANCE (3)  
Advanced training of the speaking voice for professional use.
- 307 THEORIES OF COMMUNICATION (4)  
Theory and process; contributions of social sciences to communication theory; patterns of communication behavior.
- 310 INTRODUCTION TO HISTORY OF THE THEATRE (5)  
Development of theatre arts from primitive origins to the present.
- 319 ORAL INTERPRETATION (3)  
Art and techniques of oral interpretation as method of literary criticism and means of communicating total meaning of a literary work to an audience.
- 320 SHAKESPEARE (3)  
Survey of principal plays. Also offered as English 343.
- 325 REPRESENTATIVE PLAYS (5)  
Introductory survey of historically significant and stage-worthy plays from all periods.
- 330 INTRODUCTION TO CHILD DRAMA (3)  
Prerequisite: Speech 130, or permission of instructor. Children's theatre, creative dramatics, puppetry; history, value, philosophy and literature of child drama; its uses in theatre, speech therapy, education and recreation.
- 331 PUPPETRY (3)  
Prerequisite: Speech 330 or permission of instructor. 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.
- 332 ACTING I (3)  
Prerequisite: Speech 130 or permission of instructor. Fundamentals of acting; emphasis on improvisation, pantomime, and basic stage movement.
- 333 ACTING II (3)  
Prerequisite: Speech 332. Major exercise in body and voice applied to the realistic convention of acting.
- 335 ADVANCED STAGECRAFT (3)  
Prerequisite: Speech 236. Technical analysis of scripts; special effects and properties; laboratory work on productions.
- 336 ADVANCED STAGE LIGHTING (3)  
Prerequisite: Speech 236b. Technical and artistic study of light and color as they affect other theatre arts and contribute to artistic design; laboratory work in production.
- 337 PLAY DIRECTION I (3)  
Theory and practice of stage direction including selection of play, casting and blocking, and production of a scene for public performance.
- 338 HISTORIC COSTUME FOR THE STAGE (3)  
Evolution of fashion from ancient Greece through the 19th century with reference to contemporary representation.
- 340 INTRODUCTION TO MASS COMMUNICATION MEDIA (3)  
Development of mass media; their role in society; freedom of information; laws of libel; the communication process; audiences.
- 341 BROADCAST COMMUNICATION II (3)  
Prerequisites: Speech 241, 340, or permission of instructor. Laboratory practice in production of news and public service programs.
- 345 THE ART OF FILM (3)  
Film as distinguished from but related to other art forms; film aesthetics; technology.

## Speech

- 346 **FILM GENRE (3)**  
Prerequisite: Speech 345. Distinctive elements of melodrama, comedy, serious drama, documentary, fantasy.
- 350 **SPEECH SCIENCE (4)**  
Overview of basic theories underlying verbal communication: physical, physiological, phonetic, psychological, and semantic bases of speech; practice in phonetic transcription.
- 352 **ANATOMY AND PHYSIOLOGY OF SPEECH MECHANISMS (3)**  
Structure and function of organs concerned with audition, cerebration, respiration, phonation, resonance, articulation.
- 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.
- 355 **INTRODUCTION TO SPEECH CORRECTION (3)**  
Survey of speech disorders; identification, classification, and the fundamentals of therapy.
- 356 **ARTICULATION DISORDERS AND THERAPY (3)**  
Prerequisites: Speech 352, 355. Symptomatology, etiology, and therapy for articulation disorders.
- 357 **OBSERVATION OF SPEECH AND HEARING THERAPY (1)**  
Prerequisite: Speech 355 or concurrent. Directed observation and evaluation of the methods, materials, and techniques used in treating speech and hearing cases.
- 358 **INTRODUCTION TO CLINICAL PRACTICE IN SPEECH THERAPY (3)**  
Prerequisites: Speech 350, 352, 354, 355, 356, 357, 373. Supervised clinical practicum in therapy for the more prevalent voice and articulation disorders.
- 359, 360 **CLINICAL PRACTICE IN SPEECH THERAPY (2 ea)**  
Continuation of Speech 358.
- 361 **DELAYED SPEECH AND LANGUAGE (3)**  
Prerequisites: 354, 355, 357. Etiologies of delayed speech and language syndrome; diagnosis and treatment procedures.
- 373 **PHONETICS (3)**  
Training in recognition and production of sounds of spoken English through use of the International Phonetic Alphabet.
- 385 **CREATIVE DRAMA FOR THE ELEMENTARY TEACHER (3)**  
Principles of drama and methods of using creative drama for children in the classroom; lectures, demonstrations, laboratory. Not open to those with credit in Speech 430 or 431.
- 400 **SPECIAL PROBLEMS (1-3)**  
Prerequisite: permission of instructor. Investigation of special problems in the fields of speech.
- 401 **SPEECH WRITING (3)**  
Prerequisite: Speech 100 or 301. Manuscript preparation for selected audiences; theory and practice.
- 402 **ADVANCED PUBLIC SPEAKING (3)**  
Prerequisite: Speech 100 or 301. Practical application of communication theory to contemporary issues.
- 404 **DISCUSSION LEADERSHIP (4)**  
Prerequisite: Speech 204 or permission. Principles, concepts and procedures of leadership in formal and informal meetings.
- 405 **PERSUASION (4)**  
Principles that influence belief and action of audiences; application of principles.
- 407 **INTERPERSONAL COMMUNICATION (4)**  
Communication facilitation and breakdown; training and experience in sensitivity, listening, and communicative relationships within the small group setting.
- 410 **TWENTIETH CENTURY THEATRE (3)**  
Prerequisite: Speech 310. Significant practices, trends, and figures in contemporary European and American theatres.
- 419 **ADVANCED ORAL INTERPRETATION (3)**  
Prerequisite: Speech 319. Readings in the scholarship of oral interpretation and related literature in aesthetics and literary criticism; laboratory work in Readers Theatre.
- 420 **STUDIES IN SHAKESPEARE (3)**  
Prerequisite: English 343 or Speech 320. Seminar in selected plays. Also offered as English 443.

## 421, 422, 423 DEVELOPMENT OF THE ENGLISH DRAMA (3 ea)

Historical and critical survey of the English drama, with emphasis upon the greater writers (exclusive of Shakespeare); medieval and Elizabethan-Jacobean; 1660-1900; 20th century. (Also offered as English 461, 462, 463.)

## 424 MODERN AMERICAN DRAMA (3)

American plays and playwrights from 1920 to 1950.

## 425 MODERN EUROPEAN DRAMA (3)

Ibsen and Strindberg as the founders of the modern drama; selected plays from 1850 to 1920.

## 426 CONTEMPORARY DRAMA (3)

Selected plays and significant trends in contemporary European and American drama.

## 427a,b,c MAJOR DRAMATISTS (3 ea)

Prerequisite: 6 credits in theatre literature. In depth treatment of playwrights influential in development of drama.

427a European

427b English

427c American

## 430 CREATIVE DRAMATICS (3)

Prerequisite: Speech 330. Developing original dramatizations with children; the observation of children's classes in creative dramatics; story selection, story telling, and story dramatization.

## 431 CREATIVE DRAMATICS LEADERSHIP (3)

Prerequisite: Speech 430. Advanced techniques; supervised teaching.

## 432 PERIOD STYLES IN ACTING (3)

Prerequisite: Speech 333. Problems in playing the classical repertoire; emphasis on Shakespearean tragedy and Restoration comedy.

## 433 CHILDREN'S THEATRE (3)

Prerequisite: Speech 330. Plays for children; play selection, play direction, and play production.

## 435 SCENIC DESIGN (3)

Design for the modern theatre; emphasis on interpretation of the play through design; practical designs and techniques.

## 436 TOURING THEATRE (3)

Prerequisite: permission of instructor. Theory and principles of touring technique and problems; participation in college theatre touring program.

## 437 PLAY DIRECTION II (3)

Prerequisite: Speech 337. Producing and directing a one act play for public performance; special emphasis on working with the actor.

## 438 PLAY DIRECTION III (3)

Prerequisite: Speech 437. Producing and directing a full length play for public performance; emphasis on problems in high school, community and professional theatres.

## 439 PROFESSIONAL TECHNIQUES IN THEATRE ARTS (2-6)

Theoretical instruction and correlated laboratory experience in acting, directing, stage design, costuming, business management.

## 441 PRODUCING AND DIRECTING THE BROADCAST PROGRAM (4)

Prerequisite: Speech 341 or permission of instructor. Production and direction for radio and closed circuit educational television; preparation and execution of scripts; studio practice with radio and television equipment.

## 452 DIAGNOSTIC METHODS IN SPEECH AND LANGUAGE PATHOLOGY (3)

Prerequisites: Speech 354, 358, 359, 361. Methods, procedures, techniques, and instruments; supervised practice; planning therapy.

## 454 INTRODUCTION TO STUTTERING: THEORY AND THERAPY (3)

Prerequisites: Speech 355, 357. Characteristics of stuttering behavior; current theories of etiology of stuttering; principles and practices of therapy; cluttering as a related disorder.

## 455 SPEECH THERAPY IN THE PUBLIC SCHOOLS (3)

Prerequisites: Speech 355 and 357. Role of the clinician in organizing and directing a speech therapy program.

## 456 ORGANIC SPEECH DISORDERS (3)

Prerequisites: Speech 355 and 357. Symptomatology, etiology, and therapy for cerebral palsy, cleft palate, aphasia, dysarthria, and laryngectomy.

## 461 INTRODUCTION TO AUDIOLOGY (5)

Structure and function of auditory mechanism; basic acoustics as related to determination of hearing level; psychophysics of audition; nature of hearing loss.

## Speech

- 462 AUDIOMETRIC TESTING (3)  
Prerequisite: Speech 461. Theory and application of pure tone and speech audiometry to evaluation of hearing function; implications for rehabilitation.
- 463 AURAL REHABILITATION (5)  
Prerequisite: Speech 461. Principles, procedures, and techniques of hearing aid evaluation, auditory training; speech reading and language for the aurally handicapped.
- 478 SEMANTICS (3)  
Functions of language; ways in which language is used; its relationship to thought and action.
- 480 THE HISTORY AND CRITICISM OF AMERICAN PUBLIC ADDRESS: 1740-1890 (3)  
Prerequisite: some background in American history. Relationship of prominent speakers to American political, social and intellectual life; from Jonathon Edwards through Booker T. Washington.
- 481 HISTORY AND CRITICISM OF AMERICAN PUBLIC ADDRESS: 1890-PRESENT (3)  
Prerequisite: some background in American history. Relationship of prominent speakers to American political, social, and intellectual life; William Jennings Bryan to contemporary speakers.
- 482 HISTORY AND CRITICISM OF BRITISH PUBLIC ADDRESS (3)  
Prerequisite: some background in British history. Examination and analysis of representative speeches of selected British orators; 1700-present.
- 483 HISTORY AND CRITICISM OF CANADIAN PUBLIC ADDRESS (3)  
Critical examination of speakers and speeches concerned with significant issues—emphasizing those involving the U.S.A.—from 1800 to the present.
- 484 SPEECH FOR THE ELEMENTARY TEACHER (3)  
Open only to non-majors. Methods of utilization of the speech arts in the elementary classroom.
- 485 TEACHING SPEECH IN THE SENIOR HIGH SCHOOL (3)  
Prerequisite: 15 credits in speech, or permission of instructor. Materials and methods useful in teaching drama, interpretation, and public address.
- 486 DIRECTING THE FORENSIC PROGRAM (4)  
Directing a forensics program, including a tournament; criticizing debates, orations, etc.; budgeting funds.
- 487 DISCUSSION TECHNIQUES FOR TEACHERS AND ADMINISTRATORS (3)  
Cultivation of attitudes and skills to aid teachers and administrators to engage in and lead discussions with greater competency.
- 488 PUBLIC SPEAKING FOR TEACHERS AND ADMINISTRATORS (3)  
Development of additional skill in meeting speech situations in the field of education; delivery, composition, audience analysis, and interests.
- 490 RHETORICAL THEORY AND PRACTICE—GREEK AND ROMAN (4)  
Rhetorical principles and practices from the early Greek to the fall of the Roman Empire.
- 491 RHETORICAL THEORY AND PRACTICE—MIEVEAL THROUGH MODERN (4)  
Rhetorical principles and practices from the sixth to the twentieth centuries.
- 497a INTERPERSONAL COMMUNICATION (3)  
Group discussion with sensitivity training on behavioral and experiential level, Fall 1969.
- 497b SIGN LANGUAGE FOR THE DEAF (2)  
Theory and practice in use of the manual language—methods for communicating with the deaf. Extension 1970.
- 500 SPECIAL PROBLEMS (1-3)  
Prerequisite: permission of instructor. For advanced students who wish to investigate special problems.
- 501 INTRODUCTION TO RESEARCH IN SPEECH (4)  
Interpretation and evaluation of research outcomes; purpose and design of various methods, with particular emphasis on historical and descriptive methods.
- 502 BEHAVIORAL RESEARCH IN SPEECH (4)  
Introduction to empirical research; basic methodology applied to current research in communication and speech.
- 505 SEMINAR IN PERSUASION (3)  
Prerequisite: Speech 405. Readings in persuasion; logical and psychological modes of proof.
- 507 SEMINAR IN COMMUNICATION (4)  
Interpersonal communication in both group and dyadic situations; communication choice, social context, channels and nonverbal interaction.

## 511 SEMINAR IN DRAMATIC THEORY AND CRITICISM (4)

Prerequisite: undergraduate major in speech or permission of instructor. Evaluating concepts, principles and issues dominant in main periods of dramaturgical thought.

## 527 SEMINAR IN MAJOR DRAMATISTS AND DRAMATIC PERIODS (3)

Prerequisite: 6 credits in dramatic literature. Intensive study of life and works of playwright or period selected.

527a Ibsen

527b Strindberg

527c Shaw

527d The Dramatic Literature of Greece

527e The Drama of the French Neo-Classical Period

## 528 GREAT PLAYS FOR THE SECONDARY SCHOOL STAGE (3)

Finest plays of past and present from point of view of production on secondary school stage.

## 530 SEMINAR IN CHILD DRAMA (3)

Prerequisite: Speech 430 and 433. Critical review of theories and research findings in children's theatre and creative dramatics; individual artistic or research projects.

## 537 SEMINAR IN PLAY DIRECTION (4)

Prerequisite: Speech 438. Theories of play direction beginning with the emergence of the director in the work of the Duke of Saxe-Meiningen and including Stanislavsky, Craig, Meyerhold, Brecht, Reinhardt, Littlewood, Artaud, and Grotowski.

## 538 PLAY ANALYSIS AND THEATRE PRODUCTION PLANNING (3)

Theories of play analysis and theatre production organization from point of view of the play director preparing to produce a play.

## 539 INTERNSHIP IN THEATRE ARTS (3)

Prerequisite: permission of instructor. Experimentation leading to development of new methods and materials in the teaching and practice of theatre; supervised assistance in curricular and co-curricular programs in theatre.

## 540 SEMINAR IN MASS COMMUNICATIONS (3)

Prerequisite: undergraduate major in speech, or permission of instructor. Critical issues in the development, structure, and function of mass communications in a democratic society; responsibilities, means of control, and regulation.

## 541 EDUCATIONAL BROADCASTING (3)

Prerequisite: Speech 340 or permission of instructor. Educational use of radio and television.

## 550 VOICE DISORDERS AND THERAPY (3)

Prerequisite: Speech 352, 355. Pathological and psychological states affecting voice production; functional psychogenic and organic problems.

## 551 SEMINAR IN SPEECH DISORDERS: THEORY AND THERAPY (3)

Prerequisite: experience as a speech and/or hearing therapist and permission of instructor. Analysis and evaluation of recent concepts, issues, techniques, and methods applicable to speech disorders.

## 552 ADVANCED DIAGNOSTIC METHODS IN SPEECH AND LANGUAGE PATHOLOGY (3)

Prerequisite: Speech 452. Specialized methods, tests, and instruments used in diagnosis of more complex morphological and neuropathological disorders; supervised practice.

## 553 SEMINAR: LANGUAGE DISORDERS (3)

Prerequisites: graduate status, Speech 354, 361. Abnormal speech and language acquisition and development with special focus on current research findings; communication disruption as result of brain injury, mental retardation, emotional disturbances and other organic and functional conditions.

## 554 SEMINAR: STUTTERING (3)

Prerequisite: graduate status, Speech 454. Critical analysis of recent research findings relating to stuttering and cluttering disorders; chief rationale for therapy and evaluation of therapy procedures and results.

## 556 APHASIA AND KINDRED DISORDERS (3)

Prerequisites: Speech 355, 357, 456. Diagnosis and treatment of language impaired adults with specific brain injury patterns; aphasia, apraxia, dysarthria, etc.

## 557 INTERNSHIP IN SPEECH PATHOLOGY AND THERAPY (3)

Prerequisites: experience as a speech therapist and permission of instructor. Experimentation with new methods and materials, and clinical implementation of current practices; planning, directing, and supervising speech clinicians.

## 558 ADVANCED CLINICAL PRACTICE IN SPEECH THERAPY (3)

Prerequisite: Speech 360. Supervised clinical practicum dealing with more complex cases.

## 559, 560 ADVANCED CLINICAL PRACTICE IN SPEECH THERAPY (2 ea)

Prerequisite: Speech 360. Supervised clinical practicum dealing with more complex cases.

## Speech

- 561 SEMINAR IN AUDIOLOGY (3)  
Prerequisite: graduate status, Speech 461. Study of research in basic auditory correlates: auditory process, psychoacoustics, psychophysical methods, and the psychological manifestations.
- 562 ADVANCED AUDIOMETRY (3)  
Prerequisite: graduate status, Speech 462. Theory and application of advanced diagnostic audiometric procedures.
- 563 SEMINAR IN AURAL REHABILITATION (3)  
Prerequisite: graduate status, Speech 463. Research in the training of the hearing handicapped.
- 564 CLINICAL PRACTICE IN AURAL REHABILITATION (2)  
Prerequisites: Speech 358, 463. Supervised practice in rehabilitation of the hard of hearing.
- 573 ADVANCED PHONETICS (3)  
Prerequisite: Speech 373. The phonetic structure and symbolization of principal American and other English dialects and certain European languages.
- 574 EXPERIMENTAL PHONETICS (3)  
Prerequisite: Speech 573. Study of laboratory investigations of phonetic problems; analysis and measurement of variables in speech production.
- 585 INTERNSHIP IN THE TEACHING OF COLLEGE SPEECH (3)
- 595 SEMINAR IN RHETORICAL CRITICISM (4)  
Prerequisite: graduate status and Speech 501. Literature of rhetorical criticism and the application of rhetorical theory so gleaned in the criticism of significant speeches.
- 597a PARENT COUNSELING: THEORY AND PRACTICE (5)  
Readings, discussion, and supervised practice of counseling with parents of speech and hearing handicapped children.
- 599 THESIS (6-9)





# TECHNOLOGY

*Professors:* Porter (Chairman), Schwalm.

*Associate Professors:* Black, Channer, Fowler, Olsen, Southcott.

*Assistant Professors:* Flanders, Hill, Jasnosz, Moon, Seal.

*Instructor:* See.

## TEACHER EDUCATION (Industrial Arts)

*Major* Secondary 46 credits

- Technology 101, 210, 214, 491, 493
- 17 credits from Tech 160, 223, 225, 231, 240, 270, 280, 333
- Electives under advisement from one or two of the following technologies:
  - (a) Visual Communications Technology (industrial graphics, graphic arts, photography, industrial design, VICOED program)
  - (b) Materials and Processes Technology (woods, metals, plastics, crafts)
  - (c) Mechanical and Electrical Technology (electricity, electronics, power mechanics)

*Major Concentration* Secondary 70 credits

(Satisfies requirements for both a major and a minor.)

- Tech 101, 210, 214, 491, 493
- 17 credits from Tech 160, 223, 225, 231, 240, 270, 280, 333

- 19 credits in supporting courses selected under departmental advisement from courses such as Art 101, 102, 230, 240, 270; Chemistry 115, 121, 122, 123, 208, 251; Economics 201, 202, 325; Home Economics 334, 370, 375, 476; Math 220 (or 122), 240; Computer Science 270; Physics 132, 133
- 20 credits from one or two of the following technologies:
  - (a) Visual Communications (industrial graphics, graphic arts, photography, industrial design, VICOED program)
  - (b) Materials and Processes (woods, metals, plastics, crafts)
  - (c) Mechanical and Electrical (electricity, electronics, power mechanics)

*Minor* 25 credits

Courses to be selected under departmental advisement.

### Teaching Competence

Recommendation for teaching competence normally requires completion of the major.

## ARTS AND SCIENCES (Industrial Technology)

### BACHELOR OF ARTS DEGREE

*Major* 50 credits plus supporting courses

- 25 credits in lower division technology courses
- 25 upper division credits in technology including 20 credits in one of the following technologies:
  - (a) Visual Communications (industrial graphics, graphic arts, photography, VICOED program)
  - (b) Materials and Processes (woods, metals, plastics)
  - (c) Mechanical and Electrical (electricity, electronics, power mechanics)
  - (d) Industrial Design
- Supporting courses: Chem 115 or 121, Physics 131, Math 220 (or 122), Computer Science 270, Economics 201, 325

## Technology

### Minor 25 credits

Courses to be selected under departmental advisement.

### BACHELOR OF SCIENCE DEGREE

#### Major Concentration 110 credits

(Satisfies both a major and a minor.)

- At least 25 credits in lower division technology courses.
- 46 upper division credits in technology including 20 credits in one of the following technologies:
  - (a) Visual Communications (industrial graphics, graphic arts, photography, VICOED program)
  - (b) Materials and Processes (woods, metals, plastics)
  - (c) Mechanical and Electrical (electricity, electronics, power mechanics)
  - (d) Industrial Design
- Supporting courses: Chem 115 and 251 (or 121, 122, 123); Physics 131; Math 220 or 122, 240; Computer Science 270; Economics 201, 202, 325

### Minor 25 credits

Courses selected under departmental advisement.

#### Visual Communications (VICOED) Concentration

See Interdepartmental Programs, page 205, for specifications.

### GRADUATE STUDY

For a concentration in industrial arts leading to the degree of Master of Education, see *Graduate Bulletin*.

## COURSES IN TECHNOLOGY

Courses in technology cover a wide range of subject areas. For ready reference, courses may be classified as follows:

*Visual Communications Technology*—160, 210, 211, 212, 240, 260, 265, 310, 312, 313, 340, 341, 362, 363, 413, 419, 440, 441, 447, 448, 449, 460, 469, 540, 541, 542, 543, 544

*Materials and Processing Technology*—223, 225, 231, 303, 320, 324, 325, 331, 333, 417a,c, 420, 421, 422, 425, 429, 433, 434, 439

*Mechanical and Electrical Technology*—270, 280, 281, 370, 371, 372, 375, 379, 381, 382, 477, 478, 479, 489

*Industrial Design*—214, 215, 315, 316, 317, 416

*Driver Education*—480, 481, 482, 483

*General and Professional Courses*—101, 201, 301, 304, 350, 391, 394, 400, 417b, 459, 491, 492, 493, 495, 496, 590, 591, 594, 595

#### 101 ORIENTATION TO INDUSTRIAL ARTS AND TECHNOLOGY (2)

The areas of technology, program of studies, and career opportunities.

#### 160 TECHNICAL FUNDAMENTALS OF PHOTOGRAPHY (2)

Basic technical concepts.

#### 201 WEAVING DESIGN (3)

Weaving design taught through the use of a variety of looms and materials.

#### 210 INDUSTRIAL GRAPHICS (3)

Experience in expressing ideas through visual communication utilizing the principles and techniques of industrial graphics; technical freehand sketching, multi-view projections, supplemental views, and pictorial representations.

#### 211 INDUSTRIAL GRAPHICS (3)

Prerequisite: Tech 210. Continuation of drafting techniques, emphasizing working drawings of machine parts, double auxiliary views, fasteners, developments, pictorial representations, and duplication methods.

#### 212 GRAPHIC ANALYSIS (3)

Prerequisite: Tech 210. Relationship of points, lines, and planes in space with application to vector, motion, and mechanical analysis.

- 214 FUNDAMENTALS OF PRODUCT DESIGN (3)  
Basic concepts in design and involvement in the design process.
- 215 EVOLUTION IN INDUSTRIAL DESIGN (3)  
Interrelationship with the arts, sciences, and society; designers, their philosophies and resultant impact on culture.
- 223 GENERAL METALS (5)  
Introduction to metals, processing operations: forming, casting and molding, shaping—cutting; assembly and auxiliary operations.
- 225 INDUSTRIAL MATERIALS (3)  
Materials of industrial technology; introduction to the science of materials.
- 231 GENERAL WOODS (3)  
Wood as a medium of design; construction experiences in the common tools and processes.
- 240 VISUAL COMMUNICATION AND GRAPHIC ARTS (5)  
Techniques and methods of the graphic arts; their relation to more effective visual communication; survey of the visual communication field.
- 260 GENERAL PHOTOGRAPHY (3)  
Prerequisite: Tech 160 or permission of instructor. Application of photographic technique.
- 265 FUNDAMENTALS OF CINEMATOGRAPHY (3)  
Prerequisite: Tech 160 or permission of instructor. Planning, photographing, and editing motion pictures; producing single concept films.
- 270 APPLIED ELECTRICITY (3)  
Principles and concepts of electricity; laboratory experiences with electrical components, circuits, and measuring equipment.
- 280 POWER MECHANICS (3)  
Design principles of major power sources; techniques of torque and power measurement.
- 281 POWER TRANSMISSION (3)  
Principles and practice of mechanical and fluid transmission of power.
- 301 CRAFTS (3)  
Design and construction in a variety of craft materials.
- 303 FINISH PRINCIPLES AND PRACTICE (3)  
Introduction to modern finishing materials and processes.
- 304 JEWELRY DESIGN (3)  
Prerequisite: Art 102, 130, 195 or Tech 214. Design and construction of jewelry in various metals with emphasis on silver; the setting of stones.
- 310 TECHNICAL ILLUSTRATION (3)  
Prerequisite: Tech 210. Translation of orthographic drawing into three-dimensional drawings through the use of isometric, dimetric, trimetric, perspective and schematic drafting techniques.
- 312 ADVANCED DRAFTING (3)  
Prerequisite: Tech 211. Problems in machine and pattern drafting, pictorials and architecture.
- 313 ARCHITECTURAL DESIGN AND HOUSE PLANNING (3)  
Prerequisite: Tech 210. Historical development; considerations of design; analysis of needs; utilization of sites, preparation of plans.
- 315 INDUSTRIAL DESIGN PROCESSES (3)  
Prerequisite: Tech 210. Design as a process of problem solving; problem recognition, definition resolution, and presentation; analysis of market and motivational research techniques.
- 316 DIMENSIONAL ANALYSIS IN INDUSTRIAL DESIGN (3)  
Prerequisite: Tech 315. Application of multi-view projections, pictorials, mock-ups, and prototypes to the resolution of a design problem.
- 317 PRODUCT SYNTHESIS IN INDUSTRIAL DESIGN (3)  
Prerequisite: Tech 316. 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.
- 320 ADVANCED METALS (3)  
Prerequisite: Tech 223. Continuation of general metals with emphasis on the machine tool and welding technologies.
- 324 STRENGTH OF MATERIALS (3)  
Stress and strain in the design of members for strength.
- 325 INDUSTRIAL METALLURGY (4)  
Important metals of industrial technology; properties of engineering alloys; testing and inspection; microscopic examinations.

## Technology

- 331 **ADVANCED WOODS (3)**  
Prerequisite: Tech 231. Skill and development in the more complex woodworking processes with related information on the woodworking industry.
- 333 **PLASTICS (3)**  
Prerequisite: Tech 231 recommended. The basic materials, products, and processes of the plastics industry.
- 340 **GENERAL GRAPHIC ARTS I (3)**  
Prerequisites: Tech 240 and concurrent enrollment in Art 371. Graphic arts technology as related to reproduction of graphic design techniques.
- 341 **GENERAL GRAPHIC ARTS II (5)**  
Prerequisite: Tech 340 or permission of instructor. Techniques, processes, and products of the graphic arts industry; designing, reproducing, presenting, and managing graphic materials.
- 350 **INDUSTRIAL ARTS FOR ELEMENTARY SCHOOLS (3)**  
Experience in working with those materials and processes basic to home and industry which contribute to the elementary school curriculum.
- 362 **VISUAL COMMUNICATION PHOTOGRAPHY (3)**  
Prerequisite: Tech 260 or permission of instructor. Function of photography in visual communication; application of theory and techniques to projects.
- 363 **COLOR PHOTOGRAPHY (3)**  
Prerequisite: Tech 260 or permission of instructor. Fundamentals of color theory; techniques of producing color transparencies and prints.
- 370 **ELECTRON TUBE CIRCUITRY (4)**  
Prerequisite: Tech 270 or Physics 155 or permission of instructor. Theory and application of electron tubes in basic electronic circuits.
- 371 **SEMI-CONDUCTORS (4)**  
Prerequisite: Tech 370 or permission of instructor. Characteristics of semi-conductor devices and circuits.
- 372 **INDUSTRIAL ELECTRONICS (4)**  
Prerequisite: Tech 371 or permission of instructor. Industrial uses of electronics; electron tubes, control devices, relays, and closed loop systems.
- 375 **MOTORS AND GENERATORS (3)**  
Prerequisite: Tech 270 or permission of instructor. Theory and characteristics of motors and generators.
- 379 **VISUAL COMMUNICATION ELECTRONICS (3)**  
Prerequisite: Tech 341 or permission of instructor. Principles and applications of instrumentation, electronic systems and computer graphics technology in the communication industry.
- 381 **ADVANCED POWER MECHANICS (5)**  
Prerequisite: Tech 280 or permission of instructor. Efficiency determinants, power measurement and practical application of hydraulic and fluidic theory; operation and control of internal combustion engines.
- 382 **AUTOMOTIVE ELECTRICITY (2)**  
Prerequisite: Tech 270 or 280 or permission of instructor. Basic principles of electrical components and systems of the automobile and other engines.
- 391 **MAN AND TECHNOLOGY (3)**  
The development of technology and its impact upon man.
- 394 **INDUSTRIAL TOURS (3)**  
Visitation to selected industries of the Pacific Northwest to acquire first-hand understanding of regional industry; analysis of process, product design, and personnel problems. Summers only.
- 400 **SPECIAL PROBLEMS (1-5)**  
Prerequisite: permission of instructor; open only to technology majors. Specialized advanced study through individual instruction.
- 413 **ARCHITECTURAL PROBLEMS (3)**  
Prerequisite: Tech 313. Advanced residential planning, cost estimating; FHA standards, building codes; individual and group research.
- 416 **STRUCTURAL-AESTHETIC FACTORS IN INDUSTRIAL DESIGN (3)**  
Prerequisite: Tech 316 or permission of instructor. Tectonic principles applied to consumer products, problems related to functional and emotional factors of environmental design involving space, structure, furniture and lighting.
- 417 **SPECIAL INTEREST SEMINARS**  
417a **Woodcarving (3)**  
Prerequisite: art or industrial arts teaching experience. Techniques and tools of woodcarving; application to relief and sculpture.

- 417b Industrial Arts in the Middle School (3)  
Prerequisite: teaching experience. The place of industrial arts in the middle school; the unified arts and other curricular innovations.
- 417c Wood Sculpture and Design (3)  
Prerequisite: Tech 417a. Advanced techniques of woodcarving applied to sculpture.
- 417d Material Testing in Industrial Arts (3)  
Prerequisite: industrial arts teaching. Material science and testing; related curriculum development and activities for the secondary school.
- 419 DIRECTED RESEARCH IN DRAFTING (1-3)  
Prerequisite: Tech 211 or permission of instructor. Research problem in drafting conducted under supervision.
- 420 PHYSICAL METALLURGY (3)  
Prerequisite: Tech 325, Math 220, Chem 115 or 121 or equivalent. Metals and alloys, physical characteristics, phase diagrams, relation of physical properties to microstructure.
- 421 FERROUS METALLURGY (3)  
Prerequisite: Tech 325 or equivalent. The metal iron and its alloys.
- 425 MATERIALS SCIENCE (3)  
Prerequisites: Math 220, Chem 115 or 121 or equivalent. Properties and utilization of metals and non-metals. Relationship between properties of interest and fundamental atomic arrangements.
- 429 DIRECTED RESEARCH IN METALS (1-3)  
Prerequisites: Tech 223, 320, or permission of instructor. Selection, development, and research, under supervision, within one of the areas of metals technology.
- 433 ADVANCED PLASTICS (3)  
Prerequisite: Tech 333. Concepts of polymer science; advanced application of thermo-forming and molding processes; plastic tooling.
- 434 REINFORCED PLASTICS (3)  
Prerequisite: Tech 333. Resin and reinforcement systems; mold design and development; manufacturing processes with reinforced plastics.
- 439 DIRECTED RESEARCH IN WOODS (1-3)  
Prerequisites: Tech 231, 331, or permission of instructor. Selection, development, and research, under supervision, within one of the areas of wood technology.
- 440 GRAPHIC DESIGN (5)  
Prerequisites: Tech 341 and 362, or permission of instructor. Principles and application of effective visual communication, design, and reproduction.
- 441 GRAPHIC ARTS MANAGEMENT (5)  
Prerequisite: Tech 341 or permission of instructor. Estimating and pricing, simplified cost accounting; organization and administration of graphic arts services; production, quality and color control instruments and techniques.
- 447 PUBLICATIONS PRODUCTION (3)  
Prerequisite: concurrent enrollment in Tech 448 or permission of instructor. Experiences in design, layout, and production of publications through printed media, film, television, or other means.
- 448 VISUAL COMMUNICATION (5)  
Prerequisite: completion of the VICOED sequence or permission of instructor. Synthesis of basic concepts, models, and theories, the perceptual, social, cultural, and technological determinants of visual form, style, and content.
- 449 DIRECTED RESEARCH IN GRAPHIC ARTS (1-3)  
Prerequisite: Tech 240, 340, or permission of instructor. Selected problems in graphic arts.
- 459 DIRECTED RESEARCH IN INDUSTRIAL ARTS FOR THE ELEMENTARY SCHOOL (1-3)  
Prerequisites: Tech 350 or permission of instructor. Developing industrial arts content with emphasis on the relationship between industrial arts and the elementary school curriculum.
- 460 INDUSTRIAL PHOTOGRAPHY (3)  
Prerequisite: Tech 363 or permission of instructor. Application of photographic theory and techniques to selected problems.
- 469 DIRECTED RESEARCH IN PHOTOGRAPHY (1-3)  
Prerequisites: Tech 363 or permission of instructor. Research problems in photography chosen and conducted under supervision.
- 477 THEORY AND OPERATION OF ELECTRONIC TEST EQUIPMENT (4)  
Prerequisite: Tech 371 or permission of instructor. Theory and practice in the operation of electronic test equipment common to industrial arts electronic programs.

## Technology

478 PRACTICAL RADIO AND TELEVISION (4)  
Prerequisite: Tech 371 or permission of instructor.  
Theory of radio and television transmitters and receivers.

479 DIRECTED RESEARCH IN ELECTRICITY (1-3)  
Prerequisite: Tech 371 or permission of instructor.  
Advanced study in problems chosen and conducted under supervision.

*DRIVER EDUCATION: Tech 480, 481, 482, plus one approved elective course are required for a certificate to teach driver education in a state approved course.*

480 SAFETY EDUCATION (3)  
The cause, incidence, and effect of home, school, recreational and vocational accidents; education programs and practices to reduce accidents.

481\* BASIC DRIVER AND TRAFFIC SAFETY EDUCATION (3)  
Knowledge, attitudes and skills needed to teach driver education in the secondary school; classroom instruction and in-the-car teaching experience.

482\* ADVANCED DRIVER AND TRAFFIC SAFETY EDUCATION (3)  
Driver and traffic safety and methods of teaching in the secondary school; classroom and in-the-car teaching experience.

483\* DIRECTED RESEARCH IN DRIVER AND TRAFFIC SAFETY EDUCATION (1-3)  
A special problem in driver and traffic safety.

489 DIRECTED RESEARCH IN POWER MECHANICS (1-3)  
Prerequisite: Tech 280, 381, or permission of instructor.  
Advanced study in problems chosen and conducted under supervision.

491 HISTORY AND PHILOSOPHY OF INDUSTRIAL ARTS (2)  
Development of programs in industrial arts and industrial-vocational education; evolving philosophies, issues, and objectives.

492 FACILITIES FOR INDUSTRIAL ARTS (3)  
Prerequisite: senior standing in teacher education or permission of instructor. Planning, development and utilization of industrial arts facilities.

493 THE TEACHING OF INDUSTRIAL ARTS (4)  
Prerequisite: admission to teacher education. Derivation and organization of content for industrial arts; principles, procedures, and problems in the teaching of laboratory courses; prerequisite to directed teaching in industrial arts.

495 INDUSTRIAL ENGINEERING (3)  
Prerequisites: senior status and Math 240, or permission of instructor. Organization of men and machines for work; work analysis, production control, quality control, and plant design.

496 ORGANIZATION AND ADMINISTRATION OF INDUSTRIAL EDUCATION (3)  
Interrelationships of industrial arts, industrial-vocational education, adult education, technical education, and apprentice training.

497e SEMINAR IN CURRICULUM DEVELOPMENT (3)  
Problem solving systems for individualizing instruction in industrial arts. Extension 1970.

497f POLYESTER AND URETHANE PLASTICS (3)  
Prerequisite: art or industrial arts teaching experience. Casting, molding and foaming processes. Extension 1970.

497h INDUSTRIAL EXPERIENCE (3)  
Prerequisite: teaching major in technology. Opportunity to experience, analyze, and evaluate an industrial occupation related to a teaching field. Summer 1970.

497j WORKSHOP: COMMUNITY RESOURCES FOR BELLINGHAM TEACHERS (3)  
Resource utilization by business and industry in the Bellingham region; curriculum development for use in the schools. Extension 1970.

540 GRAPHIC ARTS TECHNOLOGY (3)  
Prerequisite: undergraduate concentration in graphic arts. The technological changes in the graphic arts industry and the responses.

541 THEORIES OF COLOR SEPARATION (3)  
Prerequisite: undergraduate concentration in graphic arts. Newer concepts and techniques of color separation as applied to the graphic arts industry.

\*Not applicable to undergraduate or graduate programs in Technology.



542 INFORMATION FORMS DESIGN AND PRODUCTION (3)

Prerequisite: undergraduate concentration in graphic arts. Differentiation and necessity for integrating information forms design into more productive systems.

543 PRINCIPLES OF COLOR AND QUALITY CONTROLS (3)

Prerequisite: undergraduate concentration in graphic arts. Principles and devices for maintaining control.

544 SEMINAR: CURRENT GRAPHIC ARTS TOPICS (3)

Prerequisite: undergraduate concentration in graphic arts. Research and discussion concerning pertinent problems in the graphic arts industry.

590 CURRICULUM PROBLEMS IN INDUSTRIAL EDUCATION (3)

Derivation and organization of content and experiences for industrial arts courses.

591 INDUSTRIAL TECHNOLOGY (3)

Development of trade, technical, and industrial technology; forces, concepts, issues and trends.

594 RESEARCH IN INDUSTRIAL ARTS (2)

Readings and discussion in current research topics in industrial arts.

595 GRADUATE SEMINAR (2)

Contemporary issues in industrial arts.

# INTER - DEPARTMENTAL PROGRAMS

Several study programs are offered by cooperating departments. These programs include various majors and minors shared by more than one department. In some instances courses are listed by interdepartmental designations. Courses and concentrations are listed in this section for the following programs:

East Asian Studies	<i>SCIENCES</i>
Elementary Education	General Science
Honors	Geophysics
Linguistics	Physical Geochemistry
Recreation	Physical Science
Social Studies Education	Science Education
Urban and Regional Planning	VICOED

Two programs formerly listed here have been moved to departmental sections.

- For Journalism, see English Department
- For General Education, see General Studies Department.

## EAST ASIAN STUDIES

The following minor is applicable to either the Bachelor of Arts or Bachelor of Arts in Education degree. It may be combined with a major in history or in political science for a major concentration, or may be elected as a minor by majors in other fields. For description of courses, see the sections for the Department of History and the Department of Political Science.

*Minor* 30 credits

- History 280 and/or Pol Sci 407
- Remaining credits to be selected from:  
History 480, 481, 482, 483, 484, 485  
Pol Sci 430, 431, 476
- For advisement, consult Dr. Edward Kaplan, History Department, or Dr. Henry Schwarz, Political Science Department.

## ELEMENTARY EDUCATION

Elementary teachers have two options:

- (a) An academic major and the Elementary Teaching Minor (outlined below).
- (b) The following Elementary Education Major and a suitable academic minor as indicated below.

*Major* 45 credits

- Language Arts: Educ 485 or 486; Eng 495 or Educ 424; Lib 305
- Science-Math-Social Sciences: Math 281, 481; Soc Studies 425; Sci Ed 390-391 (primary level) or two from Biol 383, Geol 384, Phys Sci 382 (intermediate level)
- Expressive Arts: Art 380, Music 350, PE 306
- 8 credits selected under advisement from one of the following:



- (a) Language Arts: Speech 319, 330, 355, 373; Eng 380, 405a, 490; Linguistics 201; Educ 360, 484, 488
- (b) Science-Math-Social Sciences: Health Ed 350, 450; Educ 426; Social Studies 426, or any of the sciences not taken in above list
- (c) Expressive Arts: Art 381, 382; Music 451, 452; PE 311, 326; Tech 350

To accompany the above major, the student will elect a teacher education minor in a field corresponding to his concentration of electives (a, b, or c above). The minor is to be selected from art, earth science, English, foreign language, general science, geography, history, mathematics, music, physical education, psychology, sociology/anthropology, social studies, speech.

During the fifth year the student will extend this subject matter area.

#### Advisement

Elementary teachers taking either the major or minor will be advised by members of the Elementary Area faculty of the Department of Education. Students should report to the Office of Teacher Education Advisement, 204 Miller Hall, for assignment. Selection of the academic minor will be made with the assistance of the student's elementary adviser; advisement within the minor is the responsibility of the appropriate department.

#### Elementary Teaching Minor

Basic Core 23 credits

- Education 485
- English 495
- Mathematics 281
- Mathematics 481
- Social Studies Ed 425
- Science Education 390, 391 (primary) or two courses for intermediate teachers from
  - Biology 383
  - Geology 384
  - Physical Science 382

#### Additional Elementary Courses

12-14 credits

Under advisement the student will choose courses from the following to strengthen areas in which he is weakest.

- Art 380
- Biology 383
- Education 360
- English 380, 405a, 490
- Health Ed 350
- Health Ed 450
- Library Sci 305
- Linguistics 201
- Music 350
- PE 306
- Phys Science 382
- Speech 319, 330, 355, 373
- Technology 350

Prior to elementary student teaching, a student must complete Math 281 and three courses from Educ 485, Math 481, Soc Studies Ed 425 and one science education course.

#### HONORS

In order to graduate "with honors" a student must:

- (a) be recommended by the Honors Board;
- (b) have completed at least six quarters of honors work;
- (c) have written a senior thesis.

Exceptions may be made under departmental advisement and with the concurrence of the Honors Board.

A student may enter the program as late as the beginning of his junior year and still meet requirements for graduation "with honors." Special requirements for Departmental Honors work are listed under the departments concerned. A student who plans to graduate "with honors" should consult the department in which he proposes to major early in his college career, since individual requirements vary and all programs are tailored to the individual's needs. The following departments offer honors work: art, biology, chemistry, economics, education, English, foreign languages,

## Interdepartmental Programs

geography, geology, history, mathematics, philosophy, physics, political science, psychology, sociology/anthropology.

### HONORS COURSES (Non-departmental)

These courses are restricted to students enrolled in the Honors Program.

- 151, 152, 153 TUTORIAL (2 ea)  
161, 162, 163 COLLOQUIUM (2 ea)  
251, 252, 253 TUTORIAL (2 ea)  
261, 262, 263 COLLOQUIUM (2 ea)  
290 SUMMER READINGS (2)  
300 INDEPENDENT STUDY (variable credit)  
361, 362, 363 COLLOQUIUM (2 ea)  
390 SUMMER READINGS (2)  
400 INDEPENDENT STUDY (variable credit)  
461, 462, 463 COLLOQUIUM (2 ea)  
490 SUMMER READINGS (2)

## LINGUISTICS

### Minors

These concentrations in general and applied linguistics may be taken by candidates for the Bachelor of Arts or the Bachelor of Arts in Education degrees. Minors are available in the departments of English, foreign languages and sociology/anthropology.

### Basic Courses

- Linguistics 201, 202, 301, 302, 303

Additional work according to department chosen:

- English (Arts and Sciences)—add English 390, 490, 491  
 English (Teacher Education) see English minor with Linguistics Emphasis  
 Foreign Languages (either degree)—add 6 credits selected under departmental advisement in a foreign language  
 Sociology/Anthropology (Arts and Sciences)—add Soc/Anth 488 and 5 additional credits selected under departmental advisement

For advisement, consult Dr. Robert Peters (Humanities Building 307), Director of Interdepartmental Program in Linguistics.

## COURSES IN LINGUISTICS

- 201 INTRODUCTION TO LINGUISTICS SCIENCE (3)  
Survey of linguistic method and theory. The nature of language and the basic principles of the phoneme, morpheme, and immediate constituent analysis.
- 202 COMPARATIVE LINGUISTICS (3)  
Prerequisite: Linguistics 201. Principles of language typology, linguistic geography, comparative methods, and historical reconstruction.
- 203 SOCIOLINGUISTICS (3)  
Prerequisite: Linguistics 201. Relationship between social classes and dialect in America, with attention to dialectic groups of interest to class.
- 301 PHONEMICS (3)  
Prerequisite: Linguistics 201. Theory, methods, and problems of phonemic analysis and description.
- 302 MORPHEMICS (3)  
Prerequisite: Linguistics 201. Theory, methods, and problems of morphemic analysis and description.
- 303 SYNTAX (3)  
Prerequisite: Linguistics 201. Comparative survey of modern theories of grammar with special reference to syntax.

- 306 HISTORY OF LINGUISTICS (3)  
Prerequisite: Linguistics 201. Development of the science of linguistics from ancient times to the present.
- 401 LINGUISTIC THEORY (3)  
Prerequisite: Linguistics 201.
- 402 READINGS IN LINGUISTICS (3)  
Prerequisite: permission of instructor. Directed research on topic selected by student; may not be repeated.
- 403 FIELD LINGUISTICS (3)  
Prerequisite: 12 credits in linguistics. Methods for analysis and description of an unfamiliar language.
- 404 LINGUISTICS AND LITERATURE (3)  
Prerequisite: Linguistics 201 or Foreign Languages 370. Importance of linguistic contributions to literary analysis; linguistics and theory of literature; common problems.

## RECREATION

*Major Concentration* 105 credits

Satisfies both the major and minor for the Bachelor of Arts degree. Coordinated and advised by Women's Physical Education Department.

Recreation majors are advised to include Psychology 201, Soc/Anth 201, Economics 201, and Geog 201 in meeting their general education requirements.

*Basic Core* 75 credits

- Rec 101, 202, 251, 307, 351, 402, 451, 452
- Geog 421
- Psych 313
- Soc/Anth 202, 366, 439
- Speech 204, 407
- Technology 240
- 7 credits under advisement

### OPTIONS

Each major will select one option to accompany the Basic Core.

### Option I

#### *Park and Community Recreation Administration*

- Recreation 305
- Business Admin 322
- Geography 341, 430
- Political Science 250, 353
- Soc/Anth 347, 441, 482

### Option II *College Union Programs and Services*

- Recreation 308, 408
- Business Admin 251, 322
- PE 410m or 410w
- Psych 431, 453
- Soc/Anth 417n, 431, 441

### Option III *Therapeutic Recreation*

- Recreation 302
- Music 350
- PE 495
- Psych 411, 453
- Soc/Anth 354, 417b,f,t, 462, 446
- Speech 130, 330
- Technology 301
- Zoology 348, 349

*Minor* 25 credits

- Recreation 101, 202, 251
- Recreation 307, 402
- 9 or more credits under advisement

## COURSES IN RECREATION

- 101 LEISURE AND SOCIETY (3)  
Nature of recreation; significance of recreation for today's leisure.
- 202 COMMUNITY RECREATION PROGRAMS (3)  
Prerequisite: Rec 101; Rec 251 concurrent. Planning, organizing, conducting and evaluating community recreation programs.

## Interdepartmental Programs

- 250 **CAMPING AND OUTDOOR EDUCATION (3)**  
Organization and program in private, agency and school camps; qualifications and responsibilities of the camp counselor; camping techniques.
- 251 **FIELD EXPERIENCE IN RECREATION I (2)**  
Prerequisite: Rec 101 or equivalent; Rec 202 concurrent. Orientation to community recreation programs.
- 302 **INTRODUCTION TO THERAPEUTIC RECREATION (3)**  
Prerequisite: Rec 202. Activities and programs for the mentally and physically handicapped.
- 305 **PARK ADMINISTRATION (3)**  
Prerequisite: Rec 202. Use of public lands for recreation; operation and administration of a parks system; facility design, use and maintenance.
- 307 **HISTORY AND PHILOSOPHY OF RECREATION (3)**  
Prerequisite: Rec 202. Historical development of recreation; philosophical bases of recreation.
- 308 **COLLEGE UNION PROGRAMS (4)**  
Role of the union; development of social, cultural, recreational and educational programs.
- 351 **FIELD EXPERIENCE IN RECREATION II (0-2)**  
Prerequisite: Rec 202, 251. Laboratory experience in agency programs. (May be taken for credit or non-credit.)
- 402 **RECREATION ADMINISTRATION (5)**  
Prerequisite: Rec 307, 351. Legal, financial and organizational aspects of public and commercial recreation; public relations, utilization of community resources.
- 408 **COLLEGE UNION MANAGEMENT (2)**  
Prerequisite: Rec 308. Field work experience in the union with special attention to personnel, budgetary, facility, scheduling, and service problems.
- 451 **INTERNSHIP IN RECREATION (12)**  
Prerequisite: Rec 402. Supervised recreation experience providing opportunity to develop and demonstrate leadership ability.
- 452 **SEMINAR IN RECREATION (3)**  
To be taken concurrently with Rec 451. Critical analysis of programs and problem areas of recreation in relationship to field work experiences.
- 500 **PROBLEMS IN RECREATION (2-5)**  
For experienced recreation leaders; individual study of problems growing out of professional experience.

## SCIENCES

### GENERAL SCIENCE

#### Major Elementary 45 credits

- Physics 131; 105 and/or Geog 331
- Chem 115 or 121; Geol 211, 212
- Botany 251; Zool 261 and/or 262
- Electives under advisement\*

#### Major Concentration 75 credits

This concentration satisfies both the major and the minor for junior high school teachers.

- Physical Science—25 credits under advisement,\* including Phy Sci 492, Physics 131, 132, 133, and Chem 115 or 121 or equivalent
- Biological and Earth Sciences—25 credits in one field and 15 in the other, selected under advisement, including Biol 493 or Geol 390, Physics 105 and/or 321 or equivalent
- General Science 405 or equivalent
- Electives under advisement\*

### COURSES IN GENERAL SCIENCE

#### 405 HISTORY OF SCIENCE (3)

Prerequisite: 30 credits in biological and/or physical science. The nature, methods, and development of science and the role of science in society; recommended for all science majors.

### GEOPHYSICS

#### Major Concentration 110 credits

This concentration satisfies both the major and the minor for the Bachelor of Science degree.

- Geology 211, 212, 305, 306, 317, 418, 420, 452.

\*Dr. John Miller, Chemistry Department, is the adviser for this major.

- Choice of:
  - (a) Geology 410 and 454, or
  - (b) Geology 453 and Math 332
- Math 121, 122, 222, 223, 301, 331; Computer Science 270
- Physics 231, 232, 233, 371, 381
- Chemistry 121, 122, 123
- 6 to 9 credits from geology, physics and mathematics selected under advisement

For advisement in this concentration, consult the departments of geology or physics.

### *PHYSICAL GEOCHEMISTRY*

**Major Concentration** 110 credits

Satisfies both the major and the minor for the Bachelor of Science degree.

- Geology 211, 212, 305, 306, 317, 418, 420, 444, 460; one of 423, 424, 425
- Chemistry 121, 122, 123, 127, 128, 333, 361, 362, 363
- Math 121, 122, 222
- Physics 231, 232, 233
- 8 credits under advisement in geology, chemistry, mathematics, and computer science

### *PHYSICAL SCIENCE*

**Major** Secondary 45 credits

- General Science 405
- Chemistry 121, 122, 127 and 128, 251
- Physics 231, 232, 233 (or 131, 132, 133), 381
- Physical Science 492

**Minor** Junior High 25 credits

- Courses in addition to the general education requirements selected under advisement

For these interdepartmental concentrations, Dr. John Miller, Chemistry Department, is consulting adviser.

### **COURSES IN PHYSICAL SCIENCE**

**382 PHYSICAL SCIENCE FOR THE INTERMEDIATE SCHOOL (3)**

Prerequisite: science general education requirements or equivalent. Use of experiments, demonstrations, and reading to achieve selected objectives in teaching in intermediate grades.

**492 PHYSICAL SCIENCE FOR THE JUNIOR AND SENIOR HIGH SCHOOL (3)**

Prerequisite: 15 credits in chemistry or physics. Content, materials, and methods of teaching general physical science, physics, and chemistry in junior and senior high schools.

### *SCIENCE EDUCATION*

Students planning to major in a science for elementary or junior high teaching, see majors in general science, physical science or earth science.

Questions relating to these courses should be directed to Dr. John Miller, Chemistry Department, Coordinator of Science Education.

### **COURSES IN SCIENCE EDUCATION**

**390, 391 SCIENCE FOR THE PRIMARY GRADES (3 ea)**

Prerequisite: general education requirements in science and mathematics; 390 prerequisite to 391. Selected generalizations and processes in science adaptable to primary school; classroom-laboratory study of "new" curricula; observation and participation. It is recommended that these courses be taken in sequence.

**417a SCIENCE AND METHODS FOR ELEMENTARY TEACHERS (3-6)**

For experienced teachers with no training in science education. Selected generalizations and processes in science and how to present them in the elementary school, classroom-laboratory study of "new" curricula; outside project required.

**417b FIELD PRACTICUM IN ENVIRONMENTAL EDUCATION (3-12)**

Systematic preparation of teachers employing multiple learning strategies for utilizing the outdoors to investigate natural environments.

**430 ENVIRONMENTAL EDUCATION (2-5)**

Prerequisites: permission of instructor. Examination of environmental problems; their causes and possible solutions.

## Interdepartmental Programs

### 480 SPECIAL PROJECTS IN SCIENCE FOR THE ELEMENTARY GRADES (2-5)

Prerequisites: one course from Sci Ed 380, 390, Phys Sci 382, Biol 383 or Geol 384; permission of instructor. Projects involving science instructional materials and curriculum.

### 490 SPECIAL PROJECTS IN SCIENCE TEACHING IN THE JUNIOR AND SENIOR HIGH SCHOOL (2-5)

Prerequisites: one course from Biol 493, Geol 390, Phys Sci 492; permission of instructor. Projects involving science instructional materials and curriculum.

### 500 SPECIAL PROJECTS IN SCIENCE (2-5)

Prerequisite: permission of instructor.

### 501 DEVELOPMENT OF A SCIENCE PROGRAM IN THE PUBLIC SCHOOL (3-5)

For principals, superintendents, supervisors, and teachers interested in developing a comprehensive program of science.

### 570 RESEARCH (2-6)

Prerequisite: admission to program; permission of instructor. Thesis-related research.

### 580 SPECIAL PROBLEMS IN SCIENCE TEACHING IN THE ELEMENTARY SCHOOL (2-5)

Prerequisite: teaching experience or permission of instructor. Problems related to science instruction and curriculum; may be repeated.

### 590 SPECIAL PROJECTS IN SCIENCE TEACHING IN THE JUNIOR AND SENIOR HIGH SCHOOL (2-5)

Prerequisites: teaching experience or permission of instructor. Problems related to science instruction and credit; may be repeated.

## SOCIAL STUDIES EDUCATION

For advisement or approval of these majors, students should consult the Social Studies advisers, Dr. Harry Jackson, Dr. Elizabeth Henzl, or Mr. Robert Teshera.

*Major* Junior High School 45 credits

- Geography 201
- 5 credits from Geog 311, 313, 314, 315, 316
- History 203 or 204

- Sociology/Anthropology 201
- Social Studies Education 426
- Political Science 250 or Economics 201
- Electives under advisement: 17 credits concentrated in one field: geography, history, political science, or sociology/anthropology

*Major* Elementary 45 credits

- History 203, 204; Geography 201, 311
- Sociology/Anthropology 201
- Political Science 250 or Economics 201
- Electives—15 credits under advisement in one of the following four fields: geography, history, political science, or sociology/anthropology

### Teaching Competence

Recommendation for teaching competence in social studies requires completion of the major with a grade average of 2.5 or better.

## COURSES IN SOCIAL STUDIES EDUCATION

### 425a,b SOCIAL SCIENCE FOR THE ELEMENTARY SCHOOL (3)

Prerequisite: Psych 352. The development of social science concepts and skills in the elementary program.

- (a) primary emphasis
- (b) intermediate emphasis

### 426 SOCIAL STUDIES FOR THE SECONDARY SCHOOL (3)

Choice and adaptation of materials of instruction to the junior and senior high school level.

## URBAN AND REGIONAL PLANNING

*Major Concentration* 105 credits

This undergraduate major in the Arts and Sciences curriculum is intended to prepare students for pre-professional service in planning agencies as well as to provide a foundation for graduate study in this field. It

meets the requirements for both the major and minor concentrations. Early consultation with the Geography Department is essential.

- Economics 201, 202, 482
- English 202
- Geography 201, 341, 351, 430
- Mathematics 240 or 341, 342
- Political Science 250, 353, 421
- Sociology 202, 366
- Technology 210, 313
- Economics 375 or Sociology 375
- Geography 311 or 401
- Geography 421 or Political Science 420
- Geography 454 or 480 or 490
- Electives from the alternate requirements above or the following to complete 105 credits:
  - Business Administration 336, 408
  - Computer Science 270
  - Economics 410, 415
  - English 302
  - Geography 207, 331, 353, 407, 408, 422, 440, 442, 452, 453
  - Health Education 447
  - History 466
  - Home Economics 175, 370
  - Mathematics 220
  - Political Science 320, 450, 455
  - Sociology 311, 370, 430, 431, 441, 475
  - Technology 240

It is recommended that the student concentrate his electives in either economics, geography, political science, or sociology/anthropology

## **VISUAL COMMUNICATION EDUCATION (VICOED)**

The Bachelor of Science degree program in VICOED 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. The concentration satisfies both major and minor requirements. Early consultation with the Director of VICOED is essential.

VICOED students will follow the usual General Education sequence, but should take Mathematics 121 or 240 in lieu of 151, and Chemistry 115 rather than 101. Physics 101 will normally be taken.

*VICOED Concentration* 110 credits

*Basic Core* 67 credits

- Art 101, 102, 195, 371
- English 201 or 202 or Journalism 104
- Speech 340
- Technology 160, 210, 240, 260, 340, 341, 362, 379, 447, 448
- 15 credits in one of the following:
  - Industrial Graphics (Technology)
  - Graphic Arts (Technology)
  - Photography (Technology)
  - Graphic Design (Art and Technology)
  - Professional Writing (English and Journalism)
  - Educational Media (Education)

*Supporting Courses* 43 credits

- Chemistry 208, 209
- Business Administration 251, 335; Economics 338
- Math 122 or Computer Science 270
- Sociology/Anthropology 431
- Psychology 320
- 14 credits selected from art, economics, business, sociology/anthropology, psychology, mathematics, physics, chemistry, educational psychology

See departmental sections of the catalog for descriptions of these courses.

### *Teacher Education Program*

Students enrolling in VICOED for teacher certification must complete the requirements for the Bachelor of Science program described above, and satisfy professional education requirements through the Certification Program for Graduates. This program includes two to three quarters prior to teaching, and a minimum of 15 credits after a year or more of successful teaching experience to obtain the standard teaching certificate for the State of Washington.





# COLLEGE PERSONNEL

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Patrick C. Comfort, LL.B. .... Tacoma  
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Harold C. Philbrick, M.B.A. .... Seattle

## CENTRAL ADMINISTRATIVE OFFICERS

### President

Charles J. Flora, Ed.D.

### Provost

Frederick Sargent II, M.D.

### Graduate Dean

J. Alan Ross, Ph.D.

### Research and Grants

Herbert C. Taylor, Ph.D.

### Dean of Students

C. W. McDonald, M.S.

### Business Manager

Joe E. Nusbaum, B.A.

## COLLEGES

### Western

Acting Dean Fred Knapman, Ed.D.

### Ethnic Studies

Dean Ronald Williams, Ph.D.

### Fairhaven

Dean Charles W. Harwood, Ph.D.

### Huxley

Dean Gene W. Miller, Ph.D.

## OTHER ADMINISTRATIVE OFFICES

### Admissions

Director B. Eugene Orney, M.A.  
Assistant Director Ronald L. Peterson, M.E.  
Assistant Director Robert W. Thirsk, M.Ed.

### Business Office

Assistant to the Business Manager Jack E. Cooley, M.P.A.  
Financial Planning Officer Ernest E. Sams

### Campus Planning

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College Architect Robert B. Aegerter, B.Arch.  
Construction Inspector Ralph Wolbert

### Center for Higher Education

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### College Examiner

Don F. Blood, Ph.D.

### Computer Center

Director Robert E. Holz, A.M.T.  
Assistant Directors:  
Kenneth G. Bell  
Richard Chartrand  
Richard Porter  
David C. Schlecht

### Continuing Studies

Director of Department of Continuing Studies  
F. Richard Feringer, Ed.D.  
Assistant to the Director Nathaniel Dickinson, B.A.  
Assistant Director William F. Orme, B.A. in Ed.

### Controller

Kermit Knudtson, B.A.  
Assistant Controller Timothy H. Kao, B.S.

### Dean of Students Office

Assistant to the Dean of Students

### Dean of Men

Ray S. Romine, M.Ed.

### Dean of Women

Mary R. Robinson, M.A.

### Dean of Western

Coordinator of the Summer Session  
Donald R. Kjarsgaard, Ph.D.  
Instructional Resource Analyst  
Michael H. Tornow, B.A.

### Educational Media

Chief Engineer Ernest E. Harper

### Financial Aids

Director Richard E. Coward, M.Ed.  
Assistant Director James S. Grant, M.Ed.

### Health Services

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Physician Margarethe Kingsley, M.D.  
Physician Brantley P. Davis, M.D.

### Housing

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Assistant to the Director Rodrick C. Coy, B.A.

### Library

Director W. Robert Lawyer, Ph.D.

### Personnel

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### Physical Plant

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Supervising Engineer Samuel H. Buyco, B.S.

### Placement

Director Frank N. Panches, M.A.

### President's Office

Administrative Assistant Michael W. Barnhart, M.A.  
Executive Secretary Doloris S. Riley

### Project Fiscal Officer

Jack N. Griffin, B.B.A.

### Public Information and Development

Director Ramon T. Heller, B.A.  
Publications Officer F. Stephen Kurtz

### Registrar

William O'Neil, M.Ed.  
Assistant Registrar Louis T. Lallas, M.Ed.  
Associate Registrar Calvin E. Mathews, M.A.

#### Residence Hall Programs

Director Timothy B. Douglas, M.S.  
Assistant Director Keith L. Guy, M.Ed.

#### Safety and Security

Supervisor Robert G. Peterson

#### Student Activities and the Viking Union

Director Chris F. Karp, B.S.  
Associate Director Cliff Holt, M.P.A.  
Program Director John Miles, B.A.

#### Student Publications

Adviser Gerson F. Miller, M.A.

## EMERITUS FACULTY

#### WILLIAM WADE HAGGARD

President Emeritus of the College. B.A., Maryville College; M.A., University of Michigan; Ph.D., University of Chicago; Ed.D. (Honorary), Maryville College.

#### EDWARD J. ARNTZEN

Professor Emeritus of History. B.A., University of Washington; M.A., Columbia University; University of Washington.

#### WILLIAM BENDER

Professor Emeritus of Physics. B.A., M.S., University of Colorado; Ph.D., Yale University.

#### MIRA E. BOOTH

Assistant Professor Emeritus of Music. B.A., University of Washington; M.A., Teachers College, Columbia University; University of Southern California.

#### HAZEL BREAKEY

Assistant Professor Emeritus of Art. B.S., graduate work, Teachers College, Columbia University; graduate of California College of Arts and Crafts, Oakland; Carnegie Scholarship University of Oregon.

#### DOROTHY D. BUTTON

Assistant Professor Emeritus of Education. B.A., University of California; University of Washington; M.Ed., Western Washington State College.

#### KATHERINE M. CASANOVA

Associate Professor Emeritus of Education. B.S., M.A., Teachers College, Columbia University.

#### MOYLE F. CEDERSTROM

Professor Emeritus of English. B.A., M.A., University of Minnesota; Ph.D., University of Washington

#### EDWIN R. CLAPP

Professor Emeritus of English. A.B., Stanford University; M.A., Ph.D., Harvard University.

#### LINDA COUNTRYMAN

Associate Professor Emeritus of Home Economics. B.S., Milwaukee-Downer College; M.A., Teachers College, Columbia University; University of Chicago.

#### NORA B. CUMMINS

Professor Emeritus of Political Science and History. B.A., University of Minnesota; M.A., Columbia University; Northern Normal and Industrial School.

#### IRENE ELLIOTT

Assistant Professor Emeritus of Education. B.S., M.A., Columbia University.

#### GEORGIA P. GRAGG

Instructor Emeritus of Commercial Studies and Handwriting. Western Washington State College; A.N., Palmer School of Penmanship.

#### IRWIN A. HAMMER

Professor Emeritus of Education. University of Toulouse, Toulouse, France; B.A., Park College; M.A., University of Colorado; University of Minnesota; University of Chicago; Ed.D., Teachers College, Columbia University.

#### RAYMONO F. HAWK

Professor Emeritus of Education. B.A., DePauw University; M.A., Stanford University; Ph.D., Washington State University.

#### MILDRED HERRICK

Associate Professor and Librarian Emeritus. B.A., Michigan State Normal College; B.A. in L.S., M.A. in L.S., University of Michigan.

#### ARTHUR C. HICKS

Professor Emeritus of English. B.A., M.S., University of Oregon; Ph.D., Stanford University.

#### VIVIAN H. JOHNSON

Associate Professor Emeritus of Education. B.A., M.A., University of Washington.

#### PRISCILLA KINSMAN

Assistant Professor Emeritus of Education. Ph.B., University of Chicago; M.A., Teachers College, Columbia University; University of Washington.

FLORENCE J. KIRKPATRICK

Associate Professor Emeritus of Biology. B.S., University of Washington; M.A., Mills College.

MIRIAM L. PECK

Associate Professor Emeritus of Art. B.A., M.A., M.F.A., University of Washington.

RUTH PLATT

Associate Professor Emeritus of Zoology. B.S., M.S., University of Washington; University of California.

HAZEL JEAN PLYMPTON

Associate Professor Emeritus of Art. Ph.B., University of Chicago; M.A., Teachers College, Columbia University; Reed College, Portland School of Art.

LORRAINE POWERS

Emeritus Dean of Women. B.A., University of Wisconsin; M.A., University of Iowa.

CHARLES M. RICE

Associate Professor Emeritus of Industrial Arts. B.F.A., M.A., Washington State University; University of Washington; University of Oregon; Carnegie A.I.A. Art Sessions; Ed.D., Oregon State University.

LEONA M. SUNDQUIST

Distinguished Service Professor Emeritus of the College. B.A., M.S., University of Washington; Teachers College, Columbia University.

RUTH WEYTHMAN VAN WICKLE

Professor Emeritus of Physical Education. B.S., University of Washington; M.A., Teachers College, Columbia University; University of California, Berkeley; University of Tennessee.

## 1970-71 FACULTY

(The following list is complete as of May 20 when the Catalog went to press. Additions or deletions since that date are not included.

Dates in parentheses indicate year of initial service to the College.)

M. AUDREY AARON (1970)

Visiting Associate Professor of Spanish. A.M., Ph.D., Johns Hopkins University.

WILLIAM R. ABEL (1962)

Professor of Mathematics. B.A., Morningside College; M.A., University of South Dakota; Ph.D., University of Missouri.

HENRY L. ADAMS (1957)

Professor of Psychology. B.A., M.A., University of Kentucky; Ph.D., University of Illinois.

MARY JO AEGERTER (1968)

Lecturer in Home Economics. B.S., Iowa State University, Ames.

PHILIP AGER (1965)

Associate Professor of Music and Chairman of the Department. B.A. in Ed., Western Washington State College; M.A., University of Washington.

MARGARETH. AITKEN (1946)

Professor of Physical Education and Chairman of the Department. B.A., University of Washington; M.A., Ed.D., Teachers College, Columbia University.

GLEN R. ALBAUGH (1970)

Associate Professor of Physical Education. B.A., M.A., San Jose State College.

EDWIN JOSEPH ALLEN, JR. (1969)

Lecturer in Anthropology. B.A., Yale College; M.A., Columbia University.

EVELYN E. AMES (1964)

Instructor of Physical Education. B.S., University of Nevada; M.S., Washington State University.

DARREL W. AMUNDSEN (1969)

Lecturer in Classics. B.A., Western Washington State College; M.A., University of Washington.

ANGELO ANASTASIO (1955)

Professor of Anthropology and Sociology. A.A., Boston University; M.A., Ph.D., University of Chicago.

ALFRED S. ARKLEY (1970)

Lecturer in Political Science. A.B., Harvard College; M.A., Columbia University; M.A., Michigan State University.

CAROL GUSTA ARNDT (1970)

Lecturer in Home Economics. B.A., Western Washington State College.

M. CHAPPELLE ARNETT (1960)

Associate Professor of Physical Education. B.S., Centenary College; M.S., Purdue University; Ed. D., University of Missouri.

GAIL H. ATNEOSEN (1968)

Assistant Professor of Mathematics. A.B., M.A., Indiana University; Ph.D., Michigan State University.

RICHARD A. ATNEOSEN (1968)

Associate Professor of Physics. B.S., M.S., University of Minnesota; Ph.D., Indiana University.

RANDALL S. BABCOCK (1967)  
Lecturer in Geology. A.B., Dartmouth College, M.S., University of Washington.

HERBERT LE ROY BAIRD, JR. (1967)  
Associate Professor of Spanish. A.A., Santa Ana Junior College; A.B., Pomona College; A.M., Ph.D., University of Chicago.

ROBERT S. BALAS (1969)  
Lecturer in French. B.A., Upsala College; M.A., University of Nebraska.

LeVON A. BALZER (1968)  
Assistant Professor in Biology. B.S., M.N.S., University of Oklahoma; Ph.D., The Ohio State University.

JAMES R. BARCHEK (1968)  
Lecturer in English. B.S., Portland State College; M.Ed., D.A., University of Oregon.

\*GUADALUPE GARCIA BARRAGAN (1965)  
Assistant Professor of Spanish. M.A., New Galicia; University of Guadalajara.

WILLIAM L. BARRETT (1968)  
Assistant Professor of Physics. B.S., University of Iowa; M.S., Ph.D., University of Washington.

LUCILLE E. BARRON (1968)  
Assistant Professor of Home Economics. B.A., Washington State University; M.A., University of Washington.

MYRL E. BECK, JR. (1969)  
Assistant Professor in Geology. B.A., M.S., Stanford University; Ph.D., University of California at Riverside.

GEORGE J. BECKER (1970)  
Professor of English. B.A., M.A., Ph.D., University of Washington.

HORACE O. BELDIN (1965)  
Professor of Education. B.S., M.S., University of Oregon; Ph.D., Syracuse University.

RICHARD H. BERG (1970)  
Associate Professor of Environmental Engineering, Huxley College. B.S., M.S., University of Washington; Ph.D., Oregon State University.

MARION BESSERMAN (1952)  
Associate Professor of Chemistry. B.S., University of Washington; M.S., Purdue University; Ph.D., University of Washington.

AMERICOLE BIASINI (1970)  
Associate Professor of Music. B.S., M.S., New York State University.

\*BARBARA A. BIELER (1965)  
Assistant Professor of Home Economics and of Education. B.S., M.H.Ec., Oregon State University.

THOMAS BILLINGS (1964)  
Professor of Education. B.S., Ph.D., University of Oregon.

GEORGE BISHOP (1970)  
Assistant Professor of Art. B.F.A., M.F.A., Wayne State University.

RICHARD T. BISHOP (1966)  
Lecturer in Education. Ph.B., University of Chicago; M.A., Michigan State University.

JOSEPH E. BLACK (1967)  
Associate Professor of Technology. B.S., Lehigh University; B.M.E., Cooper Union, New York; M.M.E., New York University; Ph.D., Lehigh University.

LESLIE BLACKWELL (1968)  
Lecturer in Education. B.A., Washington State University; M.Ed., University of Washington.

DON F. BLOOD (1951)  
Professor of Psychology and College Examiner. B.A. in Ed., Central Washington State College; M.A., Ph.D., State University of Iowa.

ELDEN A. BOND (1966)  
Professor of Education. A.B., University of Washington; M.A., Ph.D., Teachers College, Columbia University.

JAMES W. BOSCH (1967)  
Associate Professor of Anthropology. B.A., San Francisco State College; M.A., Ph.D., Stanford University.

ELIZABETH BOWMAN (1966)  
Associate Professor of English and Linguistics. A.M., Ph.D., University of Chicago.

RICHARD L. BOWMAN (1969)  
Assistant Professor of Physical Education. B.A., Ball State University; M.A., University of Colorado.

\*BERNARD L. BOYLAN (1956)  
Professor of History. B.A., M.A., University of Washington; Ph.D., University of Missouri.

LAURENCE W. BREWSTER (1948)  
Professor of Speech. B.A., Yankton College; M.A., Ph.D., University of Iowa.

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Ph.D., University of Washington.

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Honorary degrees: L.H.D., Kalamazoo College; Pd.D., Coe  
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RUDOLF BAERG  
Voice. M.A., Western Washington State College.

GEORGE BLACK  
Tuba, String Bass. Professional Musician.

DANIEL BOCHARD  
Brass. M.A., Western Washington State College.

NANCY BUSSARD  
Piano. B.A., Whitman College.

NICHOLAS BUSSARD  
Oboe. B.A., Whitman College; M.M., University of Oregon.

MICHAEL DAVENPORT  
Saxophone. M.M., University of Washington.

ELVIN HALEY  
Horn. B.A., University of Washington; M.M., University of  
Michigan.

MICHI NORTH  
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KATHIE RAMM  
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DONALD A. ADAMS (1964)  
Associate in Theatre Arts. B.A., M.A., University of Washington.

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## COLLEGE-SCHOOL DISTRICT JOINT APPOINTMENTS

Arrangements have been made with certain school districts for the following joint appointments who serve the College as part-time student teaching supervisors.

Irma Rodenhouse, Seattle  
James Britain, Seattle  
Robert Probach, Seattle  
John Hoyt, Seattle  
Katherine Reul, Seattle  
George Mehrens, Seattle  
Dean McCoy, Seattle  
Stanley Dickey, Seattle

Bruce MacDougall, Shoreline  
Margaret Marshall, Shoreline  
Dorothy Temple, Shoreline  
Dorothy Revelle, Shoreline

Marjorie Kunshak, Tacoma  
Theron Wheeler, Tacoma  
John Hanson, Tacoma  
Dennis Fatland, Tacoma

Majel Wilson, Edmonds  
Dale Parker, Edmonds  
Phil Williams, Edmonds

Dwight Andrus, Everett  
Phil Zalesky, Everett

Deanna Bettis, Kent  
Ellen Trout, Kent

Edith Porter, Renton  
Rene Morin, Renton

Jack Gire, Auburn

John Betrozoff, Bellevue

Edwin Nelson, Federal Way

Charlene Webb, Marysville

William Rohweder, Mukilteo

Mherling Luce, Oak Harbor

Charles Kiel, Anacortes

Pauline M. Sandall, Burlington-Edison  
Gary Bishop, Burlington-Edison

Robert Peacock, Sedro Woolley

William Evans, Mount Vernon

Beverly Kinney, Port Angeles

Erick Hoglund, Port Townsend

Carol Versteegen, Sequim

## SUMMARY OF ENROLLMENT

<i>Resident</i>	
Summer Quarter, 1969	4194
Fall, Winter, Spring, 1969-70	9329

<i>Extension</i>	
Independent Study	483
Evening Classes (on campus)	1194
Extension Classes (off campus)	4369
Total Extension Enrollment	6046

## DEGREES AND CERTIFICATES

<i>Degrees granted from August, 1969 to June, 1970, inclusive:</i>	
Master of Education	166
Master of Arts	36
Master of Science	35
Bachelor of Arts in Education	808
Bachelor of Arts	643
Bachelor of Science	12
Total	1700

<i>Teaching Certificates issued from August, 1969, to June, 1970, inclusive:</i>	
Provisional	826

<i>Recommended for certification to the State Superintendent of Public Instruction--</i>	
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# Western Washington State College

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