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WESTERN  
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COLLEGE  
BULLETIN

**W.W.S.C. BULLETIN — GENERAL CATALOG**

**Vol. LXV**

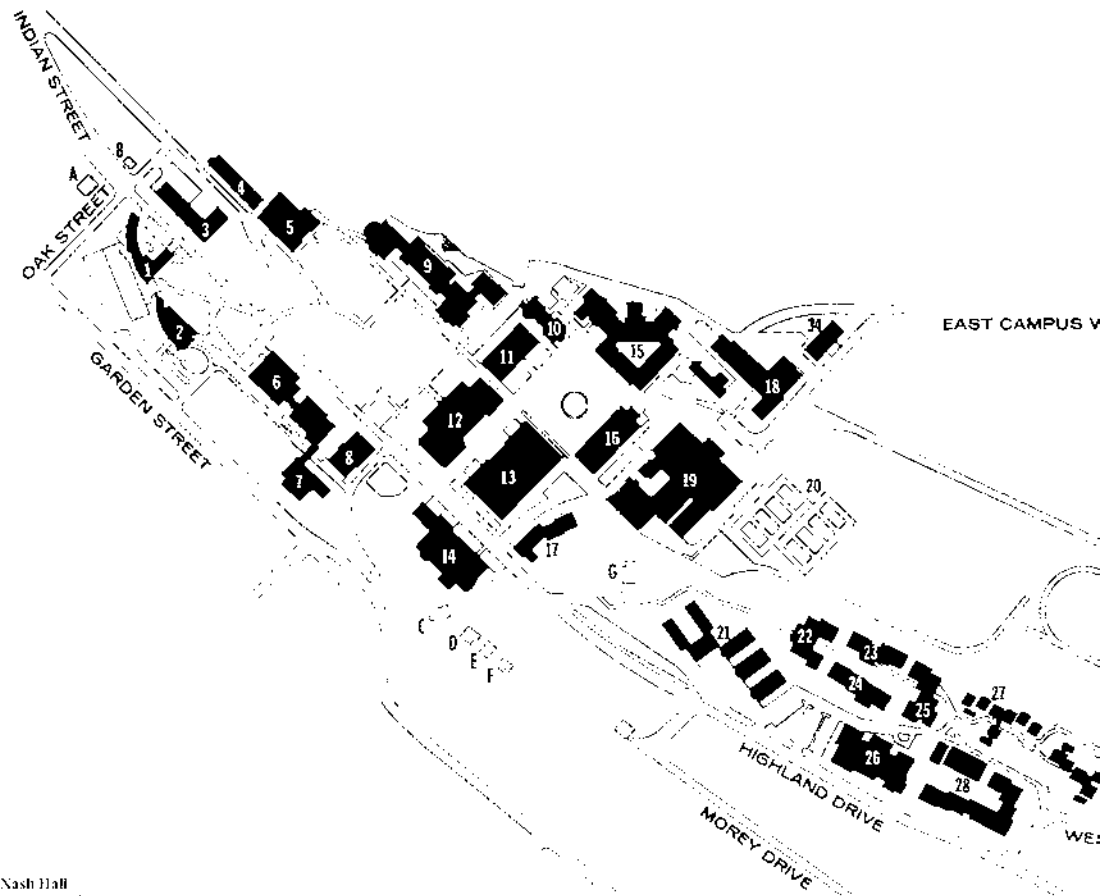
**June, 1969**

**No. 1**

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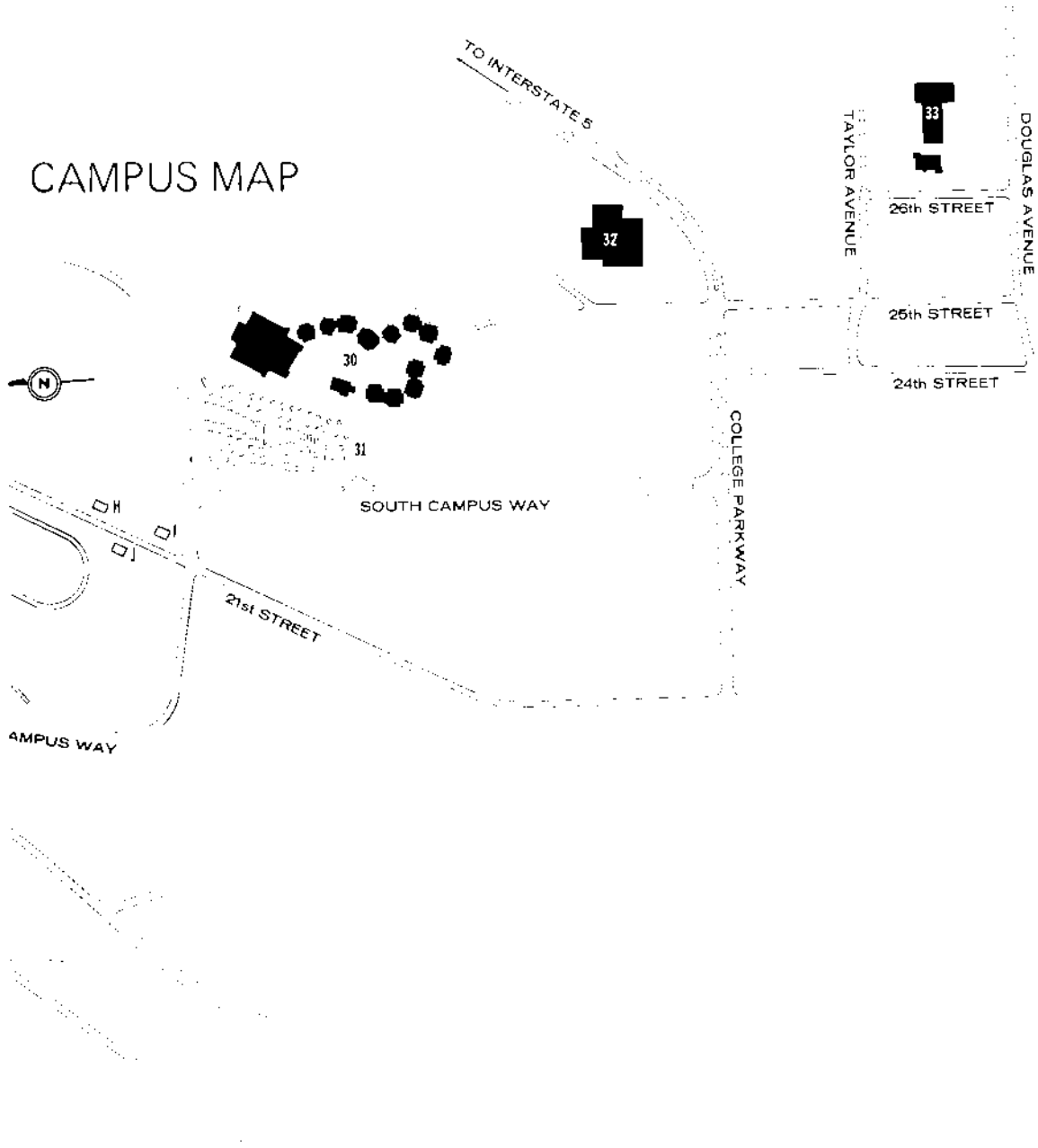
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1. Nash Hall
  2. Mathes Hall
  3. Higginson Hall
  4. Edens Hall North
  5. Edens Hall
  6. Viking Commons
  7. Viking Union
  8. Book Store
  9. Old Main (General Administration, Economics, Geography, Home Economics, Sociology-Anthropology)
  10. Lecture Halls
  11. Humanities Building (English, Foreign Languages, History, Philosophy)
  12. Wilson Library
  13. Haggard Hall (Biology, Chemistry, Geology, Science Education)
  14. Auditorium-Music Building
  15. Miller Hall (Education, Psychology, Educational Media, Counseling)
  16. Bond Hall (Computer Center, Mathematics, Physics)
  17. College Hall (College Development, Continuing Studies, Speech)
  18. Arts Building (Art, Technology)
  19. Carver Gymnasium (Men's P.E., Women's P.E., Athletics)
  20. Athletic Fields
  21. Highland Hall
  22. Ridgeway Sigma
  23. Ridgeway Omega
  24. Ridgeway Alpha
  25. Ridgeway Delta
  26. Ridgeway Dining Hall
  27. Ridgeway Beta
  28. Ridgeway Kappa
  29. Ridgeway Gamma
  30. Fairhaven College
  31. Hidden Valley Mobile Village
  32. Commissary
  33. Maintenance Building
  34. Heating Plant
- 
- |       |   |
|-------|---|
| A.    | Office Building, 519 Oak Street   |
| B.    | Storage Building, High Street   |
| C.    | President's House   |
| D.    | Fresh Water Institute   |
| E.    | High Street Hall (Political Science)                                      |
| F.    | Office Building, 331 High Street  |
| G.    | Stearns House (Nursery School)  |
| H, I. | Office Buildings (Fairhaven Temporary Offices), 303 and 309 - 21st Street |
| J.    | Office Building, 312 - 21st Street  |

# CAMPUS MAP



Parking Areas

# 1969 - 70 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

S	M	T	W	T	F	S
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21	22	23	24	25	26	27
28	29	30	31			

## OCTOBER

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## JANUARY

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### *Fall Quarter, 1969*

August 1

Last day to apply for admission

September 28, 7:30 p.m.

Convocation for New Freshmen

September 30

Registration of returning students

October 1, 8:00 a.m.

Classes begin

November 11

Veteran's Day Holiday

November 26, noon - December 1, 8:00 a.m.

Thanksgiving Recess

December 15-19

Final Examinations

### *Winter Quarter, 1970*

January 5

Registration

January 6, 8:00 a.m.

Classes begin

February 23

Washington's Birthday Holiday

March 16-20

Final Examinations

## NOVEMBER

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30						

## FEBRUARY

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*Spring Quarter, 1970*

March 30  
Registration  
March 31, 8:00 a.m.  
Classes begin  
June 5-11  
Final Examinations  
June 12  
Commencement

*Summer Quarter, 1970*

June 22-July 31  
Six-Week Session  
June 22-August 21  
Nine-Week Session

*Fall Quarter, 1970*

September 28  
Quarter Opens

**MARCH**

S	M	T	W	T	F	S
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29	30	31				

**JUNE**

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**APRIL**

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26	27	28	29	30		

**JULY**

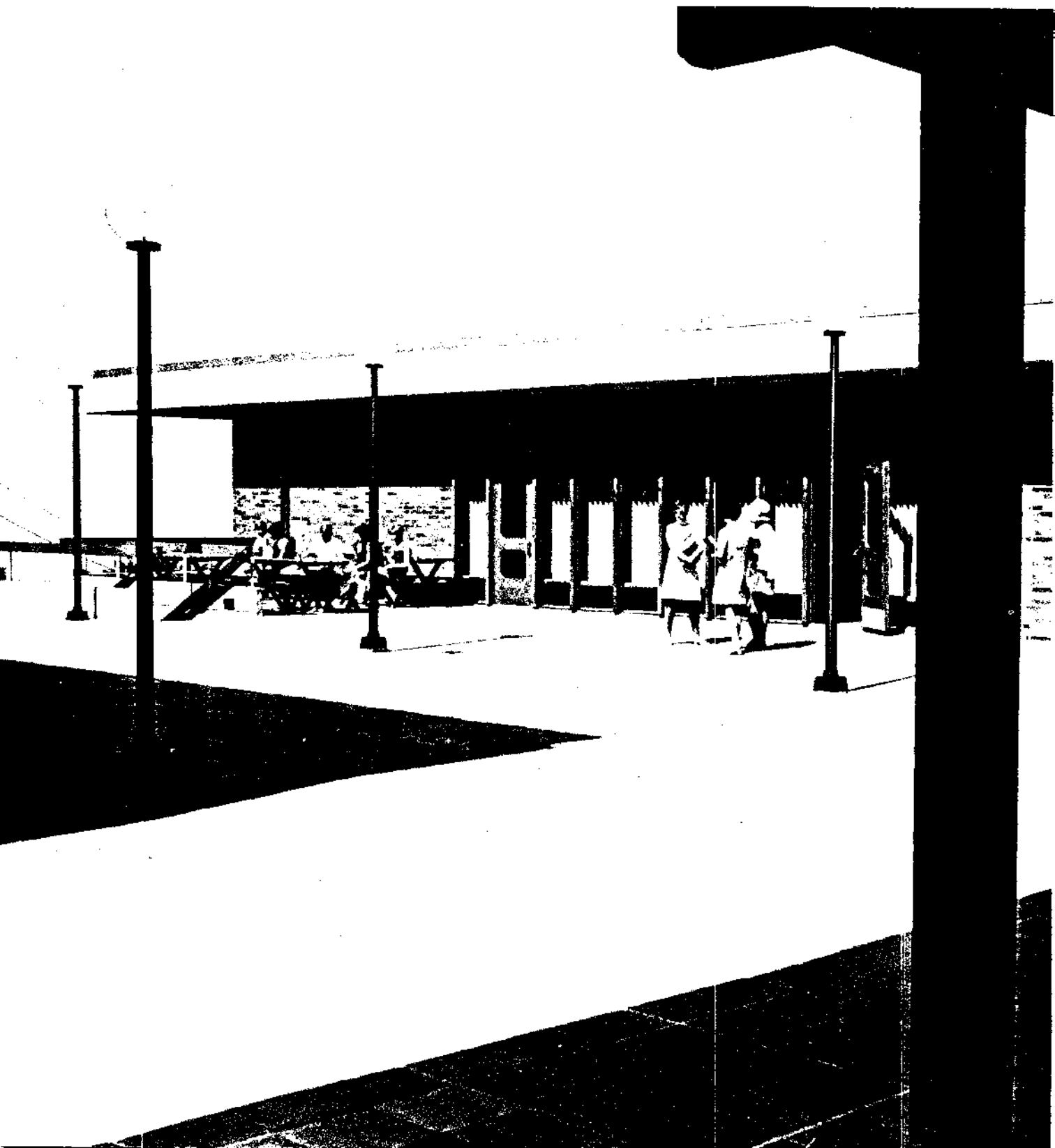
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**MAY**

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**AUGUST**

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30	31					





# 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 38,000 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 associate 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 train 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

The campus has been the scene of continuing building activity as it expands to meet the needs of burgeoning enrollments. It now includes ten major academic facilities, more than half of which have been constructed in the past decade. Recent additions include Bond Hall (Science, Mathematics, and Computer Center), Miller Hall (Education and Psychology), and the Fairhaven College facilities to be opened late this year. Houses in the vicinity purchased in the expansion of campus acreage have been pressed into temporary service; additions and remodeling are modernizing existing facilities including the Mabel Zoc Wilson Library, Old

Main, the Arts Building, the Music Auditorium, and Carver Gymnasium. A facility for the Northwest Environmental Studies Center and a Marine Laboratory on salt water are on the drawing boards, and a Social Sciences building is in the planning stage.

Student facilities, dormitories, and dining halls are being expanded each year to keep pace with increased demand for admission to the College.





## THE LIBRARY

The Mabel Zoe Wilson Library is the information center of the College. At present it houses 185,000 cataloged 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 2,500 current periodical subscriptions, the total collection numbers more than 300,000. It provides reading and study areas, carrels, and seminar rooms easily accessible to open stacks. There are Reference, Periodical, and Reserve Book rooms, an Education-Curriculum Research Center, and a room for the collection and viewing of microfilm materials.

Construction on an addition to more than double the present facility will begin in late summer. 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 com-

puter 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. Applications must be on file by December 1 for Winter Quarter, March 1 for Spring Quarter, and June 1 for Summer Session.

### *Confirming Application*

Each undergraduate student who is admitted will be asked to confirm his intention to enroll by submitting a nonrefundable payment of \$35 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 advance payment. This payment is not required of graduate students.

Students may apply for admission while still enrolled in high school or in 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.

### *Health Examination*

A health examination is required of all entering students prior to registration. Necessary forms are sent to those who confirm their application. 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.

### *Freshman Students*

*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 except

foreign students from nations other than Canada. 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.

### *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.) 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.

### *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.

### *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.

### *Fairhaven College Candidates*

Fairhaven College, a division of Western Washington State College, selects from among admission candidates on an individual basis. Interested students should read the Fairhaven section of this catalog, and note par-



ticularly the information regarding admission to that College.

### *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.

## 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 in advance. This customarily occurs during the ninth and tenth weeks of the quarter. Fees may be paid at registration time or by mail, at the convenience of the student. If made by mail, payment must be received five days 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 \$3.

## 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	\$ 88.00
Non-Resident of Washington	157.00

\*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.

These charges include a tuition fee of \$19 for residents and \$55 for non-residents.

Funds derived from the other fees, \$69 and \$102 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 \$13 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.

### *Quarterly Charges Part-Time Students* (Students enrolling for a maximum of six credits)

For each credit	\$12.00
(The minimum fee is \$24)	

### *Auditors (without credit)*

One or more courses, per quarter	\$24.00
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### *Continuing Studies*

Courses taken by extension or in home study, per credit	\$12.00
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### *Miscellaneous Service Charges*

#### *Parking (per quarter)*

General	\$ 9.00
Residence Hall	10.00
Motorcycle	1.00

*Change of Schedule* After the student has completed his registration, \$3 is charged for any change not made at the initiative of the College.

*Late Registration* \$3 is charged if a student fails to pre-register or register at appointed times.

*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.

### *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.

### *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	\$1,500.00	\$1,600.00
If housekeeping	1,400.00	1,550.00
If living at home or working for room and board	750.00	900.00

These estimates make no provision for clothing costs or travel expense.

## **FINANCIAL ASSISTANCE**

It is the position of the College that the limited funds available for student assistance are most legitimately used, not as an inducement to attend this institution, but as a means to an end for the student that of attending when this seems to be an educationally sound course of action and when, for financial reasons, it would otherwise not be possible.

The College evaluates the total educational program of the financial-aid applicant: school or college grades, test scores, participation in school or community activities, work experience, recommendations, future plans.

The College will make every effort to offer assistance to qualified applicants commensurate with indicated need. The assistance may take the form of guaranteed employment, a loan, a scholarship, or some combination of these.

The College expects that every student aid applicant will supply part of his own funds through summer or term-time employment, and that parents will contribute in proportion to their financial ability. In assessing need, the College uses the Parents' Confidential Statement prepared by College Scholarship Service.

### *Entering Freshmen*

#### *Scholarships*

Freshman awards are available through the Education Opportunity Grants Program. Admissibility and need are the criteria. In addition, the College offers a variety of academic scholarships as well as talent awards in art, music, speech-drama, and athletics. All such awards are determined on the basis of outstanding performance; the amount is regulated by need. The continuation of these awards for a second or succeeding year is based upon successful academic performance and demonstration of continuing need. A renewal application is necessary each year.

#### *NDEA Loans*

The National Defense Education Act provides sizable sums for loans to freshmen and advanced students. The maximum loan, based on demonstrated need is \$1,000; the average loan granted is about \$500. Parents must co-sign with students under 21 years of age.

#### *Guaranteed Employment*

Jobs paying from \$300-\$600 per year are available in the college library, custodial and food services, and college offices.

### *How to Qualify*

Achieve high school grades which constitute grounds for admission to the College.

Give evidence of personal involvement in the life of the school or community.

Present personal recommendations of a high order.

Demonstrate financial need.

### *How and When to Apply*

The application deadline for all forms of assistance is March 1. Obtain forms from high school counselor. Complete the Application for Admission and have it sent to the Director of Admissions as soon as the final semester has begun. Be certain to complete the supplement reserved for financial aid applicants. Send a Parents' Confidential Statement to College Scholarship Service, Berkeley, California. This form, with a service charge of \$2, must be mailed by February 1. The College will notify freshman candidates of awards by May.

### *Transfer Students*

Financial assistance is available as outlined below for students in attendance, except that applications must be completed by March 15. Application forms are available through guidance offices in Washington community colleges.



### *Students In Attendance*

#### *Employment*

The most common form of aid to enrolled students is campus or community employment. The Financial Aids Office can be helpful in obtaining off-campus employment. On-campus employment is in two categories: (1) from funds budgeted for campus part-time employment, and (2) from college Work-Study funds provided through the Higher Education Act. Application for the first category of openings is made in person to the appropriate department. The second category requires evidence of need; application is made through the Financial Aids Office. Employment in this second category can often be guaranteed as part of a "package program" of assistance. Applications are taken throughout the year, but priority is given to those received by April 1 of the preceding year.

#### *Loans*

NDEA--See section above on freshman assistance.

The United Student Aid Fund and the Guaranteed Loan Program constitute a cooperative arrangement between banks and colleges. The student may borrow up to \$1,500 per year at an annual interest rate of seven per cent; repayment is made on a five-year schedule after graduation. (Under certain conditions, the Federal Government will pay the interest while a student is in college.)

#### *Scholarships*

Western Washington State scholarships are one year non-renewable awards of from \$100 to \$300 made available through private contributions to the Western Washington State College Foundation. Approximately \$20,000 is available annually for these awards. In addition to academic scholarships, there are special ability awards in art, music, speech-drama and athletics. All are based on need. A renewal of these one-year scholarships is based upon outstanding performance and demonstration of continuing need.

Study grants are provided by Educational Opportunity Grant funds. Such awards are based on need. Any

student in good standing may apply. Awards are combined with other forms of assistance (jobs, loans) to provide the amount necessary to insure continued attendance. Renewal is based upon an annual application. The Financial Aids Office processes all scholarship applications.

### *Graduate Students*

A limited number of graduate assistantships are available with duties assigned in the various departments of the College at a monthly stipend of \$250-\$300. Application should be made to the Dean of the Graduate School. Graduate students may also apply for NDEA loans through the Financial Aids Office.

### *Policies Relating To Financial Aids*

#### *Employment (on campus)*

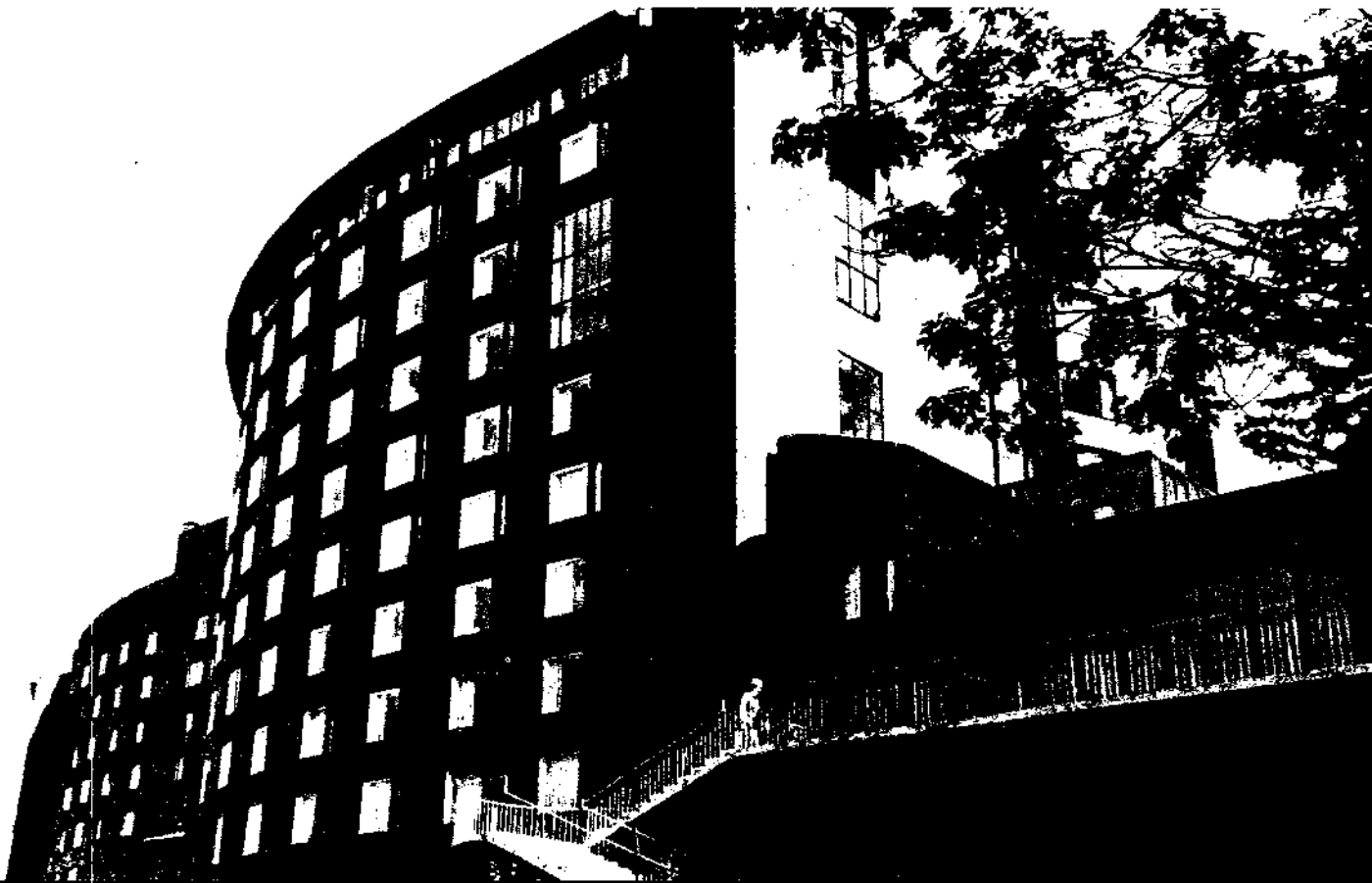
Students must be in good academic standing, carrying 12

or more quarter hours. A social security number is required. Foreign students must file a valid work permit issued by the Bureau of Immigration and Naturalization.

### *NDEA Loans*

The College agreement with the Federal Government requires an exit interview for all NDEA loan holders. It is the responsibility of the student to request such an interview with the Director of Financial Aids if he leaves the college.

Most scholarships and large loans are made available to students in three equal installments at the beginning of each quarter. Such funds are not available for advance payment of fees.



## 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: (1) college operated housing (residence halls, mobile homes, apartments), (2) inspected off-campus housing, and (3) non-inspected off-campus housing.

Assignments to residence halls, married student housing, and inspected off-campus housing are made without reference to race, creed, or color. The College does not list non-inspected 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.

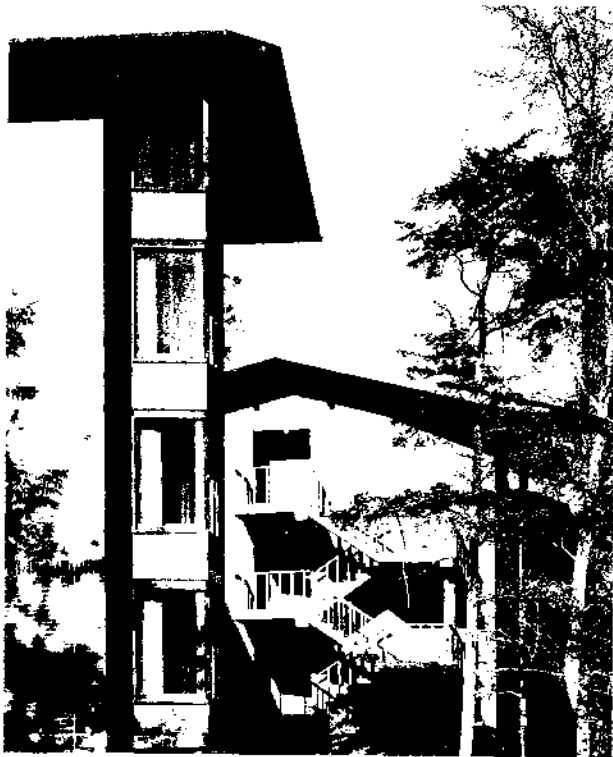
2. He is presently enrolled or has previously been enrolled at Western Washington State College.

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.

*Hidden Valley Village* is located on a three-acre site towards the south end of the campus. The Village accommodates 42 mobile homes for 168 women students, one mobile home for the Resident Director, and one for the laundry and storage facilities. All basic furniture and utilities are provided. Occupants may prepare their own meals or take them in the dining halls. They are responsible for the cleanliness of each unit.

Each mobile home (12 feet by 60 feet) has a living room, kitchen-dining-study area, bathroom, two bedrooms, wall-to-wall carpeting and drapes. Students living in the mobile homes are required to follow the same rules that apply to all students attending Western.

Assignments to a mobile home are made according to date of receipt of the applications. A list of the occupants of each unit is mailed with the assignment. Regulations regarding payment of the \$50 deposit and payment dates as stated above for the residence halls apply also to mobile homes.

### *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 rates for multiple occupancy for students who live in the residence halls for the entire 1969-1970 year are:

Fall Quarter	\$308
Winter Quarter	\$281
Spring Quarter	\$261

Students who enter the residence halls after fall quarter will be charged \$278 for spring quarter. These rates are subject to change by the College Board of Trustees.

Room and board is charged from the official date of opening of a term. In the case of students who enter the hall five or more full days after the official opening date, room and board charges begin on the day the student checks into the hall.

*Mobile Homes:* Room rent per student is as follows for 1969-1970:

Fall Quarter	\$167
Winter Quarter	\$138
Spring Quarter	\$112

Board is available at any dining hall at the following prices:

Fall Quarter	\$189
Winter Quarter	\$183
Spring Quarter	\$180



*Sehome Manor* rentals are:

Efficiency Units	\$ 70-\$ 80
One-bedroom Apartments	\$ 80-\$120
Two-bedroom Apartments	\$105-\$120

### *Adjustments*

Since the residence halls depend upon full occupancy, room rent is not refundable for absences from the hall. 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 hall. 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.

### *Inspected Off-Campus Housing*

Privately owned, off-campus housing in Bellingham provides a necessary service to students and the College. These houses are properly supervised under the same rules as for students who live on campus. The activities in each house depend upon the group living there.

Most of the houses provide a single bed, linen, mattress, chest of drawers, closet, desk, chair and other common facilities. Since services offered may differ an understanding should be reached with the house owner before a rental contract is signed.

Types of houses available include those providing room only, room and board, and room with kitchen privileges.

The capacity of these houses ranges from 8 to 34 students. A total of 450 men and women students can be accommodated in inspected off-campus housing.

Reservations for accommodations in private housing must be made directly with the landlord. Lists and costs are available from the Housing Office. Upon finding suitable accommodations, reservations must be confirmed by a \$25 deposit to the house owner. The deposit is a reservation fee, non-refundable upon cancellation unless the vacancy is filled without loss to the owner.

The cost of rooms ranges from \$30 to \$45 a month for multiple rooms. Single rooms cost \$5 to \$10 more. Board and room is available in some women's houses, excluding lunches and Sunday meals. On-campus boarding is possible only on a meal ticket basis (21 meals per week). Meal tickets are available at the Housing Office.

### *Other 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 list is maintained by the Housing Office but not published for mail distribution because of the constant change in availability. Since the Office does not make individual rental arrangements, it will be to the student's advantage to arrive in Bellingham prior to the beginning of the quarter to locate suitable housing. Housing and available rentals are in great demand. It may be necessary to arrange for temporary housing at one of the nearby motels while seeking permanent housing.

### *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  
Phone: (Area Code 206) 734-8800, Ext. 2601



### *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 a medical doctor on a part-time basis while school is in session. In addition, there are two registered nurses and four licensed practical nurses on the Health Center staff. The College physician performs 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*

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. 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 a grade of C or better 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 con-

stitute 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 \$20 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

Grades A, B, C, D, S, P are considered passing; however, grades of D are not acceptable in the major, the minor,

English composition, and in professional education and educational psychology courses required for a degree, nor for Fifth Year courses. See *Graduate Bulletin* for grade standards in master's degree programs.

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. Reports will be mailed to parents of students under 21 years of age upon request of the parent or of the student.

*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 and student teaching, 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.

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.

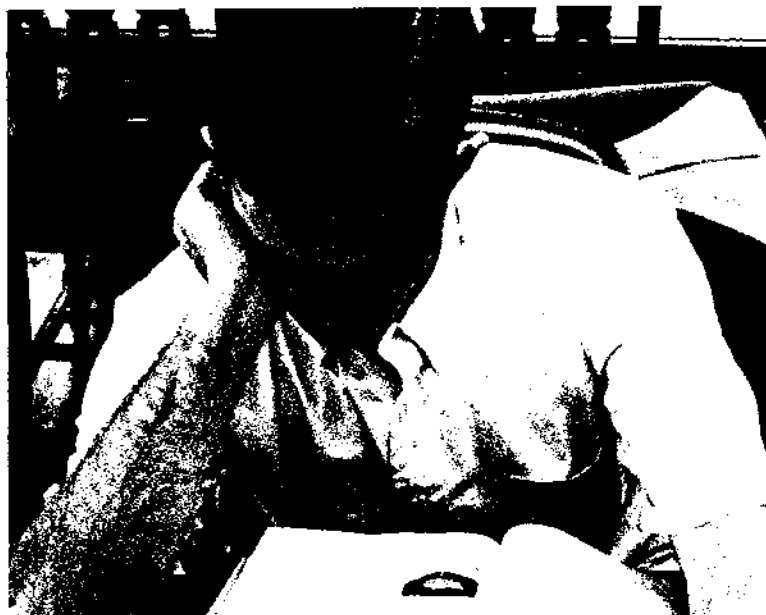
*Pass-Fail grading* is available on an optional basis for students.

(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 sixth week of a quarter.



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 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 scheduled 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

A charge of \$3 is made for any change in a student's schedule after registration is completed unless such change is made upon the initiative of college authorities.

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 Change of Registration Fee and 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 re-enrollment 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. To implement this policy, certain procedures should be followed. The student normally will register his complaint with the instructor concerned. Failing satisfaction at this level, he then takes it to the department chairman who may consult with the instructor and adjudicate the matter. In the rare instances when satisfaction is not obtained at this level, the problem may be referred to the Academic Dean's Office.

## 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 has previously established credit for a similar course at this or another college;
  - b. if the student has previously failed the course;
  - c. if the student has previously challenged the course and failed;
  - d. 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.

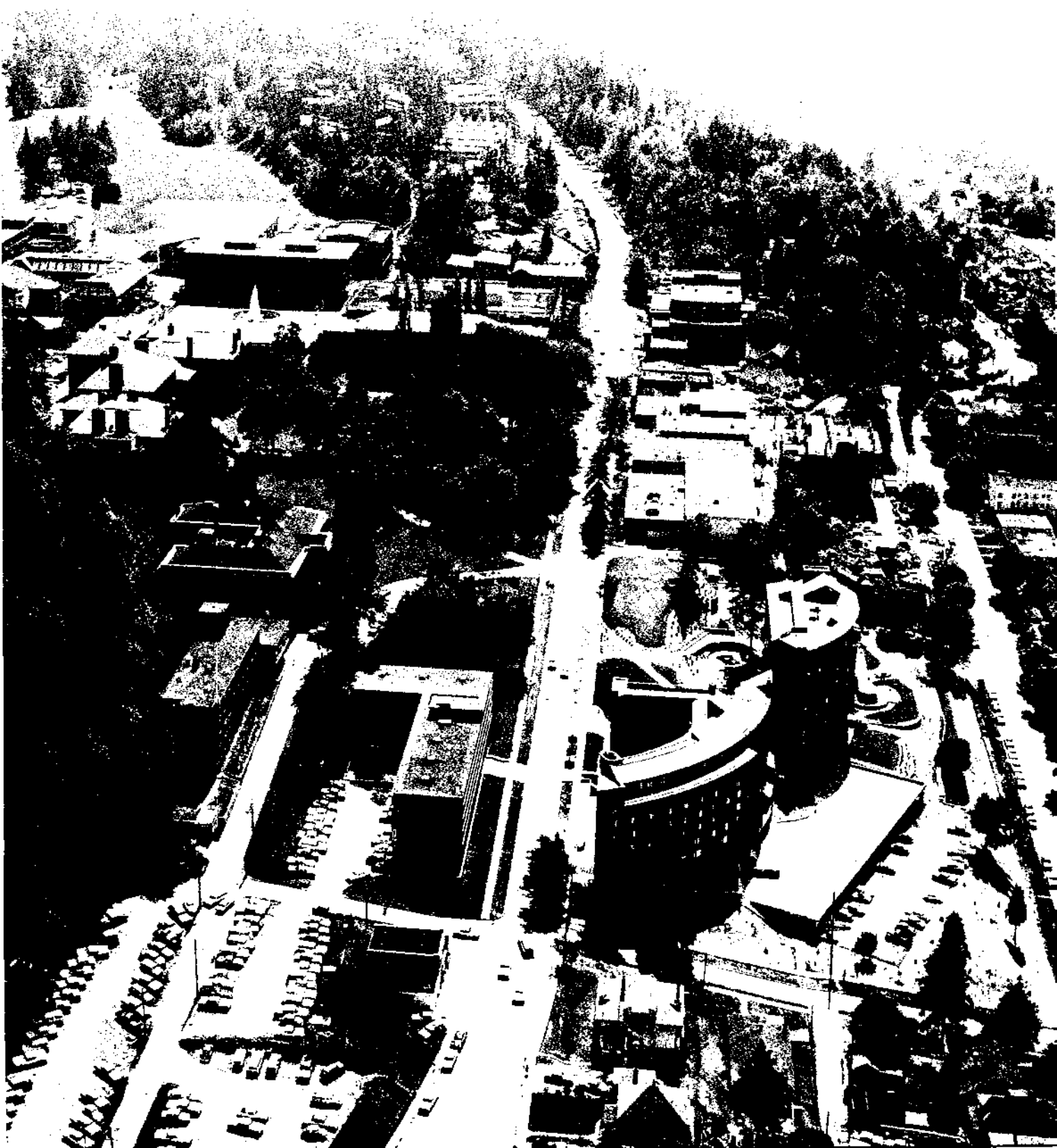
All veterans should make certain that the objective they are planning to pursue is the one for which they are specifically authorized by the Veterans Administration. For instance, if the authorization is for the master's degree, the veteran must enroll in courses acceptable toward that degree. Any necessary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

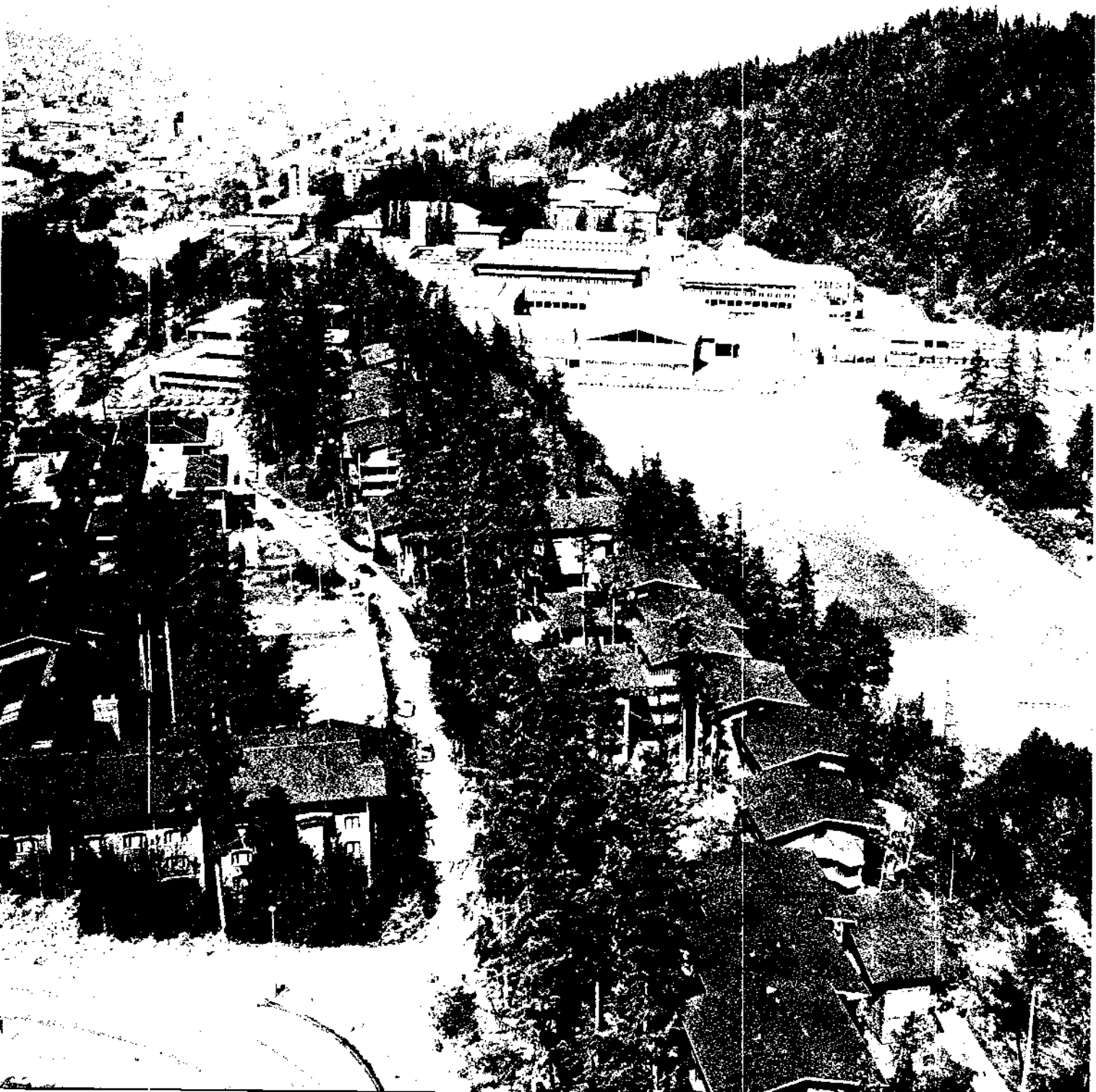
The veteran should be prepared to pay his own expenses for at least two months.

### *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.





# 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.
- Scholarship standard: a cumulative grade average of 2.0 (C), or better, with no grades of less than "C" acceptable in the major, 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 is admitted 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 from the College, 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., Chemistry 121 in lieu of Chemistry 101). 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. 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*

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

Gen Ed 121

Two courses from History 105, 106, 107

Gen Ed 122

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

Gen Ed 123

One course from Phil. 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. Gen Ed 105 Behavioral Science                  | A. Psych 201 <i>and</i> Soc/Anth 200 or 201   |
| B. Gen Ed 200 Economic and Political Institutions | B. One course from each of two fields:<br>Economics 201, <del>202</del><br>Geography 201, 207, 470<br>Pol Sci 101, 250                                      |
| C. Gen Ed 321 Non-Western Cultures                | C. Two courses from:<br>Geography 315, 319, 415<br>History 280, 385, 480, 483, 484, 485, 487<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

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

10 credits in chemistry other than Chem 101

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

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

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

Biology 101, 204, 371

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

Biology 101, Botany 251, 252

Biology 101, Zool 261, 262

Physics 105, 131, 205

## 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	Industrial Technology
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

*Minor concentrations*, generally requiring 25 credits, are offered in the fields above and also in Business Education, Health Science, Journalism, and the Dance.

## B. A. IN EDUCATION

This program leads to the *Provisional Certificate* for teaching in the public schools of the state of Washington. The certificate is valid for three years from the date of issuance. For the first year it is restricted to teaching at the level and/or subject for which the teacher is recommended by virtue of his preparation. (Consult departments on standards for recommendation.)

In addition to the general education courses and other common 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 who are permanent residents intending to become citizens may obtain special permits from the Office of the State Superintendent of Public Instruction.

### PROFESSIONAL EDUCATION COURSES—36 credits

- Ed 301 American Education and the Teacher
- Ed 411 Foundations of Education
- Ed 385 Foundations of Teaching Reading  
or
- Ed 420 Instruction in Secondary Schools
- Supervised Teaching, 16 cr. from Ed 491-498
- Psych 351 Principles of Human Learning
- Psych 352 Human Devel. and Personality
- Psych 371 Evaluation in the Public School

These educational psychology requirements may be satisfied by the conventional class program or by independent study. Students interested in the latter should consult the Psychology Department for details.

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

## MAJOR-MINOR CONCENTRATIONS—B.A. IN EDUCATION

Approved concentrations totaling 65 to 80 credits 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 credits in one of the following fields:

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\**

This minor is required of all students desiring recommendation for elementary level teaching.

*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

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\*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.

### *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	Library Sci 305
Biology 383	Linguistics 201
Education 360	Music 350
English 380, 405a, 490	P.E. 306
Health Ed 350	Phys. Science 382
Health Ed 450	Speech 233, 330, 355, 373
	Technology 350

Prior to elementary student teaching, a student must complete Math 281 and three courses from: Ed 485, Math 481, Soc Studies Ed 425 and one science education course.

### *Secondary Teachers*

(See departmental listings for specifications.)

#### *Majors*

45 credits in one of the following fields:

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

(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 chemistry and physics majors.

Concentrations encompassing both a major and a minor



are offered in art, general science, home economics, music, and physical education.

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.

#### *Minors* 25 credits

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

Biology	Linguistics
Economics	Philosophy
Geology	Political Science
Health Science	Psychology
Library Science	Sociology/Anthropology
Journalism	

#### *Combined Junior High—Intermediate Grades*

Students desiring recommendation for teaching at both the junior high (middle school) and the intermediate grade levels may take a combination program. This program includes:

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

## TEACHER PREPARATION FOR GRADUATES

Special study programs are provided for graduates in arts and sciences who wish to obtain certificates to teach in the public schools of Washington. These programs combine the professional teacher preparation normally given in undergraduate study with the required fifth year for standard certification. Individually tailored study programs will generally require three quarters (an academic year) for provisional certification plus a minimum of one quarter of study following successful teaching experience.

These study programs will be of interest to students who wish to complete a stronger academic background before teaching than is generally possible in the four year curriculum and to students who decide upon a teaching career after completing a general college degree program.

Study patterns are available for both secondary and elementary teaching, beginning only in fall quarter.

*Admission* to these special programs requires:

1. Possession of a B.A. or B.S. degree with a grade average of 2.2 or better.
2. Completion of subject concentrations appropriate for the grade level at which the candidate wishes to teach.
3. Demonstration of adequate competence in written and spoken English.

Applicants will be selected by an admissions committee consisting of representatives of the Department of Education and of the subject area of the student's major concentration.

The year's pre-service study begins with a September practicum in the public schools for a period of three weeks prior to the opening of Fall quarter.

Candidates for admission to these programs for the certification for graduate students will apply to the Office of Teacher Education Advisement and Certification.

## 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. Formal application for admission is normally made while the student is enrolled in Education 301. No further professional courses may be taken until the application is approved.

To be eligible for admission the student must:

- a. *Demonstrate English competence* by presenting a grade of "B" or better in English 101 or equivalent, or by satisfactorily passing an English competency examination.
- b. *Demonstrate speech competence.* Satisfaction of the general education requirement of Speech 100 will be accepted as demonstration of competence. However, students who manifest speech problems detrimental to teaching success may be referred to the Speech Department for remedial work.
- c. *Pass Education 301* with a satisfactory grade.
- 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. A student may be considered for admission to Honors work if (1) his scholastic aptitude test scores place him in the upper five per cent of all students at the College; (2) he attains a cumulative college grade point average of 3.7; or (3) he is nominated by a high school or 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. Each Honors student is assigned a tutor to whom he presents papers for subsequent discussion and with whom he confers regularly. There are a number of special courses 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, mathematics, music, political science, psychology and sociology. 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 Fifth Year 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 spring and summer 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:* Applegate, Foss, Kelsey, Templeton, Vike.

*Assistant Professors:* Bottomley, Hanson, Jensen, Johnston, Kazlov, McCormick, Schlotterback, Vassdal, Wegner.

*Lecturers:* Thomas, Urso.

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, 220, 230, 401

One course from Art 240, 250, 260

One course from Art 302, 402, 403 (crafts majors take 331 instead)

Art 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.

48

### *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 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, 195

Electives selected under departmental advisement

### *Art History Major* 60 credits plus Supporting Courses

Art 193, 194, 195, 290, 390, 493

Three areas from:

(a) Art 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 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, 195, 220, 230, 270, 381, 382
- One additional course in art history
- Two courses from Art 210, 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, 195, 381
- 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, 210, 220, 230
- Art 270, 381, 382, 401
- One course from Art 240, 250, 260
- One course from Art 302, 402 (Crafts majors substitute 331)
- Art 193, 194, 195, and one additional art history course
- 15 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**

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

- 101     **DRAWING AND DESIGN I** (3)  
Fundamental principles and techniques using a variety of black and white media.
- 102     **DRAWING AND DESIGN II** (3)  
Prerequisite: Art 101. Studies of form and structure in a variety of media; emphasis on color, pattern and design concepts.
- 103     **DRAWING AND DESIGN 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; role of line, plane, color, texture, volume, and space.
- 193     **SURVEY OF ART HISTORY I** (3)  
Prerequisite or concurrent: G E 121 or Hist 105. Ancient and medieval art.
- 194     **SURVEY OF ART HISTORY II** (3)  
Prerequisite or concurrent: G E 121 or Hist 105 or Art 193. Renaissance art, 13th-18th centuries.
- 195     **SURVEY OF ART HISTORY III** (3)  
Prerequisite or concurrent: G E 121 or Hist 105 or Art 193 or 194. Modern art in 19th, 20th centuries.
- 201     **LIFE DRAWING I** (3)  
Prerequisite: Art 103.
- 210     **PRINTMAKING I** (3)  
Prerequisite: Art 102, 103. Introduction to the major print processes; relief, planographic, and intaglio.
- 220     **PAINTING I** (3)  
Prerequisites: Art 102, 103. Beginning painting; control of form and technique in relation to still-life, life paint, landscape and personal invention, using water-soluble or oil media.

## Art

- 230 SCULPTURE (3)  
Modeling and carving with emphasis on projection of volume in space.
- 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, 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.
- 290 MODERN ART HISTORY I (3)  
Prerequisite: Art 195. The art of the 19th century Western World.
- 292 ANCIENT ART I (3)  
Prerequisites: Art 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 494.
- 295 RENAISSANCE ART I (3)  
Prerequisite: Art 193 and 194, or permission of instructor. Art of the Renaissance in Southern Europe.
- 300 SPECIAL PROBLEMS IN ART (1-5)  
Prerequisite: permission of instructor.
- 302 LIFE DRAWING II (3)  
Prerequisite: Art 201.
- 311 PRINTMAKING—LITHOGRAPHY (3)  
Prerequisites: Art 195, 210. Planographic processes; emphasis on lithography and woodcut.
- 312 PRINTMAKING—INTAGLIO (3)  
Prerequisites: Art 195, 210. Intaglio processes; etching, engraving and aquatint.
- 313 PRINTMAKING—SERIGRAPHY (3)  
Prerequisites: Art 195, 210. Serigraphy, emphasizing stencil techniques.
- 321 PAINTING (3)  
Prerequisites: Art 195, 220.
- 325 WATER COLOR PAINTING (3)  
Prerequisites: Art 195, 220. Various water-soluble media.
- 328 LIFE PAINTING (3)  
Prerequisites: Art 195, 220. Concentration on the human figure.
- 331, 332, 333 SCULPTURE II, III, IV (3 ea)  
Prerequisites: Art 195, 230. Problems in three-dimensional form and expression employing a variety of media and materials.
- 341 CERAMICS II (3)  
Prerequisites: Art 195, 240. Problems in forming with the potter's wheel, high temperature glazes, clay body construction, stacking and firing practices.
- 342 CERAMICS II (3)  
Prerequisites: Art 341. Advanced problems in ceramic form and expression.
- 351 JEWELRY II (3)  
Prerequisites: Art 195, 250. Problems in simple and centrifugal casting.
- 353 GLASS (3)  
Prerequisites: Art 102, 130, 195. Glass as an art medium; fusing, laminating, slumping, pressing, and casting.
- 361 FABRIC DESIGN II (3)  
Prerequisites: Art 195, 260. 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 REPRODUCTION LETTERING AND GRAPHIC DESIGN (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 (3)  
Prerequisites: Art 103, 195, 371. Design as communication; design and preparation of material for graphic reproduction.

- 380 ART IN ELEMENTARY EDUCATION (5)  
Prerequisites: Humanities or Art 190; for non-majors. Child development in art for the elementary school; problems in design, drawing, painting and printmaking as they relate to the school.
- 381 ART EDUCATION (3)  
Prerequisites: Art 102 and 103 or Art 380; Gen Ed 105. 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.
- 390 MODERN ART II (3)  
Prerequisite: Art 195. Art of the 20th century world.
- 391 ORIENTAL ART (3)  
Prerequisites: Art 193, or 194 or permission of instructor. Oriental art with emphasis on China, India, and Japan.
- 392 ANCIENT ART II (3)  
Prerequisite: Art 292 or 193 and permission of instructor. Art of the ancient Greek and Roman civilizations.
- 394 PREHISTORIC AND PRIMITIVE ART I (3)  
Prerequisite: Art 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)  
Prerequisites: Art 295 or Art 193 and 194 and permission of instructor. Art of the Renaissance in Northern Europe.
- 398 AMERICAN ART TO 1913 (3)  
Prerequisites: Art 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.
- 401 SEMINAR IN ART (2)  
Prerequisite: senior status or 9 credits in art history; 1B credits in studio courses. Non-historical art criticism course; development of criteria for mature artistic judgment.
- 402, 403 INVENTIVE DRAWING (3 ea)  
Prerequisite: Art 201. Problems in drawing as a major medium.
- 411, 412, 413 PRINT WORKSHOP (3 ea)  
Prerequisite: Art 313. Advanced printmaking, open media; use of color in intaglio or lithography.
- 421, 422, 423 ADVANCED OIL PAINTING (3 ea)  
Prerequisite: 9 credits in painting, or permission of instructor. Individual search for form and expression.
- 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, 426, 427 ADVANCED WATER COLOR PAINTING (3 ea)  
Prerequisite: Art 325 or permission of instructor. Painting workshop using aqueous media.
- 431 CERAMIC SCULPTURE (3)  
Prerequisite: Art 331, 341. Use of ceramic materials as a sculptural medium.
- 432 DIRECT METAL SCULPTURE (3)  
Prerequisite: Art 331. Direct metal sculpture; emphasis on the welding processes.
- 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.
- 434, 435 ADVANCED SCULPTURE (3 ea)  
Prerequisite: Art 331. Advanced problems in sculptural form and
- 441 ADVANCED CERAMICS (3)  
Prerequisite: Art 342. Advanced problems in ceramic form and expression; may be repeated for credit with different projects.
- 451 ADVANCED JEWELRY (3)  
Prerequisite: Art 351. Advanced problems in jewelry as an art form.
- 461 ADVANCED FABRIC DESIGN (3)  
Prerequisite: Art 361. Advanced workshop in tapestry, rug making and other media.
- 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.
- 471 ILLUSTRATION (3)  
Prerequisites: Art 195, two painting courses. Techniques of illustration for graphic reproduction.
- 472 POSTER AND DISPLAY (3)  
Prerequisite: Art 313. Two and three-dimensional display; design and production of the silk screen poster.

- 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.
- 492      **MEDIEVAL ART**   (3)  
 Prerequisite: Art 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 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)
- 497a     **ENVIRONMENTAL ART**   (6)  
 Creation of a total aesthetic environment whose pattern is ordered by the dictates of artistic reason rather than that of practical living. Summer.
- 498      **AMERICAN ART, 1913 TO THE PRESENT**   (3)  
 Prerequisite: Art 193, 194, 195.
- 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)  
 Prerequisites: graduate status or completion of an art major or equivalent. Individual problems in painting.
- 531      **GRADUATE SCULPTURE**   (2-4)  
 Prerequisites: graduate status or completion of an art major or equivalent. Individual problems.
- 541      **GRADUATE CRAFTS**   (2-4)  
 Prerequisites: graduate status or completion of an art major or equivalent. Individual problems in selected crafts.
- 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.

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, Senger.  
*Associate Professors:* Dube, Erickson, Heath, Kraft, Parakh, Riffey, Ross, Schwemmin, Taylor.  
*Assistant Professors:* Balzer, Brown, Dallas, Fonda, Haard, Kohn, Lighthart, Mason, 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. Biology 101 should be included in an early quarter as it is prerequisite to most biology courses. 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; Gen Sci 405
- Zoology 261, 262
- Upper division electives under departmental advisement
- Supporting courses: Chem 121, 122 or 124, 123, 127, 128, 333 (or 361, 362, 363), 251 (or 351 and 354); one year of college physics under advisement; Math 220 (or 122), 240; Geol 211 or 212.  
 (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

The preparation of secondary teachers of biology involves a five-year program. Students will enroll in the Arts and Sciences degree program with a biology major. The professional education requirements are deferred to the fifth year under the Certification Programs for graduates (see page 42). Biology 493 is required for secondary teachers.

Note: For students planning to teach in the elementary or junior high school, a General Science major is recommended. That concentration includes courses in 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" must complete Biology 399 each quarter in the junior year; 8 credits of "A" grades in upper division biology courses will be accepted for honors credit for those students first entering the program in their junior year. Junior and senior tutorials will be utilized for background reading and research leading to a senior 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.

## Biology

- 204 GENERAL BIOLOGY (4)  
Prerequisite: Biol 101. The plant and animal kingdoms; techniques of collection, field identification and preservation. Not intended for biology majors or minors.
- 240 MARINE BIOLOGY (3)  
Prerequisite: Biol 101. Study of plants and animals of the seashore. Not open to students with credit in Zoology 461 or Botany 456. Summers only.
- 300 SPECIAL PROJECTS IN BIOLOGY (1-2)  
Prerequisites: 15 credits in biological science and permission of instructor. May be repeated for credit.
- 301 ECOLOGY (5)  
Prerequisites: Bot 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 Zoology 461.
- \*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.
- 396a,b,c HONORS TUTORIAL (2-5 ea)
- 397a 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
- 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.
- 405 SOIL ECOLOGY (5)  
Prerequisite: Biology 301 and permission of instructor. The soil habitat and adaptations of soil bacteria, fungi, algae, and protozoans to it.
- 406 GENERAL OCEANOGRAPHY (3)  
Prerequisites: Phys 131, 132; Chem 121, 122. Survey of oceans from geological, physical, chemical and biological points of view.
- 447 COMMUNITY HEALTH AND HYGIENE (3)  
Prerequisite: 10 credits in biology. Practical application of principles of hygiene in a study of community, national, and international health problems.
- 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.
- 473 HISTOLOGICAL TECHNIQUES (5)  
Prerequisite: 10 credits in biology. Preparation of microscope slides of both plant and animal tissues.
- \*477, 478 GENERAL CELLULAR PHYSIOLOGY (5 ea)  
Prerequisites: 20 credits in biological sciences, Chem 121-122 and 251 or 351-352, or permission of instructor; Biol 477 prerequisite to Biol 478. Structural and functional basis of living matter; the cell.
- 490 PRINCIPLES OF ORGANIC EVOLUTION (3)  
Prerequisite: Biology 301, 371. Principles, patterns, processes, and mechanisms of evolution in the organic world.
- 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.

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



## 501 THESIS RESEARCH (1-15)

Prerequisite: permission of thesis advisor. 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, Zoology 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, Phys 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.

## 597 RECENT DEVELOPMENTS IN MOLECULAR AND CHROMOSOMAL GENETICS (4)

Open only to participants in Institute for Community College Teachers. Role of nucleic acids, genetic regulation, chromosomal structure, meiotic drive and chromosomal related human maladies; includes laboratory.

## 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: Bot 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 (3)

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

## Biology

- 475 DEVELOPMENTAL MORPHOLOGY (3)  
Prerequisites: Bot 251 and 252. Experimental approach to the study of plant morphology.
- 481 STRUCTURE AND PHYSIOLOGY OF TREES (3)  
Prerequisite: Bot 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

- 241 HUMAN ANATOMY (5)  
Prerequisite: Biol 101 recommended; not open to students taking the combined anatomy-physiology courses, Zoology 248, 249.
- 243 HUMAN PHYSIOLOGY (5)  
Prerequisite: Biol 101 recommended. Normal functions of the human body and bodily processes. Not open to students taking the combined anatomy-physiology courses, Zoology 248-249.
- 248-249 HUMAN ANATOMY AND PHYSIOLOGY (5 ea)  
Prerequisites: Biol 101 or permission of instructor; Zool 248 prerequisite to 249. Structure and function of the human body. Not open to students who have had Zool 241 or 243.
- 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.
- 361 ORNITHOLOGY (3)  
Prerequisite: Biol 101. Morphological adaptations of birds; their evolution, classification, distribution, and economic importance; field trips.
- 362 ORNITHOLOGY (3)  
Prerequisite: Biol 101; Zool 361 recommended. Migration, foods, nesting behavior; types of bird protection.
- 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. Not open to those having had Zool 324 and 325 or equivalent. Summers only.
- 426 PRINCIPLES OF INSECT CONTROL (3)  
Prerequisite: Zool 262 or permission of instructor; Zool 324 recommended. Legal, physical, cultural, chemical, and biological regulation of insect populations; life cycles and control of major pest species.
- 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.
- 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 324 and Biol 301. Classification and ecological interrelationships of insects in streams and lakes.

# CHEMISTRY

*Professors:* Knapman (Acting Chairman), Chang, Frank, G. Miller, Neuzil.

*Associate Professors:* Besserman, Eddy, King, Lampman, Miller.

*Assistant Professors:* Gerhold, Kriz, Russo, Searle, Weyh, Whitmer, Wicholas, Wilson.

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, 492 or Phys Sci 492
- Supporting courses: one year college physics and Math 121, 122, 222

*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), 492 or 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 normally requires completion of the major or the extended minor with a grade average of 2.5 or better.

## 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* 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.

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\*5-10 credits less of required courses if student begins sequence with Chemistry 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 four 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 Chemistry 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 required. Changes of state; solutions, colloids, chemical kinetics, chemical equilibrium; equilibrium in aqueous solutions.

### 123 GENERAL CHEMISTRY LABORATORY (2)

Laboratory experiments illustrative of principles and practices in general chemistry. To be taken concurrently with Chem 122 or 124.

### 124 PRINCIPLES OF CHEMISTRY (4)

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

### 127 INORGANIC 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 Chemistry 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; 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 (3,3,3)

Prerequisites: one year 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 (5)

Prerequisites: Chem 333 and 463. 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.

## 482 NUCLEAR CHEMISTRY (3)

Prerequisites: Chem 123 and Phys 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.

## 492 HIGH SCHOOL CHEM STUDY (3)

Prerequisite: 25 credits in chemistry. Content and methods for teaching the "new" high school chemistry courses such as CHEM study; theoretical and experimental materials selected from the areas of atomic and molecular structure, bonding, kinetic theory, equilibria, chemical kinetics, carbon compounds.

## 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.

## 511 ADVANCED LABORATORY METHODS (2)

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

## Chemistry

### 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: Chemistry 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 photochemistry 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)

Prerequisites: 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 such as nuclear and electron magnetic resonance, Mossbauer, Raman, infrared and Ultraviolet Spectra.

### 571 GENERAL BIOLOGICAL CHEMISTRY (3)

Prerequisites: Biol 101 and Chem 353 and 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 463 and Chem 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)

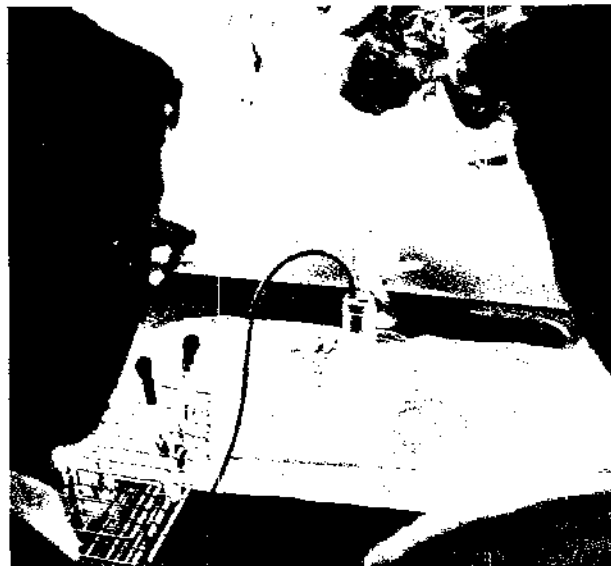
Prerequisites: Chem 482 or Physics 382. Advanced techniques of nuclear chemistry and nuclear physics; nuclear reaction, nuclear fission and involved multi-particle detection and scattering experiments.

### 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 (Acting Chairman), Mayer, Mischaikow, Palmer.

*Associate Professor:* Haglund.

*Assistant Professors:* Fang, Faulkner, McAllister, Walter.  
*Lecturers:* McCain, Shakow, Teasley, Tebrich, Thomson, Zoet.

Note: Courses listed as B A (Business Administration) were formerly included in Economics list.

## TEACHER EDUCATION

### *Major In Business Education*

Secondary 45 credits

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

- Economics 201, B A 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, B A 251, 252, 271, 408
- Five credits from Economics 311, 325, B A 322, 335, 341, 350

### *Minor—Economics* 23-25 credits

(For other than Business Education majors)

- Economics 201, 202
- B A 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* 60-85 credits plus Supporting Courses

Common core for all major concentrations:

- Economics 201, 202, 301, 302, 311, 375, B A 251, 252, 350; Math 240
- Supporting courses: Math 220 (in place of Math 151), Math 270, Geog 207, Hist 360. (Students in the Economics concentration may substitute Math 241 for 270.) Business Education 201 also 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)

- B A 271, 322, 333, 335, 401, 408, 411, Econ 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.

## Economics

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

- B A 271, 333, 335, 351, 352, 411, 455, 457
- B A 322 or Econ 325

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 B A 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

- B A 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
- B A 251, 252, 350
- Twelve upper division credits in economics and business administration selected under departmental advisement
- History 360

- Mathematics 121, 122, 222, 223, 241, 270, 301, 302, 341, 342 (Math 441, 442, 443 may be substituted for 341, 342)

- 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.

### 206,207 THE AMERICAN ECONOMY (4 ea)

Organization and operation of the American economy; particularly recommended for social studies teachers.

### 301 NATIONAL INCOME ANALYSIS (4)

Prerequisites: Econ 201, 202, and 311. Determinants of the level of income, employment and output in the economic system.

### 302 INTERMEDIATE ECONOMIC THEORY (4)

Prerequisites: Econ 201, 202. 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. The economies 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.
- 353 CONCEPTS OF CONTROLS (3)  
Prerequisite: Econ 253; not open to students who have taken Econ 352. Use of budgeting, statistical, and cost systems in achieving planned objectives; responsibility, reporting, and elements of information systems. Not offered after Fall 1969.
- 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.
- 385 THE RISE OF CAPITALISM (4)  
Prerequisite: Econ 202. Evolution of economic institutions in Europe 800-1800; growth of capitalistic market societies.
- 388 DISCRIMINATION AND RESOURCE UTILIZATION (4)  
Prerequisites: Econ 201 or 206 or G 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.
- 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)  
497b ECONOMIC PATTERNS AND DEVELOPMENT OF SOUTH ASIA (3)  
Basic economic characteristics, problems and prospects; main streams of tradition, religion, and culture in light of needs for future development of this area.

## Economics

### 497v ACADEMIC SELF-STUDY AND ANALYSIS (4)

Prerequisite: permission of faculty adviser. Offered in conjunction with Educ 497v, Phil 497v, and Soc-Anth 497v. Interdisciplinary research-writing seminar investigating philosophy, social basis, and goals of higher education; developing an administrative and curricular model for an institution; comparison with an existing institution.

### 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.

### 502 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.

### 503 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: B A 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 bookkeeping and financial statements.

### 252 PRINCIPLES OF ACCOUNTING (4)

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

### 254 INCOME TAX FOR THE EMPLOYEE AND SMALL PROPRIETOR (3)

For wage earners, small businessmen, and non-economics majors. Fundamental principles of the federal income tax law; computation of simple returns.

### 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.
- 322 PERSONNEL MANAGEMENT (5)  
Prerequisite: B A 101 or Econ 201. Principles and practices involved in obtaining and maintaining an effective working force; job evaluation, hiring practices, and wage administration.
- 333 PRINCIPLES OF PRODUCTION (5)  
Prerequisites: Econ 202 and B A 350, or permission of instructor. Principles and procedures of the manufacturing enterprise; organization and administration, location and layout, planning and control.
- 335 PRINCIPLES OF MARKETING (5)  
Prerequisite: B A 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.
- 341 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: B A 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: B A 350; available to students who have taken Econ 353 only with permission of instructor. Historical factory job and process cost systems, distribution cost systems, fixed and flexible budgeting and other controls over business operations available from accounting records.
- 352 INTERMEDIATE ACCOUNTING (5)  
Prerequisite: B A 350. Accounting theory and its application to financial statements, inventories, depreciation, and funds.
- 354 INCOME TAX ACCOUNTING I (3)  
Prerequisite: B A 251 or permission of instructor. General income tax requirements; special problems relating to individual tax returns.
- 356 MUNICIPAL AND GOVERNMENTAL ACCOUNTING (3)  
Prerequisite: B A 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: B A 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: B A 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: B A 350 or permission of instructor. Analysis of processes of management; functions, decision-making, standards of performance, interdisciplinary contributions to organizational behavior.
- 408 THE ROLE OF BUSINESS IN AMERICAN SOCIETY (3)  
Development of American capitalism and its legal, philosophical, and ethical foundations.
- 411 BUSINESS ORGANIZATION AND FINANCE (5)  
Prerequisites: B A 101 or Econ 201, and B A 350 or permission of instructor. Major forms of business organization; problems dealing with sources, uses, and control of funds in business enterprises.
- 417 SPECIAL INTEREST SEMINARS IN BUSINESS ADMINISTRATION  
417a Marketing Management (4)  
Prerequisite: B A 335  
417b Financial Management (4)  
Prerequisite: B A 411  
417c Quantitative Methods in Business (4)
- 421 PROBLEMS IN PERSONNEL ADMINISTRATION (3)  
Not open to students who have taken B A 322. Problems of wage and salary administration, employee rating, and employee selection. Summer only.
- 451 ADVANCED COST ACCOUNTING AND CONTROLLERSHIP (4)  
Prerequisite: B A 351. Critical examination of controls available to management from cost and other accounting records.

## Economics

- 453 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.
- 454 INCOME TAX ACCOUNTING II (3)  
Prerequisites: B A 252, 354. Special problems of partnerships, corporations, and trusts; introduction to tax research.
- 455 ADVANCED ACCOUNTING (5)  
Prerequisite: B A 352. Application of accounting theory to partnerships, branch accounting, installment sales, and other problems.
- 456 CONSOLIDATIONS AND FIDUCIARY ACCOUNTING (5)  
Prerequisite: B A 455. Special problems of consolidated corporations and fiduciaries.
- 457 AUDITING (5)  
Prerequisite: B A 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: B A 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 draft, 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.
- 201 BUSINESS CORRESPONDENCE (3)  
Prerequisite: English 100 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.
- 222 ADVANCED SHORTHAND II (3)  
Prerequisite: Bus Ed 122 or equivalent, or two years 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.

# EDUCATION

## 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)

Student motivation, electric typewriting techniques, skillful use of supplementary materials and special 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)

Prerequisite: 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 in 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.

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

*Associate Professors:* Brown, Carroll, Fennimore, Feringer, Ferris, Friet, Grover, Jackson, Johnson, Karason, Kelly, Lamb, Margaritis, McInnes, Nickelson, Nicol, Panches, Savitch, N. Thompson, Van Wingerden.

*Assistant Professors:* Bieler, Dallas, Gilbert, Jones, Kjarsgaard, Moon, Mullen, S. Schwartz.

*Lecturers:* Bishop, Blackwell, Keagle, McElroy, Moore, Savage, VanderVelde.

The Department of Education offers professional courses for the preparation of teachers and other school personnel and participates in a wide variety of programs leading to the Master of Education degree. Special programs are organized in early childhood education, the education of the handicapped and mentally retarded, for reading specialists, and for various administrative posts. Programs of study have been designed especially for certification of students who complete an arts and science degree program before initiating professional preparation for teaching.

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

The Elementary Teaching Minor is an interdepartmental concentration required for elementary teaching. While the courses are offered in various departments, responsibility for coordination and advisement in the program rests with the Department of Education. Specifications for this minor are listed on page 41.

The Education Department also has administrative responsibility for Library Science. See page 103.

## Education

### 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.)

- 131 INTRODUCTION TO EARLY CHILDHOOD EDUCATION (1)  
Review of the field in terms of history, philosophy, and professional opportunities; observation of young children.
- 137 HEAD START TRAINING PROGRAM (8)  
Prerequisite: admission by National Training Office. The preparation of teachers and aides for Head Start projects; credit available for those who qualify.
- 200 SPECIAL PROJECTS IN EDUCATION (3-5)
- 300 SPECIAL PROJECTS IN EDUCATION (3-5)
- 301 AMERICAN EDUCATION AND THE TEACHER (3)  
Prerequisite: sophomore status. The American school system and the role of the teacher; teaching as a profession. This course is prerequisite to all others in the professional sequence.
- 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)  
Prerequisite: 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.
- 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.
- 397n BILL OF RIGHTS IN AMERICAN EDUCATION (3)  
The Bill of Rights and civil liberties as they relate to teachers, students, and administrators.
- 400 SPECIAL PROJECTS IN EDUCATION (2-3)  
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. Role of philosophical assumptions and social considerations in developing the aims and objectives of schooling, content of instruction, and the teaching-learning process.

## 413 HISTORY OF AMERICAN EDUCATION (4)

Prerequisite: Ed 301 or permission of department. 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: Ed 301 or permission of department. Educational systems in the major countries; backgrounds, aims, types, and present functions; comparison with the American system.

## 416 PERSISTENT PROBLEMS IN EDUCATION (3)

Prerequisite: Ed 301. Such issues as merit pay, federal aid, ability grouping, teachers' organizations, school reorganization, and the place of religious observance in the public schools.

## 417a WORKSHOP FOR TEACHERS OF INDIAN CHILDREN (3)

Curriculum structure, guidance problems and techniques; special services available to Indian children; value conflicts. Summer only.

## 420 INSTRUCTION IN SECONDARY SCHOOLS (2)

Prerequisites: admission to teacher education; Psych 351. Responsibilities of teachers; classroom management; scope and sequences in public school instruction; concurrent enrollment in Psych 352 recommended.

## 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.

## 424a,b,c,d 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.

## 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 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.

## 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)

## Education

- 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.
- 441 ANALYSIS OF TEACHING (4)  
Prerequisites: Ed 301, 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.
- 450 AUDIOVISUAL COMMUNICATIONS: BASIC (3)  
Prerequisite: Ed 301. 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 handicapped children.
- 463 WORKSHOP FOR TEACHERS OF INDIAN CHILDREN AND YOUTH (3)  
Historical backgrounds and present status of Pacific Northwest Indians; agencies and their programs; problems encountered by Indian children and youth; educational provisions and opportunities.
- 464e THE DISADVANTAGED: PSYCHOLOGICAL IMPLICATIONS (3)  
Prerequisite: teaching experience. Effects of cultural-economic deprivation on the development of personality and intelligence in children and youth.
- 464f THE DISADVANTAGED: SOCIOLOGICAL IMPLICATIONS (3)  
Prerequisite: teaching experience. Sociological effects of cultural-economic deprivation on youth and children; methods successful in alleviating economic and cultural deprivation in both rural and urban areas.
- 464g THE DISADVANTAGED: SEMINAR (2)  
Prerequisite: teaching experience. Psychological, sociological, and educational implications of the problem of disadvantaged youth; analysis of planning efforts for disadvantaged children and youth.
- 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.
- 479 INQUIRY DEVELOPMENT (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.
- 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.

## SUPERVISED TEACHING 490-499

### *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 competence in two fields or at two levels either within the 16 credit requirement or by an additional experience. However, student teaching at two levels within one quarter is not available.

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. Education 494 or 496 may be challenged on the basis of performance in Ed 493 or 495 respectively.

### *Prerequisites*

Eligibility for supervised teaching courses depends upon satisfaction of the following:

- a. Admission to and continued good standing in the professional education program (includes cumulative grade average of 2.2 or better).
- b. Satisfactory completion of Ed 385 or 420, Psych 351 and either Psych 352 or 371.
- 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, Math 251 and three courses from: Social Studies Ed 425, Math 481, Ed 485, a course in science education.
- f. A chest X-ray in compliance with state law.

### *Application*

Students will file a plan for their student teaching in the Office of the Director of Student Teaching at a designated time in 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 well in advance between the College and cooperating school districts. Each student will consult with his departmental advisers in advance of registration for student teaching and will indicate a first and second 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 the preceding spring quarter and that they are expected to begin their student teaching with the fall opening of the public school.

### *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 seminar.

### *Student Teaching Resident Centers*

Student teaching opportunities are offered in Resident Centers in Skagit County, Everett, Edmonds, Seattle, Bellevue, Kent, Tacoma, and the Olympic Peninsula. Students are responsible for their own housing arrangements. If needed, assistance is available from the school districts and/or the College Supervisors.

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.

497c SEMINAR: PROBLEMS OF EARLY  
CHILDHOOD EDUCATION (3)

Offered Spring 1969.

## Education

### 497d INDIVIDUALIZED INSTRUCTION AT SECONDARY LEVEL (4)

Experimental team approach to curriculum, personnel and school organization, teaching methods and techniques, subject matter and evaluation. Extension 1968.

### 497e ASSESSING EDUCATIONAL QUALITY (3)

Input, process, and product measures influencing school program quality: community factors, options in administrative and instructional organization, teachers' organizations, finance. Extension 1968-69.

### 497f SYSTEMATIC INSTRUCTIONAL DECISION MAKING (3)

Stating a range of educational objectives by designing instructional systems and developing evaluation criteria and procedures for them. Summer 1969.

### 497g AEROSPACE EDUCATION WORKSHOP (5)

Areas of atmospheric flight and space exploration. Summer 1969.

### 497h ISSUES IN EARLY CHILDHOOD (3)

Implications for programs for children ages 3-6. Summer 1969.

### 497j DEVELOPING INDIVIDUALIZED LEARNING PROGRAMS (3)

Effective methods of initiating, developing, maintaining, and evaluating individualized learning programs.

### 497k IMPROVEMENT OF WRITING SKILLS FOR CHILDREN (3)

Prerequisite: Ed 355 or equivalent. Appropriate sequence of skills in composition for early grade children, techniques implementing creative writing and for improving fundamental skills.

### 497m HIGHER EDUCATION AND SOCIETY (3)

Function of higher education in an industrialized society as an intellectual institution, as an agent of social mobility and social action, as a service institution.

### 497n HIGHER EDUCATION AND THE INDIVIDUAL STUDENT (3)

Role of the student as a value-seeking individual vis-a-vis the institution of higher education and its expectations about student behavior and learning.

### 497p EDUCATION IN THE GHETTO (3)

Changes needed to provide quality education; influence education can exert; coordination with other community agencies.

### 497q INQUIRY INTO OUTDOOR EDUCATION (12)

Preparation in inquiry strategy; use in investigation of microenvironments; developing instructional aids for use of inquiry approach to environmental problems in classroom teaching.

### 497r PRACTICUM AND SEMINARS IN LANGUAGE ARTS (9)

Emphasis on reading diagnosis and treatment.

### 497v ACADEMIC SELF-STUDY AND ANALYSIS (4)

Prerequisite: permission of faculty adviser. Offered in conjunction with Econ 497v, Phil 497v, and Soc-Anth 497v. Interdisciplinary research-writing seminar investigating philosophy, social basis, and goals of higher education; developing an administrative and curricular model for an institution; comparison with an existing institution.

### 497y SUPERVISED PRACTICUM IN TEACHING (3-8)

Prerequisites: teaching experience and permission of department. Observation of master teaching; supervised teaching of individuals and small groups; seminars; planning and developing individual and/or group projects. Summer 1969.

### 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.

### 512 SEMINAR IN EDUCATIONAL CONCEPTS AND ISSUES: HISTORICAL-PHILOSOPHICAL (4)

Prerequisite: 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.
- 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 READING 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.
- 548 FIELD EXPERIENCE IN ADMINISTRATION FOR THE PRINCIPAL (1-5)  
Prerequisite: permission of department. For applicants for the principals' credential who have been admitted to candidacy for the master's degree. See *Graduate Bulletin* for details.
- 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.

## Education

### 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.

### 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.

### 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.

### 597a MEASUREMENT AND DESIGN IN READING RESEARCH (3)

Validation of standardized and informal tests; application of research designs.

### 598 PRACTICUM IN SPECIAL EDUCATION (4)

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

### 648 FIELD EXPERIENCE IN ADMINISTRATION FOR THE PRINCIPAL (3)

For principal's credential candidates who have completed the master's degree.

# ENGLISH

*Professors:* McDonnell (Chairman), Brown, Cederstrom, Lee, O'Brien, Peters.

*Associate Professors:* Bowman, Cary, Francis, Garber, Huff, Larsen, Lawyer, Lewis, Miller, Muldrow, Odom, Ryan, Thompson.

*Assistant Professors:* Inniss, Johnson, Keep, Lerner, Symes.

*Instructors:* Carlton, Donker, Foley, Newham, Siegel, Slemmons, Williams.

*Lecturers:* Barchek, Farley, LaBelle, Merrill, Skinner, Stannard, Tipton.

## TEACHER EDUCATION

*Major* Elementary 45 credits

- English 261, 262, 263, 343, 380, 390
- Two courses from the English 321-326 series
- Two courses from English 331, 332, 333
- English 495 and Library 305 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.

*Minor* 24-25 credits

*A. Linguistics Emphasis*

- Linguistics 201, 303
- English 391, 405a, 405b, 490, 491, 496  
(Ling 301 or 302 recommended for Fifth Year.)

*B. Rhetoric*

- Linguistics 201
- English 302, 391, 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*

(See Interdepartmental Programs, page 156.)

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

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

*Teaching Competence*

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

*Extended Minor* 36 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.

*Minor* 25 credits

### A. English

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

### B. Linguistics

- Linguistics 201, 202, 301, 302, 303
- English 391, 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

(See Interdepartmental Programs, page 156.)

## 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 degrees, 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 General Education 121, 122, 123.

### 297 BLACK LITERATURE (3)

The study of Black literature and thought in the United States.

### 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 the series will meet the prerequisite.

## 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)

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

## 343 SHAKESPEARE (5)

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 (3)

The nature of language, backgrounds of American grammar and usage, review of traditional grammar and introduction to the "new" grammars.

## 391 LINGUISTICS AND DESCRIPTIONS OF THE ENGLISH LANGUAGE (4)

Prerequisite: Linguistics 201 or permission of instructor. Traditional, structural and transformational English grammars.

## 397a BLACK LITERATURE: ADVANCED (3)

Black literature and thought in the U.S., social and historical aspects.

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

## 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, or 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.



English

- 405b RHETORICAL ANALYSIS (3)  
Analysis of semantics, style, and tone; emphasis on expository writing.
- 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.
- 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 Restoration and Eighteenth Century  
463 Late 19th and Early 20th Centuries  
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: English 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
- 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.
- 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.
- 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.
- 497f PLAYWRITING (3)  
See English 403.
- 497g WORKSHOP IN ENGLISH CURRICULUM FOR THE NON-ACADEMIC STUDENT (3)  
Present developments in curriculum theory, methods 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.*
- 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: English 591a or equivalent.
- 521 SEMINAR IN MEDIEVAL LITERATURE (5)  
Prerequisite: English 321 or 341 or equivalent.
- 522 SEMINAR IN SIXTEENTH-SEVENTEENTH CENTURY LITERATURE (5)  
Prerequisite: English 322 or 343 or equivalent.
- 523 SEMINAR IN EIGHTEENTH CENTURY LITERATURE (5)  
Prerequisite: English 323 or equivalent.
- 524 SEMINAR IN ROMANTIC LITERATURE (5)  
Prerequisite: English 324 or equivalent.
- 525 SEMINAR IN VICTORIAN LITERATURE (5)  
Prerequisite: English 325 or equivalent.
- 526 SEMINAR IN CONTEMPORARY LITERATURE (5)  
Prerequisite: English 326 or 333 or equivalent.
- 531 SEMINAR IN AMERICAN LITERATURE: BEGINNINGS TO 1860 (5)  
Prerequisite: Eng 331.
- 532 SEMINAR IN AMERICAN LITERATURE: 1860-PRESENT (5)  
Prerequisite: English 332 or equivalent.
- 541 SEMINAR IN CHAUCER (5)  
Prerequisite: English 321 or 341 or equivalent.
- 543 SEMINAR IN SHAKESPEARE (5)  
Prerequisite: English 343 or equivalent.
- 545 SEMINAR IN MILTON (5)  
Prerequisite: English 322 or 343 or equivalent.
- 560 SEMINAR IN LITERARY FORM (5)
- 587 SEMINAR IN LITERARY CRITICISM (5)
- 589 DIRECTED INDIVIDUAL STUDY (1-3)  
Research on a topic not included in formal courses. This course may be taken only once.
- 590 LINGUISTICS (5)  
Prerequisite: English 490 or equivalent.
- 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*.)



## FOREIGN LANGUAGES

*Associate Professors:* Robinson (Chairman), Baird,  
Brockhaus, Faber, Kimmel, King, Moerschner, Param.

*Assistant Professors:* Adam, Barragan, Goldsmith,  
Milicic, Rangel-Guerrero, Rapoza.

*Lecturers:* Amundsen, Balas, Elmendorf, Van Voorst  
Vader, Veit.

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* Elementary 45 credits

(Offered in French, German, Russian or Spanish.)

Courses required in the language selected: 201, 202,  
203, 310, 311, 410, 411

French 210 for French majors

German 331 or 332 for German majors

Foreign Language Education 432

Foreign Language Linguistics 370

Electives under departmental advisement

*Major—Latin* Secondary

45 credits selected under advisement

**Major—A Modern Language** Secondary

45 credits in courses numbered 201 and above in one language (French, German, Russian or Spanish.)

- Courses numbered 201, 202, 203 in the language selected.
- Three courses from 310, 311, 410, 411
- Three courses from 301, 302, 303, 304, 305, 306, 340, 341, 342, 343
- One course from 401, 402, 403, 450
- Foreign Language Education 432
- Foreign Language Linguistics 370
- Course 290 for German, Russian, Spanish majors.
- German 331 or 332 for German majors
- Electives under departmental advisement to include at least one additional 400 level course

**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—Linguistics**

- Linguistics 201, 202, 301, 302, 303
- 6 credits selected under departmental advisement in a foreign language.

**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 (except French)
- 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
- 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-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.

**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.

## Foreign Languages

### GENERAL COURSES

370 INTRODUCTION TO APPLIED LINGUISTICS  
FOR FOREIGN LANGUAGE MAJORS (3)

Prerequisite: 25 credits or 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.

### FRENCH

101, 102, 103 FIRST YEAR FRENCH (5 ea)

Each course prerequisite to the next. Fundamentals of the French language; pronunciation, grammar, aural comprehension, reading, and speaking.

104 FRENCH FOR A READING  
KNOWLEDGE (3)

For students needing a reading knowledge of the language; not applicable to a major or minor.

201, 202, 203 SECOND YEAR FRENCH (5 ea)

Prerequisite: French 103 or two years of high school French or equivalent. Continuation of fundamentals, reading, aural comprehension and speaking.

210 PHONETICS (3)

Prerequisite: French 201. Phonetic transcription and intensive oral practice.

237 CONVERSATION (2)

See French 437

301 SURVEY OF FRENCH LITERATURE AND  
CIVILIZATION (5)

Prerequisite: French 203. From the beginnings through the pre-Classical period.

302 SURVEY OF FRENCH LITERATURE  
AND CIVILIZATION (5)

From the Classical through the pre-Romantic periods.

303 SURVEY OF FRENCH LITERATURE  
AND CIVILIZATION (5)

From the Romantic period to the present.

310, 311 THIRD YEAR COMPOSITION (3 ea)

Prerequisite: French 203 or equivalent; French 310 prerequisite to 311. Written and oral composition and grammar, and 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 DEVELOPMENT OF THE FRENCH NOVEL (3)

Prerequisite: 9 credits in upper division French. Theory of novel and its development.

402 DEVELOPMENT OF FRENCH DRAMA (3)

Prerequisite: 9 credits in upper division French. Theory of drama and its development.

403 DEVELOPMENT OF FRENCH POETRY (3)

Prerequisite: 9 credits in upper division French. Theory of poetry and its development.

410, 411 ADVANCED COMPOSITION  
AND GRAMMAR (3 ea)

Prerequisites: French 311 or permission of instructor; French 410 prerequisite to 411. Written and oral composition and vocabulary building

432f METHODS AND MATERIALS FOR TEACHING  
HIGH SCHOOL FRENCH (3)

Evaluation and use of latest publications, texts, and collateral materials; the multi-media or integrated materials approach; developing skills in listening, speaking, reading, writing; use of language laboratory.

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)

Prerequisites: 9 credits in upper division French and permission of department. Major authors and movements. Since topics vary, the course may be repeated.

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

497a LE DEVELOPPEMENT DE LA VIE POLITIQUE  
ET CULTURELLE DE LA FRANCE AU SIECLE (3)

Changes in French life and letters since 1900; upheavals of the World Wars and collapse of French Overseas Empire; art, music and literature of the period. Given in French. Summer 1969.

497b APPLIED LINGUISTICS FOR TEACHERS  
OF FRENCH (3)

Applying linguistic methods to classroom problems; structural conflicts between English and French; identification and correction of phonological, stress, and intonation problems. Summer 1969.

## 497c WRITTEN FRENCH FOR THE HIGH SCHOOL TEACHER (3)

Principal conflicts in structure between English and French; study of grammatical points and frequent free composition. Given in French. Summer of 1969.

## GERMAN

## 101, 102, 103 FIRST YEAR GERMAN (5 ea)

Each course prerequisite to the next. Fundamentals of the language; pronunciation, grammar, aural comprehension, reading and speaking.

## 197a,b READING GERMAN (3 ea)

A sequence designed to develop a reading knowledge of texts in various disciplines.

## 201, 202 SECOND YEAR GERMAN (5 ea)

Prerequisite: German 103 or two years high school German or equivalent. 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.

## 290 INTRODUCTION TO GERMAN LITERATURE (3)

Prerequisite: 9 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: 9 credits of second year German or equivalent. Significant elements of German civilization presented through German texts.

## 332 GERMAN CIVILIZATION TODAY (3)

Prerequisite: 9 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.

## Foreign Languages

### 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.

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

## GREEK

### 101, 102, 103 FIRST YEAR 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 SECOND YEAR GREEK (3 ea)

Prerequisite: Greek 103 or equivalent. 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 state 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.

### 350 GREEK MYTHOLOGY (3)

The nature of mythical thought, its development among the Greeks, and its influence on Western literature; selected readings in English; not applicable to a Greek major or minor.

### 367 GREEK LITERATURE IN TRANSLATION (3)

Epic, lyric, drama, history, oratory, and their influence on Western literature; not applicable to a Greek major or minor.

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## LATIN

### 101, 102, 103 FIRST YEAR 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 SECOND YEAR 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.

### 350 LATIN AND GREEK IN CURRENT USE (2)

(No knowledge of these languages is required.) Principles governing the formation of English words derived from Latin and Greek; not applicable to a major or minor.

396a,b,c HONORS TUTORIAL (2-5)

## RUSSIAN

### 101, 102, 103 FIRST YEAR RUSSIAN (5 ea)

Each course prerequisite to the next. Fundamentals of the language; pronunciation, grammar, aural comprehension, reading, and speaking.

## 201, 202 SECOND YEAR RUSSIAN (5 ea)

Prerequisite: Russian 103 or two years high school Russian or equivalent. Review of the fundamentals, reading, aural comprehension, and speaking.

## 203 SECOND YEAR RUSSIAN (3)

Prerequisite: Russian 202. Review of the fundamentals, reading, aural comprehension, and speaking.

## 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 I (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 ea)

## SPANISH

## 101, 102, 103 FIRST YEAR SPANISH (5 ea)

Each course prerequisite to the next. Fundamentals of the language, pronunciation, grammar, aural comprehension, reading and speaking.

## 201, 202 SECOND YEAR SPANISH (5 ea)

Prerequisite: Spanish 103 or two years high school Spanish or equivalent. Review of the fundamentals, reading, aural comprehension, and speaking.

## 203 SECOND YEAR SPANISH (3)

Prerequisite: Spanish 202. Review of the fundamentals, reading, aural comprehension, and speaking.

## 290 INTRODUCTION TO PROBLEMS OF HISPANIC LITERATURE (3)

Prerequisite: 10 credits in second year Spanish or equivalent. Selected works of major Spanish authors with emphasis on reading improvement and methods of textual interpretation.

## 301 SPANISH LITERATURE AND CIVILIZATION: BEGINNINGS TO 1538 (5)

Prerequisite: Spanish 290 or permission of department. Literary development from El Cid to La Celestina; special study of major works.

## 302 SPANISH LITERATURE AND CIVILIZATION: SIGLO DE ORO (5)

Prerequisite: Spanish 290 or permission of department. Literary development in various genres during the Golden Age; special study of major works and writers.

## 303 SPANISH LITERATURE AND CIVILIZATION: MODERN PERIOD (5)

Prerequisite: Spanish 290 or permission of department. Literary development in various genres from end of Golden Age to present; special study of major works.

## 304 SPANISH-AMERICAN LITERATURE AND CIVILIZATION: BEGINNINGS TO 1800 (5)

Prerequisite: Spanish 290 or permission of department. Development from Quechua writings to the 19th century.

## 305 SPANISH-AMERICAN LITERATURE AND CIVILIZATION: NINETEENTH CENTURY (5)

Prerequisite: Spanish 290 or permission of department. Ligardi to present developments.

*Foreign Languages*

306 MODERN SPANISH-AMERICAN  
LITERATURE AND CIVILIZATION (5)

Prerequisite: Spanish 290 or permission of department. Prose and poetry of 20th century writers comprising the school of modernism.

310, 311 THIRD YEAR COMPOSITION (3 ea)

Prerequisite: Spanish 203 or the equivalent; Spanish 310 prerequisite to 311. Written and oral composition, grammar, and vocabulary building.

340 READINGS IN CONTEMPORARY  
SPANISH DRAMA (3)

Prerequisite: Spanish 290 or equivalent. Interpretation and discussion of selected readings.

341 THE CONTEMPORARY SPANISH NOVEL (3)

Prerequisite: Spanish 290 or equivalent. Interpretation and discussion of selected readings.

342 SPANISH POETRY (3)

Prerequisite: Spanish 290 or equivalent. Interpretations and discussion of selected readings.

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 Spanish. Masterpieces of the Middle Ages.

402 SPANISH LITERATURE OF  
THE GOLDEN AGE (3)

Prerequisite: 9 credits in upper division Spanish. Outstanding authors of Spain's classical period.

403 MODERN SPANISH LITERATURE (3)

Prerequisite: 9 credits in upper division Spanish. Selections reflecting development of recent literature.

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.





# GEOGRAPHY

*Minor* 20 credits

- Geography 201
- Geography 207
- Electives under advisement

*Teaching Competence*

Recommendation for teaching competence normally requires completion of the major.

*Professors:* Critchfield (Chairman), Monahan.  
*Associate Professors:* Mookherjee, Moore, Raney.  
*Assistant Professors:* Scott, Teshera.  
*Lecturers:* Brockie, Brown, Guha, McGuire, Mellander, Savage.

## 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 studies. The department will recommend supporting courses related to the student's career objectives. The student contemplating graduate work toward the Ph.D. 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.

## 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
- 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
  - 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.

*Major—Geography* 70 credits

- Geography 201, 203, 207, 351, 481
- Two courses from Geog 311, 313, 314, 315, 316, 318, 319, 320, 401, 415
- 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 departmental advisement

*Major—Urban and Regional Planning*

(See Interdepartmental Programs, page 158.)

## 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.

### 203 PHYSICAL GEOGRAPHY (5)

Prerequisites: Phys 101 and Chem 101 or equivalents. Principles and techniques in analysis of areal distributions in the natural environment; landforms, water, climate, soils, vegetation. Not open to students who have taken Geog 101; those with credit in Geog 101 take Geog 331, 422, 423, or 424 in place of Geog 203 in the major.

### 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 201 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.
- 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 Sociology 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. Geographical basis of contemporary world problems and international relations; military strategy, tension zones, natural resources, boundaries; the current problem areas.
- 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)
- 497a GEOGRAPHY OF SOUTH ASIA (3)  
Man-environment system and the contemporary cultural geography of South Asia. Summer 1969.
- 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.
- 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 concurrent. 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: admission 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, Pevcar, Schwartz.  
*Lecturer:* Babcock.

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 307, 316, 317, 319, 340, 399, 400, 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

## ARTS AND SCIENCES

**Major Concentration**

60 credits plus Supporting Courses

(A pre-graduate geology program which satisfies both a major and a minor)

- Geology 211, 212, 305, 306, 310, 316, 317, 399, 410, 418, 420
- 11 credits under advisement from Geology 300, 307, 319, 340, 360, 370, 400, 413, 414, 416, 423, 424, 425, 426, 430, 436, 440, 444, 446, 452, 453, 460
- Supporting courses: Chem 121, 122, 123, 127, 128, Physics 231, 232, 233 (or 131, 132, 133), Math 122, 222; choice of (a) Chem 233, 461, (b) two courses from Physics 341, 371, 381, or (c) two courses from Biol 240, 301, Botany 252, 352, Zool 261, 262

Students preparing for graduate work are advised to complete one year of a foreign language.

**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, 307, 319, 340, 360, 370, 400, 410, 412, 413, 414, 416, 423, 424, 425, 426, 430, 436, 440, 444, 446, 452, 453, 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

**Major—Geophysics**

(See Interdepartmental Offerings.)

## 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 the 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.

## Geology

- 305 CRYSTALLOGRAPHY AND MINERALOGY (4)  
Prerequisite: 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.
- 307 CRYSTALLOGRAPHY AND CRYSTAL CHEMISTRY (3)  
Prerequisite: Geol 306. Crystal structure and crystal chemistry of 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)  
Prerequisites: Geol 101 or 211, and high school or college chemistry. More detailed work with rocks and minerals than is afforded in Geology 101 or 211; the origin, occurrence, and identification of minerals and rocks. Offered as 311A (5) Summer 1969.
- 316 PRINCIPLES OF PALEONTOLOGY (5)  
Prerequisite: 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 STATISTICAL 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 1968.
- 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.
- 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 (5)  
Prerequisite: Geol 316. Analysis of physical and biological characteristics of stratified rock sequence; 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.

## 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, 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: Geology 452 or permission of instructor. Crust-mantle interactions, isostasy, continental drift, sea floor spreading, theories of mountain building.

## 454 APPLIED GEOPHYSICS (4)

Prerequisite: Geology 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, 407. Origin and interpretation of natural magnetism of rocks; origin of geomagnetic field; application to problems in petrology, structural geology and geodynamics.

## 460 GEOCHEMISTRY (3)

Prerequisite: 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)
- 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. Independent or class study of recent advances in physical geology.
- 512 ADVANCED STUDIES IN HISTORICAL GEOLOGY (3)  
Prerequisite: Geol 316 or permission. 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.
- 570 THESIS (3-12)  
Independent research.

# HISTORY

*Professors:* Bultmann (Chairman), Boylan, Murray, Radke, Schwarz.  
*Associate Professors:* DeLorme, Hiller, Hitchman, Jackson, Roe, Roley, Schuler, Thomas.  
*Assistant Professors:* Horn, Keller.  
*Instructors:* Bullock, Davis.  
*Lecturers:* Dresbeck, Eklund, Gough, Kaplan, Knibbs, Ritter.

## TEACHER EDUCATION

*Major* All Levels 45 credits

- History 203, 204
- Two courses from History 425 through 448
- One course from History 410, 411, 412, 413, 415, 416, 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

### *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 or political science majors desiring a combined recommendation appropriate for junior high or middle school.

- History 203, 204
- One Modern European course from 425 through 448
- 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
- One course from History 410, 411, 412, 413, 415, 416, 420
- Electives under advisement; History 499 strongly recommended for students anticipating graduate study in history.
- Supporting course: Political Science 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

**DEPARTMENTAL HONORS**

A history major who wishes to graduate "with honors" must meet the general requirements for all honors students. He should consult the department chairman regarding special requirements.

**GRADUATE STUDY**

For concentrations in history leading to the Master of Education or Master of Arts degrees, 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, 599

Ancient and Medieval—410, 411, 412, 413, 415, 416, 420, 511, 512, 520

Modern Europe—336, 337, 341, 347, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 444, 448, 533, 536, 540

United States—203, 204, 360, 361, 365, 367, 368, 391, 450, 451, 452, 453, 454, 455, 457, 459, 461, 463, 465, 466, 550, 554, 556, 560, 563, 567, 591

Western Hemisphere—270, 471, 473, 571, 573

Afro-Asia—280, 385, 480, 481, 482, 483, 484, 485, 487, 582

105, 106, 107 HISTORY OF CIVILIZATION (4 ea)

Not open to those who have completed or intend to take General Education 121, 122, 123. 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.

297e BLACK HISTORY IN AMERICA (5)

See History 361.

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.

## History

- 347 EUROPEAN INTELLECTUAL HISTORY (5)  
Development of the European mind from the seven-teenth 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.
- 367 SOCIETY AND THOUGHT IN EARLY AMERICA (TO THE CIVIL WAR) (5)  
Social and intellectual development in America, from the Colonial Period to the Sectional Crisis.
- 368 SOCIETY AND THOUGHT IN MODERN AMERICA (5)  
Social and intellectual trends in the United States from Darwin to Hoffer.
- 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.
- 410 ANCIENT NEAR EAST (5)  
Prerequisite: Hist 105 or Gen Ed 121. Genesis of Western civilization; our cultural debt to the ancient Mesopotamians, Egyptians, Hittites, Phoenicians, Aramaeans, Hebrews, Assyrians, and Persians.
- 411 GREECE (5)  
Prerequisite: Hist 105 or Gen Ed 121; open to sophomores with permission of instructor. The Greek World from Minoan-Mycenaean period to about 220 B.C.
- 412 THE ROMAN REPUBLIC (3)  
Prerequisite: Hist 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.
- 413 THE ROMAN EMPIRE (3)  
Prerequisite: Hist 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.
- 415a,b WESTERN MEDIEVAL EUROPE (5 ea)  
Prerequisite: Hist 105 or Gen Ed 121; open to sophomores with permission of instructor. Political, social, economic, and cultural developments of Western Europe.  
a. Early Middle Ages.  
b. Later Middle Ages.
- 416 THE BYZANTINE EMPIRE (5)  
Prerequisite: Hist 105 or Gen Ed 121; open to sophomores with permission of instructor. From the dedication of Constantinople to its fall (330-1453).
- 420 THE RENAISSANCE AND THE REFORMATION (5)  
Prerequisite: Hist 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.
- 448 EAST CENTRAL EUROPE TO 1919 (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 EARLY TWENTIETH CENTURY AMERICA (5)  
Political, economic, social, and intellectual development in the United States from 1900 to 1939.
- 459 THE UNITED STATES IN THE CONTEMPORARY WORLD, 1939 (5)  
Internal and international consequences of the rise of the United States as a world power since the beginning of the Second World War.
- 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: Hist 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.
- 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.

## History

- 480 CHINA TO 1368 (5)  
China from paleolithic times to 1368 A.D.
- 481 CHINA, 1368 TO THE PRESENT (5)  
Chinese history from the Ming Dynasty to the present.
- 482 INDIA (5)  
Modern India in its political, social, economic, and cultural development.
- 483 ASIA IN THE TWENTIETH CENTURY (3)  
Impact of the Western World on the Orient in the light of Asiatic development since 1900.
- 484 CONTEMPORARY CHINA AND JAPAN (3)  
Rise of Chinese and Japanese nationalism from the mid-nineteenth century to the mid-twentieth century. Summer only.
- 485 CONTEMPORARY AFRICA SOUTH OF THE SAHARA (3)  
European imperialism in Africa in the late nineteenth and the twentieth century with emphasis on the recent development of African nationalism.
- 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.
- 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  
A maximum of two seminars may be counted toward a history major, or one toward a minor.
- 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.
- 497c DEMONSTRATION IN THE SOCIAL STUDIES (3)  
Teaching Techniques and materials utilized in the Discovery-Learning approach to the Social Studies. Extension 1968.
- 497d HISTORY AND GOVERNMENT OF SOUTH ASIA (3)  
Economic, social, and political problems of South Asian countries from a historical perspective.
- 497e BLACK PEOPLE IN AMERICAN HISTORY (3)  
The special cultural milieu of black Americans; their contribution to American life.
- 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: 36 credits in history or permission of department; History 511, 512, 533, 571, 573 require one appropriate upper division course as prerequisite.
- 511 Ancient Greece
  - 512 Roman History
  - 520 Renaissance and Reformation
  - 533 Russian History
  - 536 English History
  - 540 Modern European History
  - 550 Colonial American History
  - 554 Civil War and Reconstruction
  - 556 Progressive Movement
  - 560 American Economic History
  - 563 American Constitutional History
  - 567 American Social and Intellectual History
  - 571 Canada
  - 573 Latin America
  - 582 Modern India
  - 591 The Pacific Northwest
- 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.

# HOME ECONOMICS

## ARTS AND SCIENCES

*Major Concentrations* 70 credits plus  
Supporting Courses

(These concentrations satisfy both a major and 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 Economics Emphasis*

- Home Econ 151, 164, 253, 272, 320 or 321, 338, 375, 424, 430 or 432
- Home Econ electives 16-21 credits
- Supporting courses: Chemistry 115, Economics 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 Econ 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 Econ electives 14-17 credits
- Supporting courses: Economics 201, Psychology 201 and 351, Sociology 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 Econ electives 8-11 credits
- Supporting courses: 40 credits under advisement from Technology, Art, Physics, Economics, Speech, Sociology-Anthropology, or Geography.

*Associate Professors:* Ramsland (Chairman), Mead.  
*Assistant Professors:* Barron, Bieler, Larrabee, Reddick, Roberts.

*Instructor:* 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.

*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)  
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 154 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.

100

- 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 Ed 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.
- 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)  
Prerequisite: 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)  
Evaluation of household equipment; application to the family's management.
- 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 Economics 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 Ed 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 Ed 105, Econ 201. Management of family income and expenditures in the changing family cycle.
- 350 CHILD NUTRITION (2)  
Prerequisites: 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. Historical and contemporary design of decorative and functional textiles for home furnishings.
- 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)  
Prerequisites: 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.
- 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: Ed 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.

## Home Economics

- 424 FAMILY RELATIONSHIPS (3)  
Prerequisites: 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 Ed 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)  
Prerequisites: 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 course of study, scope and sequence, department management and planning department facilities.
- 443 ADULT AND PARENT EDUCATION (3)  
Principles and procedures for working with adult group; and individuals.
- 448 EVALUATION IN HOME ECONOMICS (2)  
Prerequisites: 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. Formerly Home Econ 350.
- 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)  
Prerequisites: 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: Sociology 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.
- 497h CURRENT DEVELOPMENTS IN HOME ECONOMICS EDUCATION (2)  
Recent developments in family life education, child development, consumer economics and family finance; curricular implications. Extension 1969.
- 497j CREATIVE RELATIONSHIPS WITHIN THE FAMILY (2)  
Communication, discipline, building self-concepts, changing roles in marriage; future of the family. Spring 1969.
- 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 Economics 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:* 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 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 305. 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. Spring 1968.

# MATHEMATICS

*Professors:* Hashisaki (Chairman), Abel, Chaney, Hanner, Reay, Rygg, Woll.

*Associate Professors:* Craswell, Duemmel, Froderberg, Gray, J. Hildebrand, Sanderson, Witter.

*Assistant Professors:* Atneosen, Chalice, F. Hildebrand, Kauffman, Kelley, Levin, Lindquist, Read.

*Lecturers:* Hu, Purtill, Webb.

The study of college level mathematics should begin with Mathematics 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.

Mathematics 121 is offered for students needing a knowledge of the topics listed in (d). The student who is deficient in (a) should enroll in Mathematics 100; students deficient in (c) should enroll in Mathematics 105. These courses, if needed, should be completed before enrolling in Mathematics 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

- Mathematics 121 (if needed), 122, 222, 241, 305, 310

104

- 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

- Mathematics 121 (if needed), 122, 201 and 202, or 301, 222, 223, 241 or 305, 325, 483
- One course from 360, 460, 461
- Electives from Computer Science 270 and upper division courses under advisement

*Minor* 24-30 credits

- Mathematics 121 (if needed), 122, 222, 223, 310, 321
- Mathematics 481 or 483

## 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 Mathematics 122, 222, 223, 201 and 202, or 301, 241 or 305, 310 or 410, 321 or 401, 483.

## ARTS AND SCIENCES

*Major* 60 credits, plus Supporting Courses

- Mathematics 121 (if needed), 122, 222, 223, 325
- Mathematics 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
- Electives under departmental advisement
- Supporting courses: 15 credits from Physics 231, 232, 233 or other courses related to mathematics as approved by the department; language competency in French, German, or Russian.

**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, 325, 401, 420
- Computer Science 270, 370, 371, 372, 375, 475, 476
- 18 additional credits in Computer Science and Mathematics as advised.
- Supporting Courses: Phys 231, 232, 233, or 15 credits as advised in an area related to the major.

**Minor** 25 credits

- Mathematics 121 (if needed), 122, 222, 223; 201-202 or 301
- Electives from Mathematics 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 Sci 270, 271 or 370, 375
- 8 credits in mathematics or computer science as advised
- Supporting Courses: Math 122, 222, 223, 301

Option II 25 credits (Not open to majors in chemistry, mathematics, or physics)

- Math 122 or 220
- Computer Sci 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 Mathematics 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.

### Teacher Education

In order to graduate with “honors in mathematics,” a student must complete Mathematics 325, 401, 425, and 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 Mathematics 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; 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. Elementary treatment of coordinate geometry of the plane and solid spaces. Mathematics 222—the integral and integration, the differentiation of transcendental functions, and parametric equations; Mathematics 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 INTRODUCTION TO LINEAR ALGEBRA (3)  
See Math 201, 202, Spring 1969.
- 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.
- 306 LINEAR PROGRAMMING (3)  
Prerequisite: Computer Sci 270, Math 202 or 301. Graphical solution of linear programming problems; convex sets in the Cartesian plane; linear forms; fundamental extreme point theorem; simplex method in linear programming; elementary aspects of the theory of games; matrix games and linear programming.
- 321 THE ALGEBRAIC FOUNDATION OF MATHEMATICS (4)  
Prerequisite: Math 222; not open to students with credit in Math 301 or 325 or 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 DIFFERENTIAL EQUATIONS (4)  
Prerequisites: Math 223 and 202 or 301, or permission of instructor. Ordinary differential equations, elementary methods of solution of first, second, and higher order linear equations; solutions by operators and by series; method of Frobenius, Legendre and Bessel equations.
- 332 DIFFERENTIAL EQUATIONS (3)  
Prerequisite: Math 331. Partial differential equations and boundary value problems; Fourier Series and orthogonality; Dirichlet-Fourier theorem and Sturm Liouville theorem.

341, 342 STATISTICAL METHODS (4 ea)

Prerequisites: Math 121, 241, 270. 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.

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.

397q LOGIC AND PROOF (3)

Prerequisites: junior standing and one year of calculus. Nature of proof as illustrated by grammar and logic of simple formal languages used in mathematics.

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 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.

420, 421 ADVANCED CALCULUS (4 ea)

Prerequisite: Math 325. 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. Function spaces, linear algebra, application to analysis; normed linear spaces and their transformation; Hilbert spaces, Fourier series, differential equations; applications to physical problems.

431 INTRODUCTION TO COMPLEX VARIABLES (4)

Prerequisite: Math 325 or 425. Differentiation and integration of complex-valued functions; Cauchy integral theorem; calculations of residues.

441, 442, 443 MATHEMATICAL STATISTICS (4 ea)

Prerequisites: Math 202 or 301, 325. 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)

Prerequisite: Math 401. Bilinear functions, orthogoval groups, general symmetries.

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.

497b CURRICULUM DEVELOPMENT IN SECONDARY SCHOOL MATHEMATICS: COURSE I (8)

Beginning course (Course I) of UICSM program; development of the real number system from point of view of its logical structure; proof of theorems; technique of discovery as a teaching strategy. Summer 1969.

## Mathematics

- 497c CURRICULUM DEVELOPMENT IN SECONDARY SCHOOL MATHEMATICS: VECTOR GEOMETRY I (UICSM) (8)  
3-dimensional Euclidean Geometry through the concept of a vector space; development of formal mathematical system from sequence of plausible intuitions. Summer 1969.
- 497d COMPUTERS AND COMPUTATION (4)  
Computer structure and organization; use of compiler language; implications for society; cybernetics and information theory. Extension 1969.
- 497e COMPUTER CONCEPTS AND EDUCATIONAL APPLICATIONS (3)  
Summer 1969.
- 499 MATHEMATICS 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. 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: 424 or 520. Theory of complexes, homology, co-homology theory, homotopy theory.
- 517, 518, 519 TOPOLOGY (3 ea)  
Prerequisite: Math 426. 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. Measure theory, Lebesgue integration, Fourier series, function spaces.
- 525, 526, 527 THEORY OF FUNCTIONS OF A REAL VARIABLE (3 ea)  
Prerequisite: Math 522 or permission of instructor. 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. 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)
- 590 SEMINAR ON SPECIAL METHODS IN MATHEMATICS EDUCATION (1)  
Prerequisite: admission to the Master-Teacher program. The mathematics curriculum in the public schools.
- 597: IMPROVEMENT ON INSTRUCTION IN MATHEMATICS, ELEMENTARY (3)  
Prerequisites: Math 281, 481, Psych 352, 2 years teaching experience. Laboratory work in design of teaching approaches, development of supplementary resource materials, and use of educational media; research in mathematics, education, and experimental curriculum materials.
- 598 RESEARCH (variable credit)
- 599 MATHEMATICS SEMINAR (1-3)
- 699 MATHEMATICS SEMINAR (1-3)  
Prerequisite: graduate course in the area of the seminar. The anticipated areas for Summer 1968 are analysis, algebra, topology, and geometry.

## 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.

### 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.

### 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.

### 497e THEORY OF COMPUTABILITY (4)

Prerequisite: permission of instructor. Turing machines, strings, Church's hypothesis, the halting problem and other unsolvability problems.

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\*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.

## MUSIC

*Professors:* North (Chairman), Frank, Regier.

*Associate Professors:* Ager, Detrekoy, Glass, LaBounty, Scandrett, Schaub, Stoner, Walter.

*Assistant Professors:* Hamm, Hinds, McIntyre, Terey-Smith, Zoro.

*Lecturer:* Armstrong.

*Affiliated:* Adams, L. Bussard, N. Bussard, Cummings, Hamstreet, McMaster, M. North, Ramm, Storms, Thal, E. Wohlmacher, W. Wohlmacher.

*Associate in Arts:* Aruga.

## 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.

## 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.

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 I published for that instrument by Voxman and Gowers; major and minor scales through four sharps and four flats.

**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. Bass Trombone: Flume, 36 **STUDIES**, Nos. 1 through 10.

**BARITONE AND EUPHONIUM** See the requirements for Trombone.

**TUBA** Units one and two as described in the outline of the Rubank **INTERMEDIATE METHOD FOR TUBA** or material in Huhn-Cimera **METHOD FOR TUBA** (Belwin). Major and minor scales through four sharps and four flats.

**PERCUSSION** Demonstrate ability on the snare drum and/or timpani, including the 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 during the first class period of Music 131 fall quarter. 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 a first year theory course 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

Majors and minors in Music Education are required to pass a preliminary and a final piano competency examination in order to complete their program; students in Arts and Sciences must pass a single examination. Students who enter as freshmen should pass the preliminary examination by the end of their sophomore year. Transfer students should pass the preliminary examination during registration at the beginning of the quarter in which they enter the college. The final examination for majors in Music Education will be taken at the end of the quarter prior to student teaching.

## 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 311, 312
- Applied Music: Major performing instrument or voice, minimum of 12 credits
- 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: Music 341
- 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 311, 312

- Education: Music 351, 462, 464
- 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
- 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
- Applied Music: Major performing instrument or voice, minimum of 6 credits.
- 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: Music 341
- Methods: Music 105
- Applied Music: Major performing instrument or voice, 3 credits
- Piano competency as stated above

Note: Music 131, 132, 133 are prerequisite to all other non-performance courses in the minor.

### 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 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. Fundamental techniques with stress upon sight-reading, accompanying, and literature.

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; four-part writing with proper voice leading; first inversion of triads; figured bass; keyboard experience; analysis. To be taken concurrently with Music 135.

132 ELEMENTARY HARMONIC PRACTICE (3)

Prerequisite: Music 131. Harmonizing melodies; cadences; use of non-harmonic tones; second inversion of triads; modulation; keyboard experience; analysis. To be taken concurrently with Music 136.

133 ELEMENTARY HARMONIC PRACTICE (3)

Prerequisite: Music 132. Dominant seventh chords; secondary dominants; irregular resolution of the dominant; diminished seventh chord; keyboard experience; analysis. To be taken concurrently with Music 137.

135 ELEMENTARY EAR TRAINING (1)

Prerequisite: passing of Theory Placement Examination or Music 130. Sight singing and musical dictation; melodic, harmonic, and rhythmic materials. To be taken concurrently with Music 131.

136 ELEMENTARY EAR TRAINING (1)

Prerequisite: Music 135. Sight singing and musical dictation. To be taken concurrently with Music 132.

137 ELEMENTARY EAR TRAINING (1)

Prerequisite: Music 136. Sight singing and musical dictation. To be taken concurrently with Music 133.

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. Intermediate techniques; 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. 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.

231 ADVANCED HARMONIC PRACTICE (2)

Prerequisite: Music 133. Incomplete major dominant ninth chord; complete dominant ninth chord; use of the sequence; non-dominant seventh chords; ninth, eleventh, and thirteenth chords; keyboard experience; analysis. To be taken concurrently with Music 235.

232 ADVANCED HARMONIC PRACTICE (2)

Prerequisite: Music 231. Altered supertonic and submediant seventh chords; Neapolitan chord; augmented sixth chords; keyboard experience; analysis. To be taken concurrently with Music 232.

235 ADVANCED EAR TRAINING (1)

Prerequisite: Music 137. Sight singing and musical dictation. To be taken concurrently with Music 231.

236 ADVANCED EAR TRAINING (1)

Prerequisite: Music 235. Sight singing and musical dictation. To be taken concurrently with Music 232.

297a EVOLUTION OF MUSICAL STYLE IN JAZZ AND OTHER CONTEMPORARY MUSIC (3)

301, 302, 303 STRING TECHNIQUE AND PEDAGOGY (1 ea)

Each course prerequisite to the next. Principles and techniques of playing and teaching string instruments.

309, 310 CHORAL CONDUCTING (3 ea)

Prerequisites: Music 232 and 236. Music 309 prerequisite to 310. Choral conducting techniques, score reading, and interpretative analysis.

311, 312 INSTRUMENTAL CONDUCTING (3 ea)

Prerequisites: Music 232 and 236. Music 311 prerequisite to 312. Instrumental conducting techniques, score reading, and interpretative analysis.

321 CONCERT CHOIR (1)

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 can qualify.

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 the 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.

405 VOCAL TECHNIQUE AND PEDAGOGY (2)

Vocal problems and their corrections; suitable collections of repertoire for young soloists.

411-415 INDIVIDUAL INSTRUCTION (2 ea)

411 Organ

412 Piano

413 Strings

414 Band instruments

415 Voice

424 OPERA PRODUCTION (1)

Admission by audition. Preparation of opera scenes and a major musical production offered for public performance.

Music

- 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.
- 433 LATE 19TH CENTURY MUSICAL STYLES (4)  
Harmonic and formal materials of prominent composers of the period; e.g., Wagner, Brahms, Strauss, Franck, Tschakowsky, 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.
- 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 the important musical media from their origin to the present.
- 451 MUSIC LISTENING IN THE ELEMENTARY SCHOOL (3)  
Literature, activities, and teaching techniques; correlation with other classroom studies; out-of-classroom activities and programs.
- 452 MUSIC LITERATURE FOR ELEMENTARY SCHOOLS (3)  
Appropriate literature for the elementary school music activities of singing, rhythms, outside reading, programs.
- 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.
- 455 BRASS AND PERCUSSION TECHNIQUES AND MATERIALS (2)
- 456 WOODWIND TECHNIQUES AND MATERIALS (2)
- 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.
- 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)
- 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.

- 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.
- 511-515 INDIVIDUAL INSTRUCTION—GRADUATE LEVEL (1-2 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 Education 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, Purtil.  
*Assistant Professors:* Fleetwood, Montague, Morrow.  
*Lecturers:* Downing, Landrum.

## ARTS AND SCIENCES

*Major* 45 credits

- Philosophy 111, 113, 202, 207, 220 or 420
- Philosophy 304, 306, 310, 407
- One course from Phil 305, 307, 308
- Electives under departmental advisement

*Minor* 25 credits

- Philosophy 111, 113, 202, 207, 310
- Electives under departmental advisement

## TEACHER EDUCATION

*Minor* 25 credits

- Philosophy 111, 113, 202, 207, 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)

Rules of valid deduction from premises and methods of formulating valid generalizations from experience. 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: permission of instructor; intended primarily for philosophy majors and minors. Systems of logic and their application to philosophical problems.

### 207 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.

### 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.

- 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.
- 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; a brief examination of Kant as he relates to these men.
- 307 HISTORY OF PHILOSOPHY: THE NINETEENTH AND TWENTIETH CENTURIES (4)  
Prerequisite: Phil 102 or 202 and one additional philosophy course, or permission of instructor. Emphasis upon post-Kantian idealism 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 Jonathan Edwards to the present.
- 310 THEORY OF KNOWLEDGE (3)  
Prerequisites: Philosophy 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: Philosophy 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: Philosophy 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 English 483 and Sociology 483.
- 497v ACADEMIC SELF-STUDY AND ANALYSIS (4)  
Prerequisite: permission of faculty adviser. Offered in conjunction with Ed 497v, Econ 497v, and Soc-Anth 497v. Interdisciplinary research-writing seminar investigating philosophy, social basis, and goals of higher education; developing an administrative and curricular model for an institution; comparison with an existing institution.
- 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

*Associate Professors:* Tomaras (Chairman), Lappenbusch, LeProtti, Lounsbury.

*Assistant Professors:* Hamilton, Long, Randall, Wiseman.

*Lecturer:* Emerson.

## WOMEN'S DEPARTMENT

*Professor:* Aitken (Chairman).

*Associate Professors:* Hansen, Kilby.

*Assistant Professors:* Arnett, Gutchow, Hamilton, Shaffer.

*Instructor:* 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:

(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 enroll in adapted or low-fitness sections of PE 102w Movement Fundamentals, on the basis of performance on the Physical Education Placement Test given to new freshmen at entrance.

## TEACHER EDUCATION—MEN

*Major* Secondary 45-48\* credits

PE 203m, 208m, 209m, 232m, 236m, 238m, 242m, 244m, 245m, 247m, 251m, 256m

PE 205, 302, 304m, 308m, 401m, 404m, 490

Health Ed 350 or 450

Zoology 241 or 248 and 249

Students must establish competence in certain activities before approval is granted for student teaching in physical education. These activities are: badminton, basketball, dance, gymnastics, soccer, swimming, tennis, football, track, volleyball, weight training, and wrestling. Competence in an activity may be demonstrated by completing the appropriate course with a minimum grade of "B," or by a performance and written test (the test does not award credit).

Successful performance in each activity is also a prerequisite to teaching competence recommendation for certification.

*Major* Elementary 45-48\* credits

PE 203m, 238m, 242m, 244m, 245m, 247m, 251m, 256m

PE 205, 302, 311, 312, 326, 402, 403

Health Ed 252, 350, 450

Zoology 241 or 248 and 249

*Major Concentration* 70 credits

(Specialist in Physical Education, Health Education, and Recreation; satisfies both the major and minor requirement.)

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\*Includes general education requirement.



- PE 203m, 208m, 209m, 232m, 236m, 238m, 242m, 244m, 245m, 247m, 251m, 256m
- PE 205, 302, 304m, 306, 308m, 343m, 401m, 404m, 410m, 490
- Health Ed 252, 350, 450
- 8 credits from: PE 217, 380m, 381m, 382m, 383m, 384m
- Zool 241 and PE 303 or Zool 248 and 249

*Minor—Physical Education* 25 credits

- PE 203m, 208m, 209m, 232m, 236m, 238m, 242m, 244m, 245m, 247m, 251, 256m
- PE 205, 308m, 304m or Health Ed 252
- Electives under departmental advisement

*Minor—Athletic Coaching* 25 credits

(This minor is not open to PE majors.)

- PE 302, 304m, 343m, 406m
- Zoology 241
- 8 credits from PE 217, 251m, 380m, 381m, 382m, 383m, 384m

*Minor—Health Science* 25 credits

- Health Education 252, 350, 450
- Biology 447; Home Ec 150
- Zoology 248, 249
- Balance of credits from Biol 371, 345, Hith Ed 352, Home Ec 224, 250, Soc/Anth 441; Psych 313, 321, 411

## TEACHER EDUCATION—WOMEN

*Major* Secondary 48 credits\*

- PE 102w, 201w, 202w, 203w, 207w, 208w, 209w
  - PE 205, 302, 305w, 320, 342w, 402, 404w, 405
  - Health Education 252
  - Zoology 248-249
- PE 306 is recommended for junior high teaching. Students who combine this major with a Health Science Minor will take an additional 10 credits under departmental advisement due to the overlap of requirements.

\*Includes satisfaction of 3 credit general education requirements.

*Major* Elementary 48 credits\*

- PE 102w, 201w, 202w, 203w, 207w, 208w, 209w
  - PE 205, 302, 311, 312, 326, 402, 403
  - Health Ed 252; Zool 248-249
  - Two credits under departmental advisement
- Also recommended: Health Education 350 and inclusion of Ed 360 in the elementary minor

*Major—Dance* 48 credits\*

- PE 102w, 202w, 208w, 209w
  - PE 205, 226, 302, 305w, 322, 424
  - PE 320, 324, 325, 326, 405, 425 or 426
  - Zoology 248-249
- Recommended courses: PE 134, an officiating course and an additional team sport.

*Major Concentration* 72 credits

(For specialists in elementary and secondary girls' physical education; includes a major and a Health Science minor)

- PE 102w, 201w, 202w, 203w, 207w, 208w, 209w
  - PE 205, 302, 305w, 311, 312, 320, 326, 342w
  - PE 402, 403, 404w, 405
  - Health Education 252, 350, 450
  - Biology 447; Home Econ 150
  - Zoology 248-249
- Additional recommendation: Rec 250, PE 303, 490

*Minor—Physical Education* 28 credits\*

- PE 102w, 201w, 202w, 203w, 207w, 208w, 209w
- PE 205, 305w, 306, 320, 404w
- Health Ed 252
- Upper division electives under advisement

*Minor—Dance* 25 credits

- PE 123, 126, 225, 226
- PE 320, 322, 324, 325, 425 or 426
- 7 credits elective under departmental advisement

\*Includes satisfaction of 3 credit general education requirement.

## Physical Education

### Minor—Health Science 25 credits

- Health Education 252, 350, 450
- Home Econ 150; Biol 447
- Zoology 248-249
- Balance of credits from Hlth Ed 352; Home Ec 224, 250, Biol 345, 371; Soc/Anth 441, Psych 321, 313, 411

### Teaching Competence

Recommendation for teaching competence for girls' physical education normally requires completion of a major with a grade 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—Recreation

The Recreation Major is currently undergoing revision. Details are not available at publication date; consult Physical Education Departments for course requirements.

### Major—Dance 85 credits

- PE 122, 125, 126, 128, 225, 226, 227
- PE 320, 321, 322, 323, 324, 325, 326
- PE 424, 425, 426
- Supporting courses: Zool 248-249; PE 302, Art 190; six credits from Art 193, 194, 195, Music 140, Phil 405; three credits from Phil 111, 112, 113, Soc/Anth 201, Psych 201; five credits from Soc/Anth 361, 362, 363, 364, Speech 130.

### Minor—Dance 25 credits

- PE 123, 126, 128, 225, 226
- PE 322, 324, 325, 425 or 426
- Philosophy 405
- Six additional credits under departmental advisement.

### Minor—Health Science 25 credits

- Biology 447; Zool 248-249
- Health Ed 350; Home Econ 150
- Two courses under advisement from Health Ed 252, 450; Biol 371; Chem 115; Zool 261, 262

### Minor—Recreation 25 credits

The Recreation Minor is being revised. Details are not available at publication date. Consult Physical Education Departments for requirements.

## GRADUATE STUDY

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

## ACTIVITIES COURSES

Activity 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
- 102w Movement Fundamentals
  - 103 Jogging
  - 106m Body Conditioning
  - 108m Weight Training
  - 109m Intermediate Weight Training

### 110-119 AQUATICS

- 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

### 120-129 DANCE

- 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

- 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

- 141w Field Hockey
- 142m,w Basketball
- 143m,w Softball
- 144m,w Speedball and Soccer
- 145m,w Volleyball
- 147m Touch Football
- 148w Lacrosse

## 150-161 INDIVIDUAL SPORTS

- 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

The student enrolling in 157, 158, 159, 160 pays cost of transportation and individual instruction. Students in 157, 158, 159, 161 also furnish equipment.

## 180-190 INTERCOLLEGIATE SPORTS

- 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

## PROFESSIONAL COURSES

## 201-203 PROFESSIONAL ACTIVITIES, WOMEN (2 ea)

- 201w Field Hockey, Basketball
- 202w Badminton, Gymnastics
- 203w Volleyball, Softball, Track, Field

Required of freshmen majors or minors in women's physical education. Development of knowledge and skill.

## 203-256 PROFESSIONAL ACTIVITIES COURSES, MEN

- 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)
- 245m Volleyball (1)
- 247m Football (1)
- 251m Gymnastics (2)
- 256m Track and Field (1)

## 205 HISTORY OF PHYSICAL AND HEALTH EDUCATION (3)

Historical backgrounds, the range of opportunities in the fields, qualifications, professional preparation.

## 207-209 PROFESSIONAL ACTIVITIES, WOMEN (2 ea)

- 207w Soccer, Speedball, Fencing, Bowling
- 208w Modern Dance, Aquatics
- 209w Social, Folk and Square Dance, Tennis, Archery and Golf

Required of sophomore majors and minors in PE.

## 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.

## 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.

## Physical Education

- 300 SPECIAL PROBLEMS IN THE AREA OF PHYSICAL EDUCATION (2-5)  
Prerequisite: permission of department chairman.
- 302 KINESIOLOGY (3)  
Prerequisite: Zool 241 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.
- 303 PHYSIOLOGY OF MUSCULAR EXERCISE (3)  
Prerequisite: Zool 241 or 248-249. Application of physiological facts to the problems of conditioning; relation to physical activities.
- 304m ATHLETIC INJURIES AND TRAINING (3)  
Prerequisite: Zool 241 or 248-249. 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.
- 306 METHODS AND MATERIALS FOR ELEMENTARY SCHOOL PHYSICAL EDUCATION (3)  
Prerequisite: Psych 352. Purposes and requirements of the program, with emphasis on planning, methods and materials 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 EXPLORATION AND GYMNASTICS FOR CHILDREN (3)  
Prerequisite: professional activities sequence; prerequisite or concurrent: PE 302. Movement as a basis for game and dance skills; stunts, tumbling, fitness activities, gymnastics for the elementary school.
- 312 GAMES AND SPORTS FOR CHILDREN (3)  
Prerequisite: PE 311. Selected children's games and activities for development of fundamental sports skills.
- 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 and appreciation of football, with methods and materials of organization.
- 381m COACHING BASKETBALL (3)
- 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: activity requirements, PE 308 and permission of department chairman. Practical experience in teaching activity classes under supervision. (One credit is given for each activity class; three credits required in major.)
- 402 BODY MECHANICS AND CORRECTIVE PHYSICAL EDUCATION (3)  
Prerequisites: Zool 241 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 205 and 305w. Criteria for the selection of activities, the organization of classes, departmental personnel and policies, physical plant and its upkeep, 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.
- 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. Summers only.
- 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.
- 490 TECHNIQUES FOR EVALUATING PHYSICAL ABILITIES (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.
- 497p PHYSICAL EDUCATION FOR THE ELEMENTARY SCHOOL (3)  
Current trends, issues, and new methods; perceptual motor development with appropriate activities. Extension 1968.
- 497r PSYCHOLOGY OF COACHING AND SPORTS (3)  
Application of data from psychology to sport activity, athletes, performance and coaches. Winter 1969.
- 497s SEMINAR IN INTERNATIONAL HEALTH AND PE (3)  
Comparison of programs and research in countries throughout the world. Summer 1969.
- 497t HUMAN GROWTH AND MOTOR DEVELOPMENT (3)  
Growth characteristics and sequence of motor development to maturity; implications for motor performance. Summer 1969.
- 497u TEACHERS WORKSHOP IN CREATIVE MOVEMENT FOR CHILDREN (2)  
The principles and techniques of guiding children toward self-discovery and self-discipline through movement in dance. Summer 1969.

## Physical Education

- 497v ADVANCED TECHNIQUES IN COACHING BASEBALL (3)  
Coaching secondary school baseball; advanced techniques, drills, equipment, and strategy situations. Extension 1969.
- 497w ADULT PHYSICAL FITNESS—WOMEN (1)  
Conditioning program utilizing technique of continuous rhythmical exercise; specialized exercise, jogging, swimming.
- 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: teaching experience or permission of instructor. 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 RESEARCH AND 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 241, 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)  
Physical education programs based on the needs of boys and girls.
- 505 CURRENT DEVELOPMENTS IN PHYSICAL EDUCATION (3)  
Prerequisite: teaching experience. Developments of current significance in the field of physical education, including recreation and athletics.

## 506 RESEARCH TECHNIQUES IN PHYSICAL EDUCATION (3)

Prerequisites: PE 501, Ed 501. Utilization of laboratory equipment and techniques pertinent to research; design of experiments, conduct of laboratory research, and evaluation of research reports.

## 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 (1)  
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.
- 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.
- 497q HEALTH EDUCATION IN THE SECONDARY SCHOOL (2)  
Prerequisite: teaching experience. Personal, consumer and mental health, family life education. Summer 1969.
- 500 PROBLEMS IN HEALTH EDUCATION (2-5)  
For the graduate student concerned with a special problem in the field.

## COURSES IN RECREATION

### 201 RECREATION LEADERSHIP (2)

Historical and philosophical foundations of leisure and recreation; scope of recreation; leadership principles; professional opportunities in recreation.

### 250 CAMPING AND OUTDOOR EDUCATION (3)

Organization and program in private, agency and school camps; qualifications and responsibilities of the camp counselor; camping techniques.

### 301 ACTIVITIES FOR SOCIAL RECREATION (2)

Prerequisite: Rec 201. The use of active and quiet games, music, crafts, dance, and dramatics for socialization of groups.

### 302 RECREATIONAL ACTIVITIES FOR THE ILL AND HANDICAPPED (3)

Prerequisite: Rec 201. Activities and techniques in working with mentally ill and physically handicapped.

### 412 ORGANIZATION AND ADMINISTRATION OF SCHOOL AND COMMUNITY RECREATION (3)

Prerequisites: Rec 201, 250. Development of programs for school and community recreation including personnel, finance, facilities, and activities.

### 450, 451, 452 FIELD WORK IN RECREATION (1-4)

Prerequisites: PE 306 or Rec 201; Rec 412. Practical experience in a community recreation program.

### 500 PROBLEMS IN RECREATION (2-5)

For experienced recreation leaders; individual study of problems growing out of professional experience.



## PHYSICS

*Professors:* McLeod (Chairman), Lahti, Lindsay.  
*Associate Professors:* Atneosen, Brown, Davidson, Rupaal, Veit.  
*Assistant Professors:* Barrett, Dittrich, Spanel, Sprague, Tholfsen, Vawter.

## TEACHER EDUCATION

*Major* Secondary  
45 credits plus Supporting Courses

- Physics 231 to meet the general education requirement
- Physics 232, 233, 341, 371, 398 (one credit)
- One course from Physics 401, 402, or 403
- Physical Science 492 or Physics 492
- Electives under departmental advisement, 13 credits
- Supporting courses: 15 credits in mathematics

*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
- Supporting courses: 15 credits in mathematics

## Physics

### 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 requirements
- 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, 441, 442, 471, 472
- One course from Physics 401, 402, 403
- One course from Physics 407, 408, Gen Sci 405
- Upper division electives, six credits
- Supporting courses: 32 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

### 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, 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 Sci 270
- 8 credits from approved 300 and 400 level courses (at least 4 credits in the latter)
- Physics 231, 232, 233, 341, 342, 343, 371, 381, 471, 472
- 11 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 beyond the general honors courses for all honors students.



## 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.

## 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 GEOMETRICAL OPTICS (3)

Prerequisite or concurrent: Math 222. Reflection and refraction at plane and spherical surfaces; thin and thick lenses, lens aberrations, optical instruments.

## 255 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 and oscillators, four terminal network parameters.

## 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)

Prerequisites: Physics 133 or 233 and Math 121 or permission of instructor. Physical and biological effects of penetrating radiations.

## 312 RADIATION BIOPHYSICS LABORATORY (3)

Prerequisites: Physics 133 or 233; Physics 311 or permission of instructor; Computer Sci 270. Techniques of radiation dosimetry and bioassay.

## 321, 322 ATMOSPHERIC 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; introduction to interferometry; Fraunhofer and Fresnel diffraction; polarization.

## 341 ANALYTICAL MECHANICS (4)

Prerequisites: Physics 233 and Math 222. Vector treatment of the laws of motion; Lagrange's equations.

## Physics

- 355 INTRODUCTION TO ELECTRONIC CIRCUITS (3)  
Prerequisites: Math 222, Physics 371 or 255 or permission of instructor. R-C and transformer coupled amplifiers, power amplifiers, feedback oscillators, modulation and demodulation.
- 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 INTRODUCTION TO ATOMIC AND NUCLEAR PHYSICS (4)  
Prerequisites: Physics 233 (or 133) and Math 222. Special theory of relativity; quantum properties of waves and particles, X-rays and crystal structure; Rutherford scattering; the Bohr model of the atom, electron spin and complex atoms; natural radioactive decay; detection of nuclear radiation.
- 382 ATOMIC AND NUCLEAR PHYSICS (4)  
Prerequisite: Physics 381. Characteristic X-ray spectra; quantum theory of radiation and of the hydrogen atom; nuclear reactions; artificial radioactivity; theory of alpha, beta, and gamma decay; fission; particle accelerators.
- 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)  
Prerequisite: Physics 335. Advanced topics in optics with emphasis on interferometry and spectroscopy.
- 441, 442 ANALYTICAL MECHANICS (3 ea)  
Prerequisites: Phys 341, Math 331 (or concurrent). Hamiltonian mechanics; dynamics of rigid bodies; oscillations.
- 451 INTRODUCTION TO NUCLEAR STRUCTURE (3)  
Prerequisites: Physics 382, 341, 371. Physical properties of the proton, neutron and deuteron; nuclear spin and statistics; neutron scattering and neutron reactions; introduction to the theory of nuclear forces.
- 455 NUCLEAR ELECTRONICS (3)  
Prerequisite: Physics 355. Pulse, switching and digital circuits; linear amplifiers; pulse height and time analyzers.
- 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, electro-magnetic 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 equation, angular momentum, approximation methods.
- 485, 486, 487 INTRODUCTION TO MATHEMATICAL PHYSICS (3 ea)  
Prerequisites: Physics 343, 472; Math 331, 332; each course in the sequence prerequisite to the next. Tensor analysis, series expansion and boundary value problems, linear transforms, spherical harmonics, Lorentz transformations, approximation methods.
- 491 ASTROPHYSICS (3)  
Prerequisites: Phys 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 ADVANCED MECHANICS (3 ea)

Prerequisite: 45 credits in physics including Physics 487; each course prerequisite to the next. Advanced classical mechanics in action angle variables; Hamiltonian-Jacobi theory; small oscillations; continuum mechanics.

## 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)

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)

Prerequisites: 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, Pealy, Rutan.  
*Assistant Professors:* Hogan, Ziegler.  
*Lecturers:* Chard, Kepl, Miner.

## ARTS AND SCIENCES

*Major* 50 credits plus Supporting Courses

- Political Science 101, 250, 270
- Eight or more credits from each of *four* of the following areas:

*Comparative Government:* Political Science 305, 372, 401, 402, 403, 404, 405, 406, 407, 408, 409, 430, 453, 472

*Political Dynamics:* Political Science 265, 340, 440, 442, 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, 428

*Political Theory:* Political Science 360, 460, 461, 462, 463, 465

*International Relations:* Political Science 372, 375, 376, 405, 411, 470, 472, 474, 475

History 203, 204 and Econ 201 are recommended as supporting courses.

*Minor* 25 credits

- Political Science 101, 250, 270
- Five credits in each of *two* of the areas listed above

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## 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, 270
- Five credits from each of *two* areas selected under departmental advisement.

## 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; Political Science 499; 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 actors in the international system in terms of basic relationships of war and peace.
- 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 OF MAJOR POWERS (5)  
Prerequisite: Pol Sci 270 or permission of instructor. Foreign policies of major powers other than the United States.
- 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.
- 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 (3)  
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 CHINA, JAPAN AND INDIA (5)  
Prerequisite: Pol Sci 101 or 305 or permission of instructor.

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- 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.
- 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 instructor. Origin, principles, and problems.
- 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.
- 430 SEMINAR IN CONTEMPORARY CHINESE POLITICS (3)  
Prerequisite: senior or graduate standing and Pol Sci 407. Governments and political movements in the twentieth century.
- 440 THE LEGISLATIVE PROCESS (5)  
Prerequisites: Pol Sci 101 and 250 or 340 or 353 or permission of instructor. Interaction of executive, administrators, parties, pressure groups, the press, and public in the legislative process at both national and state levels.
- 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: Hist 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 and 404, or permission of instructor. Relations among countries in the Western Hemisphere with emphasis on the United States and Latin America.
- 496a,b,c HONORS TUTORIAL (2-5 ea)
- 497b HISTORY AND GOVERNMENT OF SOUTH ASIA (3)  
Economic, social, and political problems of South Asian countries from a historical perspective. Summer 1969.
- 497c THE POLITICS OF VIOLENCE (3)  
Civil disorders in the cities and on campuses of the United States; origins of violent conflict; violence as a political action; violence and democratic theory. Spring 1969.
- 499 SENIOR SEMINAR: APPROACHES TO THE STUDY OF POLITICS (3)  
Prerequisites: 30 credits in political science, senior standing, permission of department. Methods of studying political phenomena and application of systematic political theory.

*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.
- 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.
- 520 SEMINAR IN PUBLIC ADMINISTRATION (3)  
Organizational theory and practice in public settings; comparative aspects.
- 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)

# PSYCHOLOGY

*Professors:* Meyer (Chairman), Adams, Blood, Budd, Harwood, Kintz, Kuder, Mason, Meade, Nugent, Ross, Woodring.

*Associate Professors:* Carmean, Crow, Diers, Elich, Jones, L. Lippman, MacKay, Thompson, Tyler, Wilkins.

*Assistant Professors:* Cvetkovich, Heid, Lonner, Miller, Panek, Prim, Reck, C. Taylor.

*Lecturers:* M. Lippman, Long, S. Taylor.

## 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

Supporting courses: Philosophy 102, or one of the following 111, 113, 202, 302, 310, or 411 and one of the following sequences:

a. Chemistry 121, 122, 123, plus 5 credits of advanced work

b. Physics 131, 132, 133, plus 5 credits of advanced work

c. Math 220, 241, 270

d. Zool 241, 243, 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, 301

Two courses from Psych 302, 313, 320, 340, 341, 352, 402, 403, 407, 408, 409, 413

(Psych 341, 403, 407, 409 are recommended for biology majors; Psych 320 for economics majors)

## DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, a psychology major who wishes to graduate "with honors," must complete Psychology 401, a comprehensive examination in psychology, and 24 credits or a demonstrated reading knowledge in French, German, or Russian.

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\*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.



## 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.
- 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.
- 313 PERSONALITY (5)  
Prerequisite: Psych 201. Theoretical approaches to personality; major philosophic 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: Psychology 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)
- 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.
- 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.

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.

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

497a BEHAVIORAL MODIFICATION OF CHILDREN (5)

Application of behavioral principles to academic and social problems of children—nursery to high school; lectures and laboratory. Summer 1969.

497b PSYCHOLOGY OF SOCIAL MOTIVATION (3)

Cultural and personality factors in development and maintenance of motivation with special reference to contemporary society. Summer 1969.

497p GROUP DYNAMICS TRAINING LABORATORY (3)

Prerequisite: permission of instructor. Intense small group interaction; listening, communication ideas and feeling; feedback. Winter and Spring 1969.

- 497s COGNITIVE PROCESSES (3)  
Prerequisites: Psych 302 and permission of instructor. Attention, problem-solving strategies and concept formation as exemplified by language.
- 497t OPERANT CONDITIONING (5)  
Prerequisites: Psych 302 and permission of instructor. Emphasis on schedules of reinforcement. Lectures and laboratory.
- 497u SOCIAL BEHAVIOR IN ANIMALS (5)  
Prerequisites: Psych 201 and permission of instructor. Social organization and patterns of behavior in various species; aggression, population control, communication systems, evolution of behavior.
- 497v PHYSIOLOGICAL BASES OF MEMORY (3)  
Prerequisites: Psych 201 and permission of instructor. Discussion of major theories and data.
- 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 (2 ea)  
Prerequisite: Psych 301; 502 prerequisite to 503. Multidimensional analysis of variance, trend analysis, and analysis of covariance.
- 504 MULTIVARIATE ANALYSIS (3)  
Prerequisites: 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.
- 532 PSYCHOLOGICAL CASE WORK SEMINAR (3)  
Prerequisite: Psych 521 (or 578 concurrent). Presentation of actual cases to allow for team interaction among, and interdisciplinary evaluation by a variety of specialists as to procedure, referral, interaction, and follow-up.
- 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.
- 553 CLINICAL AND COUNSELING THEORY (3)  
Prerequisites: Psych 313, 411, 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.
- 554 CLINICAL COUNSELING INTERVIEW (3)  
Prerequisites: Psych 553 and permission of instructor. Counseling and clinical interview with laboratory.
- 555 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)  
Prerequisites: Psych 471 or 413, 301, and 553. Collection, evaluation, application, and interpretation of data available to the school counselor.

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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 (3)

Prerequisite: permission of instructor. Practicum experience in counseling in selected settings with major responsibility for several cases under supervision.

571 COUNSELING PRACTICUM II (3)

Prerequisite: Psych 570. A second quarter of counseling practicum experience.

573 CLINICAL PRACTICUM I (3)

Prerequisite: Psych 562 and permission of instructor. Practicum experience in clinical psychology with major responsibility for several cases under supervision.

574 CLINICAL PRACTICUM II (3)

Prerequisite: Psych 573. A second quarter of practicum experience in clinical psychology.

597 INTENSIVE REFRESHER PROGRAM IN PSYCHOLOGY (4)

Scientific and methodological considerations, learning, physiological psychology and the senses, development of personality. Summer 1969.

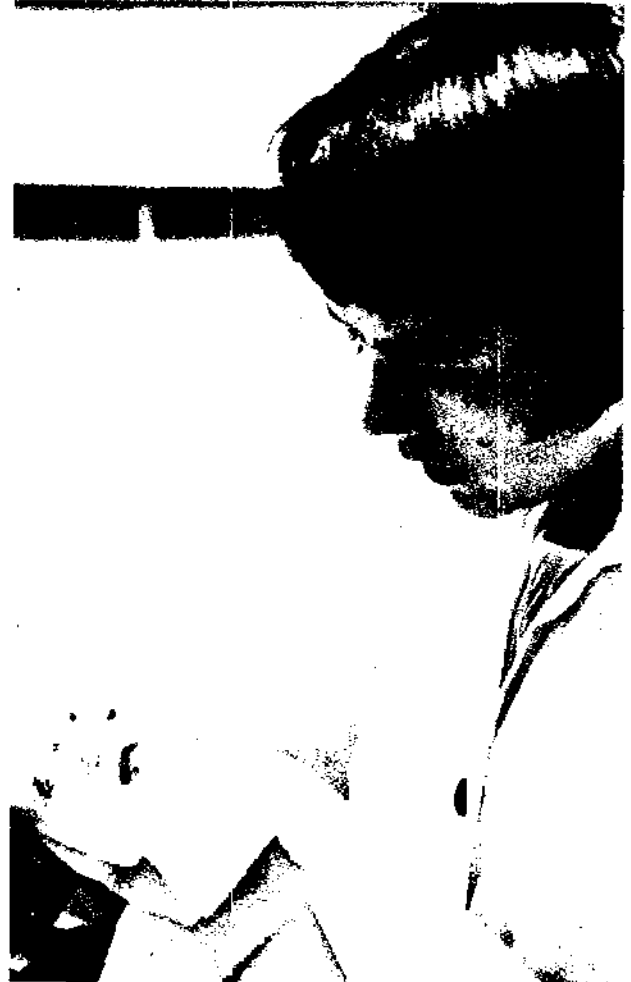
597q-x SEMINAR IN COMMUNITY COLLEGE TEACHING (2 ea)

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, Thomas.  
*Lecturers:* Allen, Gossman, Kamau, Tweddell.

## TEACHER EDUCATION

*Major* Elementary 45 credits

- Soc/Anth 200, 201, 202, 370 or 375
- One course from Soc/Anth 390, 391, 425, 431 or 401
- One course from Soc/Anth 361, 362, 363, 364, 462
- Electives under departmental advisement
- Supporting course: Math 240 or equivalent

(Note: no major is offered in secondary education.)

*Minor* 25 credits

- Soc/Anth 200, 201, 202
- Electives under departmental advisement

## ARTS AND SCIENCES

*Major* 55 credits

- Soc/Anth 200, 201, 202, 311, 375, 390 or 391
- Electives under departmental advisement
- Supporting course: Psych 340

*Minor—Sociology/Anthropology* 25 credits

- 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 pre-history; 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/ANTHROPOLOGY (5)

Prerequisite: Soc/Anth 201 or permission of instructor. 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.

- 297a AFRO-AMERICAN CULTURE (5)  
Prerequisite: Gen Ed 105 or equivalent. World views and values of African culture; influences of African backgrounds on black sub-cultures in the West Indies and in America; importance of black cultures and recent changes in black society in America. Winter and Spring 1969.
- 297b SOCIAL ISSUES FOR NEW CAREERISTS (5)  
Prerequisites: Soc/Anth 202 and enrollment in New Careers program. Application of sociological concepts and principles to problems of staff organization and staff-client relations in public agencies. Fall 1968.
- 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)  
Prerequisites: Math 240 and Soc/Anth 202, or permission of instructor. Growth, distribution and composition of human population; elementary demographic techniques essential to understanding the components of population change.
- 320 ECONOMIC ORGANIZATION (5)  
Prerequisites: Soc/Anth 202 and permission of instructor. 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 permission of instructor. 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 202 or permission of instructor. 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 202 or permission of instructor. 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.
- 351 FAMILY AND KINSHIP ORGANIZATION (5)  
Prerequisite: Soc/Anth 202 or permission of instructor. Types of family systems from selected societies, with emphasis upon variation in structure and socio-psychological functions.
- 354 SOCIOLOGY OF DEVIANT BEHAVIOR (5)  
Prerequisite: Soc/Anth 202 or permission of instructor. 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 permission of instructor. Ethnographic survey of the peoples and cultures.
- 362 PEOPLES OF EURASIA (5)  
Prerequisite: Soc/Anth 201 or permission of instructor. Ethnographic survey of the peoples and cultures.
- 363 PEOPLES OF AFRICA (5)  
Prerequisite: Soc/Anth 201 or permission of instructor. Ethnographic survey of the peoples and cultures of Africa south of the Sahara.
- 364 PEOPLES OF THE PACIFIC (5)  
Prerequisite: Soc/Anth 201 or permission of instructor. Ethnographic survey of the peoples and cultures of the Pacific area.
- 366 COMMUNITY ORGANIZATION (5)  
Prerequisite: Soc/Anth 202. The nature of "community" analyzed in terms of changing demographic, institutional, and interpersonal patterns.
- 370 INTRODUCTION TO RESEARCH METHODS (5)  
Prerequisite: Soc/Anth 202. The nature of scientific theory; the development of social research; the basic methods and techniques of data gathering, processing, and analysis.
- 375 INTERMEDIATE STATISTICS (3)  
Prerequisite: 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.
- 396a,b,c HONORS TUTORIAL (3-5 ea)
- 397a ANALYSIS OF INTERACTION PROCESSES (3)  
Basic patterns of interpersonal action; sharpening manipulative skills for shaping institutional encounters.

- 400 SPECIAL PROJECTS (1-3)  
Prerequisites: 25 credits in Soc/Anth and permission of instructor. Supervised reading and/or research in selected areas.
- 401 SEMINARS  
See Soc/Anth 417.
- 401h HONORS SEMINAR  
Prerequisite: permission of instructor.
- 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.
- 413 POPULATION OF WASHINGTON STATE (3)  
Prerequisite: permission of instructor. Sources, uses, limitations, and statistical analyses of demographic data; fertility, mortality, population and school enrollment projections; a course for administrators, educators, and sociologists.
- 417 SEMINARS (3)  
417a Human Ecology  
417b Medical Sociology  
417c Population Problems  
417d Social Interaction and Group Dynamics  
417e Sociology of Education  
417f Mental Illness  
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 202 or permission of instructor. Tribal distributions, social organization, and ecological adjustment with emphasis on the Indians of Western Washington; problems of adjustment to the modern world.
- 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)  
Prerequisites: 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. 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)  
Prerequisites: 25 credits in sociology-anthropology and permission of instructor. Practicum as discussion leaders in Soc/Anth 201.
- 496a,b,c HONORS TUTORIAL (3-5 ea)
- 497f PEOPLES AND SOCIAL INSTITUTIONS OF SOUTH ASIA (3)  
Ethnographic survey of peoples and cultures of South Asian countries. Summer 1969.
- 497g ORGANIZATION USE OF COMPUTER SYSTEMS (3)  
Definition, application, acquisition, development, and implementation of computer systems as tools for organizational use. Extension, Fall 1969.
- 497v ACADEMIC SELF-STUDY AND ANALYSIS (4)  
Prerequisite: permission of faculty adviser. Offered in conjunction with Educ 497v, Econ 497v, and Phil 497v. Interdisciplinary research-writing seminar investigating philosophy, social basis, and goals of higher education; developing an administrative and curricular model for an institution; comparison with an existing institution. Spring 1969.

- 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 operational design for empirical research.
- 511 SEMINAR: DEMOGRAPHY (3)  
Prerequisites: 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)
- 599 THESIS (3)





# SPEECH

*Professors:* Solomon (Chairman), Brewster, Carlile, Schinske.

*Associate Professors:* Gregory, Herbold, Napiecinski, Sigler, Webb.

*Assistant Professor:* Catrell.

*Instructors:* Adams, Cornelison, McElroy, Smith.

## TEACHER EDUCATION

### *Major—General Classroom*

Elementary 45 credits

- Speech 130, 201, 233, 330, 350, 430
- Speech 331 or 433, 355, 357, 361, 373,
- Electives under departmental advisement

### *Major—Speech Therapist* 45 credits

- One course from Speech 201, 204, 205, 233
- Speech 350, 355, 356, 373, 357, 361, 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.

Satisfactory completion of the above major leads to eligibility for Washington's Provisional Certificate in speech therapy.

The American Speech and Hearing Association recommendation for certification of speech therapists includes, effective in 1970, 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, 201, 202, 205, 233, 236
- Speech 305, 332, 350, 373, 437, 485
- Electives under departmental advisement

### *Minor* 25 credits

- Speech 130, 201, 205, 233, 236, 437, 485
- Electives under departmental advisement

## ARTS AND SCIENCES

### *Major* 50 credits

- Common Core - Speech 130, 201, 233, 340, 350, 373
- Specialization of 20 credits in one of the following areas, plus six credits in a second area:

#### *Theater*

Required in the 20-hour concentration:

- Speech 236, 332, 337, 424 or 425 or 426
- Electives: Speech 230, 231, 232, 237, 238, 320, 330, 331, 333, 334, 336, 338, 421, 422, 430, 433, 438

#### *Public Address*

Speech 202, 204, 205, 206, 305, 310, 335, 341, 401, 441, 478, 480, 481, 482, 490, 491

#### *Speech Therapy*

Speech 355, 356, 357, 358, 359, 360, 361, 454, 455, 456, 457, 458, 459, 461, 462, 463.

### *Minor* 25 credits

- Speech 130, 201, 233, 340, 350, 373
- Electives under advisement from the above three areas

## GRADUATE STUDY

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

## COURSES IN SPEECH

- 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.
- 105 VOICE AND ARTICULATION IMPROVEMENT (2)  
Prerequisite: permission of department. Theory and practice designed to improve articulation and increase voice proficiency.
- 130 INTRODUCTION TO THE THEATER (3)  
Appreciation and overview of the art of theater.
- 201 EXTEMPORE SPEAKING (3)  
Theory and practice in an extemporaneous mode of speaking.
- 202 PARLIAMENTARY LAW (1)  
Parliamentary principles and procedures.
- 204 DISCUSSION AND CONFERENCE (3)  
Fundamentals of effective participation in small problem solving groups with topics of current interest.
- 205 ARGUMENTATION AND DEBATE (3)  
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 THEATER THEORY AND PRODUCTION (2 ea)  
Instruction and experience in all aspects of theater organization and production. A maximum of 6 credits may be earned.
- 233 ORAL INTERPRETATION (3)  
Reading prose and poetry for the purpose of projecting the logical and emotional meaning to an audience.
- 236 STAGECRAFT (3)  
Theory, practice, and organization of planning, drafting, construction, and rigging of scenery; technical analysis and laboratory work on current productions.
- 237 STAGE LIGHTING (3)  
Technical and artistic study of light and color as they affect other theatre arts and contribute to artistic design; laboratory work in production.
- 238 STAGE MAKE-UP (1)  
Theory and practice of applying make-up for the stage.
- 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: Speech 240 or permission of instructor. Laboratory practice in applying communication skills to broadcast media; gathering, preparation, and delivery of news.
- 242 BROADCAST COMMUNICATION II (3)  
Prerequisite: Speech 240 or permission of instructor. Production of special interest programs.
- 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.
- 305 PERSUASION (3)  
The principles that influence the belief and action of audiences; application of these principles.
- 320 SHAKESPEARE (5)  
Survey of principal plays. Also offered as English 343.
- 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 BEGINNING ACTING (3)  
Prerequisite: Speech 130 or permission of instructor. Fundamentals of acting; emphasis on improvisation, pantomime, and basic stage movement.

- 333 INTERMEDIATE ACTING (3)  
Prerequisite: Speech 332. Major exercise in body and voice applied to the realistic convention of acting.
- 334 ADVANCED ACTING (3)  
Prerequisite: Speech 333. Acting of period plays—classic, commedia, Elizabethan, Restoration, 18th century.
- 335 ADVANCED ORAL INTERPRETATION (3)  
Prerequisite: Speech 233. Advanced techniques in oral reading; laboratory work in Readers Theatre.
- 336 DESIGN FOR THE STAGE (3)  
Prerequisite: Speech 236. Design for modern theatre with emphasis on interpretation of the play through design; practical design and techniques.
- 337 PLAY DIRECTION (3)  
Theory and practice of stage direction including selection of play, casting and blocking, and production of a scene for public performance.
- 338 COSTUMING (3)  
The history of costume and its adaptation to the needs and limitations of the stage; laboratory work on dramatic production.
- 339 ADVANCED STAGECRAFT (3)  
Prerequisite: Speech 236. Technical analysis of scripts; special effects and properties; laboratory work on productions.
- 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.
- 345 THE ART OF FILM (3)  
Film as distinguished from but related to other art forms; film aesthetics; technology.
- 346 FILM GENRE (3)  
Prerequisite: Speech 345. Distinctive elements of melodrama, comedy, serious drama, documentary, fantasy.
- 350 SPEECH SCIENCE (3)  
The speech and hearing mechanisms and the physical aspects of speech.
- 355 INTRODUCTION TO SPEECH CORRECTION (3)  
Survey of speech disorders; identification, classification, and the fundamentals of therapy.
- 356 ARTICULATION AND VOICE DISORDERS (3)  
Prerequisite: Speech 355. Symptomatology, etiology, and therapy for voice and articulation disorders.
- 357 OBSERVATION OF CLINICAL PRACTICE (1)  
Prerequisite: Speech 355 or concurrent. Directed observation and evaluation of the methods, materials, and techniques used in treating speech and hearing cases.
- 358 CLINICAL PRACTICE IN SPEECH THERAPY (3)  
Prerequisites: Speech 350, 355, 356, 357, 361, 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 DEVELOPMENT (3)  
Prerequisites: Speech 355, 357. Overview of diagnosis and treatment of language impaired children, emphasizing clinical implications of motor, visual, and perceptual areas, as well as normal language development.
- 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 information drama for children in the classroom; lectures, demonstrations, laboratory. Not open to those with credit in Speech 340 or 341.
- 400 SPECIAL PROBLEMS (1-3)  
Prerequisite: permission of instructor. Investigation of special problems in the fields of speech.
- 401 SPEECH WRITING (3)  
Prerequisite: Speech 201. Manuscript preparation for selected audiences; theory and practice.
- 415a,b,c MAJOR DRAMATISTS (3 ea)  
Prerequisite: 6 credits in theater literature. In depth treatment of playwrights influential in development of drama.  
415a European  
415b English  
415c American
- 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; Restoration and eighteenth century; from the late nineteenth century to World War II. (Also offered as English 461, 462, 463.)

## Speech

- 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.
- 427 AMERICAN DRAMA AND THEATRE: 1750-1890 (3)  
Development of native theatre traced with reference to well-known actors; stock and touring companies, frontier theatres, plays, and playwrights.
- 430 CREATIVE DRAMATICS (3)  
Prerequisite: Speech 330. Developing original dramatizations with children; the observation of children's classes in creative dramatics; story selections, story telling, and story dramatization.
- 431 CREATIVE DRAMATICS LEADERSHIP (3)  
Prerequisite: Speech 430. Advanced techniques; supervised teaching.
- 433 CHILDREN'S THEATER (3)  
Prerequisite: Speech 330. Plays for children; play selection, play direction, and play production.
- 434 TOURING THEATER (3)  
Prerequisite: permission of instructor. Theory and principles of touring technique and problems; participation in college theater touring program.
- 437 INTERMEDIATE DIRECTION (3)  
Prerequisite: Speech 337. Producing and directing a one act play for public performance; special emphasis on working with the actor.
- 438 ADVANCED DIRECTION (3)  
Prerequisite: Speech 437. Producing and directing a full length play for public performance; emphasis on problems in high school, community and professional theaters.
- 439 PROFESSIONAL TECHNIQUES IN THEATER ARTS (2-6)  
Theoretical instruction and correlated laboratory experience in acting, directing, stage design, costuming, business management.
- 441 PRODUCING AND DIRECTING THE BROADCAST PROGRAM (3)  
Prerequisite: Speech 241 or 242, or permission of instructor. Program production and direction for radio and television.
- 452 DIAGNOSTIC METHODS IN SPEECH AND LANGUAGE PATHOLOGY (3)  
Prerequisites: Speech 356, 361, 373. Methods, procedures, techniques, and instruments; supervised practice; planning therapy.
- 454 DISORDERS OF RHYTHM (3)  
Prerequisites: Speech 355 and 357. Stuttering, cluttering, and related disorders.
- 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.
- 457, 458, 459 ADVANCED CLINICAL PRACTICE IN SPEECH THERAPY (2 ea)  
Prerequisite: Speech 360. Supervised clinical practicum dealing with more complex cases.
- 461 INTRODUCTION TO HEARING (3)  
Prerequisite: Speech 350. Structure and functioning of the auditory mechanism, emphasizing the psycho-physics of audition; symptomatology and pathology of hearing disorders.
- 462 AUDIOMETRIC TESTING (3)  
Prerequisite: Speech 461. Determining types and kinds of hearing loss; practice in testing the hearing function and interpreting the results.
- 463 AURAL REHABILITATION (3)  
Prerequisite: Speech 461. Principles, procedures, and techniques of auditory training, speech conservation, speech reading, and language development for the aurally handicapped.
- 464 CLINICAL PRACTICE IN AURAL REHABILITATION (2)  
Prerequisites: Speech 358, 463. Supervised practice in rehabilitation of the hard of hearing.
- 470 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.
- 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 Jonathan 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.
- 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.
- 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 CLASSICAL RHETORIC (3)  
Principles of rhetoric from Plato to Quintilian, and the relationship of those principles to modern speech making.
- 491 RHETORIC: MEDIEVAL THROUGH MODERN (3)  
Prerequisites: Speech 490 and 6 credits in public address. Examination and application of major post-classical contributions to rhetorical theory.
- 500 SPECIAL PROBLEMS (1-3)  
Prerequisite: permission of instructor. For advanced students who wish to investigate special problems.
- 505 SEMINAR IN PERSUASION AND ARGUMENTATION (3)  
Prerequisite: undergraduate major in speech, or permission. Evaluation of experimental research.
- 525 THE SCANDINAVIAN DRAMA: AN INTERDISCIPLINARY APPROACH (3)
- 528 GREAT PLAYS FOR THE SECONDARY SCHOOL STAGE (3)
- 530 SEMINAR IN PLAY PRODUCTION (3)  
Prerequisite: 12 credits in theatre courses, or permission of instructor. Synthesis and application of the principles of theatre arts in selection and presentation of major dramatic productions for school, college, or community.
- 531 SEMINAR IN DRAMATIC THEORY AND CRITICISM (3)  
Prerequisite: undergraduate major in speech, or permission of instructor. Evaluating concepts, principles, and issues dominant in main periods of dramaturgical thought.
- 532 SEMINAR ON STRINDBERG (3)  
Prerequisite: Speech 415a. Intensive study of his works, dramatic and otherwise.
- 533 SEMINAR ON IBSEN (3)  
Prerequisite: Speech 415a. Intensive study of his life and works.
- 534 SEMINAR IN THE DRAMA OF THE FRENCH NEO-CLASSIC PERIOD (3)  
Prerequisite: Speech 415a. Intensive study of the works of Corneille, Racine and Moliere.
- 535 SEMINAR ON SHAW (3)  
Prerequisite: Speech 415b. Intensive study of his life and works.
- 536 SEMINAR IN THE DRAMATIC LITERATURE OF GREECE (3)  
Prerequisite: 9 hours in dramatic literature courses. Study of the Greek drama from Aeschylus through Euripides.
- 538 PLAY ANALYSIS AND THEATER PRODUCTION PLANNING (3)
- 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.
- 551 SEMINAR IN SPEECH DISORDERS: THEORY AND THERAPY (3)  
Prerequisites: 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.

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.

562 SEMINAR IN HEARING DISORDERS: THEORY AND THERAPY (3)

Prerequisites: experience as speech and/or hearing therapist and permission of instructor. Detailed study and research in the area 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.

598 RESEARCH IN SPEECH (3)

Prerequisite: permission of instructor. Interpretation and evaluation of research outcomes; purpose and design of various methods.



# TECHNOLOGY

*Professors:* Porter (Chairman), Schwalm.  
*Associate Professors:* Channer, Olsen, Southcott.  
*Assistant Professors:* Black, Flanders, Fowler, Hill, Jasnosz, Moon, Seal.

## TEACHER EDUCATION (Industrial Arts)

*Major* Secondary 46 credits

Industrial Arts majors will take Physics 101 or 131 to satisfy the general education physics requirement.

- Technology 101, 210, 214, 491, 493
- Physics requirement and 17 credits from Tech 223, 225, 231, 240, 270, 280, 333
- Electives under advisement from one or two of the following technologies:

- a. Graphic Communications Technology (industrial graphics, graphic arts, photography).
- 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 223, 225, 231, 240, 270, 280, 333

- Physics requirement plus a minimum of 15 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 Econ 334, 370, 375, 476; Math 220 (or 122), 240; Computer Science 270; Physics 132, 133
- 20 credits of technology electives under departmental advisement

*Minor* 25 credits

Courses to be selected under departmental advisement.

## ARTS AND SCIENCES (Industrial Technology)

### BACHELOR OF ARTS DEGREE

*Major* 50 credits plus supporting courses

- Minimum of 25 credits in lower division technology courses
- 25 upper division credits in technology including a minimum of 20 credits in one of the following technologies:
  - a. Graphic Communications Technology (industrial graphics, graphic arts, photography).
  - b. Materials and Processes Technology (woods, metals, plastics).
  - c. Mechanical and Electrical Technology (electricity, electronics, power mechanics).
  - d. Industrial Design
- Supporting Courses: Chem 115 or 121, Physics 131, Math 220 (or 122), Computer Science 270, Econ 201, 325

*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 a

minimum of 20 credits in one of the following technologies:

- a. Graphic Communications Technology (industrial graphics, graphic arts, photography).
- b. Materials and Processes Technology (woods, metals, plastics).
- c. Mechanical and Electrical Technology (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; Econ 201, 202, 325

### VISUAL COMMUNICATIONS (VICOED) CONCENTRATION

See Interdepartmental Programs

*Minor* 25 credits

Courses selected under departmental advisement.

### 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:

Graphic 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, 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, 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 (1)

Basic technical concepts.

## Technology

- 201 WEAVING DESIGN (3)  
Weaving design taught through the use of a variety of looms and materials.
- 210 INDUSTRIAL GRAPHICS (3)  
Experiences in expressing ideas through visual communication utilizing the principles and techniques of industrial graphics; technical freehand sketching, multiview 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 DESCRIPTIVE GEOMETRY (3)  
Prerequisite: Tech 211. Theory and problems with practical application and the projection of points, lines, surfaces, and solids.
- 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)  
Theory and practice in electricity; projects and related studies involving the principles of electricity, electrical construction, repair, and maintenance.
- 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.
- 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)**  
The 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 (4)**  
Prerequisite: Tech 360 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 Phys 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. Repair and maintenance of the electrical components of the automobile and other small gasoline engines, with emphasis on understanding basic principles of operation.
- 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 210 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.

## Technology

- 417c Wood Sculpture and Design (3)  
Prerequisite: Tech 417a. Advanced techniques of woodcarving applied to sculpture.
- 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 permission of instructor. Metals and alloys, physical characteristics, phase diagrams, relation of physical properties to microstructure.
- 421 FERROUS METALLURGY (3)  
Prerequisite: Tech 325 or permission of instructor. The metal iron and its alloys.
- 422 NON-FERROUS METALS (3)  
Prerequisite: Tech 325 or permission of instructor. The non-ferrous metals and their alloys.
- 425 MATERIALS SCIENCE (3)  
Prerequisites: Math 220, Chem 115 or 121. Properties and utilization of metals and non-metals. Relationship between properties of interest and fundamental atomic arrangements. Systematic survey of the engineering materials.
- 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.
- 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 361, 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)  
Prerequisites: 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.
- 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)  
Prerequisites: Tech 270, 370, 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 experiences.

- 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; prerequisite to directed teaching in industrial arts.
- 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)  
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.
- 497c INDUSTRIAL ARTS IN THE MIDDLE SCHOOL (3)  
See Technology 417b.
- 497d TRENDS IN INDUSTRY (3)  
Analysis of trends in contemporary industry; implications for content and methods in industrial arts. Extension 1968-69.
- 497g WOOD SCULPTURE AND DESIGN (3)  
See Technology 417c.
- 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.
- 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.



\*Not applicable to undergraduate or graduate programs in Technology.

# 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:

General Education	Physical Science
General Science	Science Education
Geophysics	Social Studies Education
Honors	Urban and Regional Planning
Journalism	VICOFD
Linguistics	

## GENERAL EDUCATION

Each candidate for the Bachelor of Arts and the Bachelor of Arts in Education degree is required to complete General Education courses through the various options outlined on pages 38-39.

English 101 and Speech 100 are to be completed in the student's first year. The remaining courses are to be included as study programs prescribe, generally during the first two years. After satisfying all 100 level General Education requirements, a student must take an additional 45 credits before graduation. Transfer students admitted with senior status must complete all 100 level General Education requirements before the final quarter in residence.

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Some General Education courses are given as departmental offerings. Descriptions of these courses are included in the respective departmental sections. Interdepartmental courses are listed under the General Education titles as below:

## 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 ECONOMIC 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.

## 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.\*

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\*Dr. John Miller, Chemistry Department, is the adviser for this major.

**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, Phys 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.

\*Dr. John Miller, Chemistry Department, is the adviser for this major.

**GEOPHYSICS****Major Concentration** 110 credits

This Arts and Sciences concentration, appropriate for those planning to enter graduate study in geophysics, satisfies both a major and a minor.

- Math 122, 222, 223, 331
- Geol 211, 212, 306, 307, 418, 420, 452, 453
- Physics 231, 232, 233, 341, 371, 381
- Chemistry 121, 122, 123
- 16 credits under advisement from geology, physics, and chemistry.

For advisement in this concentration, consult the departments of Geology or Physics.

**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 completed at least 20 credits of honors courses; d. have written a senior thesis. (Rare 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, Geography, Geology, History, Mathematics, Music, Philosophy, Physics, Political Science, Psychology, Sociology-Anthropology.

**HONORS COURSES**

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)

## JOURNALISM

*Minor* 24 credits

(Teacher Education or Arts and Sciences)

- Journalism 104, 240, 304, 204 or 405
- Six credits in Newspaper Staff courses (111, etc.)
- Six credits from: Journ 204 or 405 (if not used above), 400, 406; English 302, Speech 340, 341

### 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 (1 ea)

Prerequisite: Journ 104 or permission of instructor. Participation on the staff of the college newspaper; critiques in news reporting, writing, editing and make-up.

#### 197a 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; dummying; page make-up; editorial writing.

#### 211, 212, 213 NEWSPAPER STAFF (1 ea)

Prerequisite: Journ 104 or permission of instructor. Participation on the staff of the college newspaper; critiques in news reporting, writing, editing and make-up.

#### 240 HISTORY AND LAW OF THE PRESS (3)

Historical and theoretical evaluation of the press correlated with social, economic, and political trends; constitutional guarantees, libel, contempt, privacy; other restrictions.

#### 304 ADVANCED NEWSWRITING (3)

Prerequisite: Journ 104. Interviewing, news coverage, including campus sources, and standard community news sources, with emphasis on social agencies; writing for newspapers.

#### 311, 312, 313 NEWSPAPER STAFF (1 ea)

Prerequisite: Journ 104 or permission of instructor. Participation on the staff of the college newspaper; critiques in news reporting, writing, editing and make-up.

#### 400 SPECIAL PROBLEMS IN JOURNALISM (1-3)

Individual studies and projects exploring specialized aspects of journalism.

#### 405 CURRENT PROBLEMS (3)

Prerequisite: Journ 240 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.

#### 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 (1 ea)

Prerequisite: Journ 104 or permission of instructor. Participation on the staff of the college newspaper; critiques in news reporting, writing, editing and make-up.

## 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 Sociology-Anthropology 488 and 5 additional credits selected under departmental advisement.

For advisement, consult Dr. Robert Peters (English Dept.), Director of Interdepartmental Program in Linguistics.

### COURSES IN LINGUISTICS

- 201 INTRODUCTION TO LINGUISTIC 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.
- 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: Ling 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.

### 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

There are no concentrations in this category.

Questions relating to these courses should be directed to Dr. John Miller, Chemistry Department, Coordinator of Science Education.

Science Education students interested in a course in the analysis of teaching, see Education 441.

### 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" curricular; observation and participation.

## 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, Chem 492, 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, Mr. Thomas Savage, 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.

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*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

- 425a,b SOCIAL STUDIES FOR THE ELEMENTARY SCHOOL (3)  
Prerequisites: Ed 301, Psych 352. The incorporation of social science concepts in the social studies 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, 413
- 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: Biology 447; Economics 341, 408, 410, 415; English 302; Geography 207, 331, 353, 407, 408, 422, 440, 442, 452, 453; History 466; Home Economics 175, 370; Mathematics 220, 270; 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
- Bus Admin 251, 335; Econ 338
- Math 122 or Computer Sci 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.

### Four-Year Teacher Education Program

Beginning Fall Quarter, 1969, 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.

### Two-Year Technology Program

(Admission by approval of the Director of VICOED)

The two-year technology program will be continued until the fall of 1970 at which time no new students will be admitted. It is anticipated that a number of community colleges will by that date have established approved transfer programs.

This program is designed to prepare the student to enter industry upon completion of the sequences or to transfer to the Bachelor of Science program without undue loss of time or credit.

Major requirements for VICOED 75 credits; General Education 23 credits.

- Art 101, 102, 371
- Chemistry 115
- Bus Admin 251, 335; Econ 338
- English 101; English 202 or Journalism 104
- Math 240; Computer Sci 270
- Physics 101

### *Interdepartmental Programs*

- Psych 320; Speech 100, 340
- Tech 160, 210, 240, 260, 340, 362, 379, 447
- 9-15 credits in one of the following areas: industrial graphics, graphic design, graphic arts, photography,

professional writing, educational media.

- Additional supporting courses in art or economics and business.



# FAIRHAVEN COLLEGE





## **FAIRHAVEN COLLEGE**

### *A Division of Western Washington State College*

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

This section of the catalog explains the development of the cluster college concept, its application at Fairhaven, and the environment in which it works.

## **ORIGIN OF THE CLUSTER COLLEGE**

The cluster college concept grew out of the pressures that accompany massive growth. Within the past quarter century, the number of students in American institutions of higher learning has grown from 1,500,000 to more than 6,000,000. During this same period, Western Washington State College has grown at a much faster rate—from 800 to more than 7,000 students. And the end is not in sight. If a college were an industrial enterprise, education would be classed as a growth industry.

But a college is not an industry and, because students are

not interchangeable units, education does not readily lend itself to mass production. As a college grows, the multiplying echelons of administrative authority increasingly separate the individual student from those who make institutional policy. The lines between the academic departments harden and faculty attention is increasingly diverted toward responsibilities other than those of teaching undergraduates. A college is, or ought to be, a community of scholars in which professors, who are seasoned scholars, work closely with students, who are apprentice scholars. But, because a sense of community is possible only within a unit small enough to provide for easy communication among the individuals within the group, the process of education—particularly liberal education—is likely to deteriorate as the institution grows. Often this decline is obscured to outsiders by the institution's growing prestige as a research institute or by the greater visibility that results from size. But the students know.

Students on some of the larger campuses have protested vigorously against what they interpret as a lack of faculty concern for undergraduates. Faculty members, particularly those most deeply committed to the liberal purposes of education, have been troubled by the breakdown of communication among members of the various academic departments. Administrators have expressed a fear that the larger universities are becoming all but ungovernable.

Western Washington is not yet a large institution; consequently, the problems that plague the large universities have not yet become acute on this campus. But, with an enrollment of 7,000, we are becoming aware of these problems—aware that already we have lost some of the virtues of a small college.

Colleges already large cannot become small. The increasing demand for higher education and the growing number of young men and women of college age precludes the possibility of a reversal in size. But a growing institution can avoid the anonymity of the large university by breaking itself up into units of a more modest size in which students and faculty can work closely together in planning and conducting the educational process. The cluster college idea—which is being developed on a number of campuses across the country—offers an opportunity to restore the advantages of a small college while at the same time making full use of the superior facilities (better laboratories, larger libraries, and well staffed academic departments) of a much larger institution. Fairhaven is the first step toward the development of a version of the cluster college plan, adapted to the special needs of Western Washington State College.

It seems likely that Western some day will become a university. Already it has an expanding graduate program, a professional program of teacher education with a long history, and highly specialized academic departments.

But a large and complex institution, whether called a college or university, faces dangers which cannot wisely be ignored. The change necessitates a new emphasis on upper division and graduate instruction and a faculty committed to highly specialized research. The result of such an emphasis, as may be observed in many other institutions, is a neglect of broadly liberal education at the undergraduate level. This neglect must be avoided at Western; consequently, we are developing undergraduate colleges within the larger institution—colleges with their own faculties and their own clearly established identity. One of the purposes of Fairhaven, and of the other cluster colleges to be established later at Western, is to protect liberal undergraduate education within a framework of specialization and research.

## 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 President 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.

Fairhaven, which is operating now in temporary quarters, will move to its own academic and housing facilities in 1969. Its total enrollment 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 will include an academic building with seminar and conference rooms, classrooms, reference library, and faculty offices; residence and dining halls; and social and recreational facilities. Fairhaven also will have its own architectural unity and visual identification. The structures have been designed by Seattle architect Paul Kirk, and construction is under way.

Fairhaven students receive instruction from both the Fairhaven faculty and the departmental faculties of Western. The former work closely with 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 present general education requirements and provides a common background of knowledge and understanding. They also have access to science laboratory, library and recreational facilities of Western.

The small size of Fairhaven enables students and teachers to become much better acquainted than is possible in a large institution and makes the faculty more responsive to student opinion. Students participate in planning and revising the program and in evaluating results.

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

## 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 learning experiences, a more realistic structure is used at Fairhaven. Because of the importance of these experiences

to the total education of the Fairhaven student, a substantial portion of the curriculum is devoted to this area. Specific activities are varied according to the opportunities that arise. For example, events of critical importance in the world at a given time often lead to special seminars, or they may demand meetings of specialists with the students.

Independent study also is an integral part of this 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 his 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. Fairhaven planners contend that fewer lectures than are typical of most college curricula can, by being imaginative when they do occur, be far more significant when coupled with extensive discussion and independent study.

## 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.

## AREAS OF STUDY

Three major subdivisions comprise the curricular program of Fairhaven students: Fairhaven Elective Program, Required Fairhaven Courses, and Area of Concentration.

### *Fairhaven Elective Program*

Based upon his special interests, talents, and needs, the elective program is individually designed by each student in cooperation with his tutor. It includes individual

research, scholarly investigation, creative work, field trips and a variety of activities in art, music, drama, student publications, and athletics.

When several students discover that they share a common interest they may propose an elective seminar which in most cases is led by a faculty member but may in some cases be led by a qualified student. Some of the elective seminars that have been offered represent subdivisions of the traditional academic disciplines: Human Ecology, Ethics and Morality, Logic, History and Culture of the American Indians. Other seminars deal with contemporary social problems, drawing upon two or more disciplines: Organized Crime in the United States, Drugs, Race Relations, Pacifism, and the Political Boss in the United States. Still other seminars have provided an opportunity for the development of artistic talent: Chamber Music, Art Workshop, Creative Writing, Dance Workshop. As new students and faculty members with new ideas and interests enter Fairhaven, still other seminars will be introduced.

The amount of credit for the elective program is decided by the student with the approval of his tutor. Each year the tutor prepares a written summary and evaluation of his student's work. When students complete their studies at Fairhaven, each tutor will provide an overall evaluation.

The Fairhaven Elective Program allows maximum opportunity for the student to develop certain areas in depth while taking part in a series of rich and changing programs.

### *Required Courses*

Although the Fairhaven curriculum allows an unusual amount of latitude for elective courses and independent study, several sequences of courses or seminars are required of all students in order to establish a degree of commonality of experiences, interests, and knowledge within the Fairhaven community. The required courses are designed to develop an awareness and understanding of our contemporary social and natural environment and to generate an understanding of its historical origins and its philosophic significance. This required program includes:

- An interdisciplinary study of the world's major

historic cultures, viewed in their geographic settings and with attention to their intellectual and artistic contributions as well as to their contemporary relevance.

□ An exploration of the roots of scientific thought in our cultural heritage with an examination of the philosophic interrelationships between science, the scientist, and contemporary society.

□ Seminars in behavioral science, philosophy and religion, and aesthetics.

The specific content of these required seminars can, within broad limits, be adapted to the interests of students and the special talents of the instructor. During Fairhaven's first full year of operation a variety of emphases and orientations was encouraged and developed within the humanities sequence. For example, in Humanities II, which covers the time period from Rome through the Middle Ages, one section made a survey of non-Western prose and poetry, another studied the cultural history of Islamic and early Christian civilizations, while yet a third examined the causes of the rise and fall of civilizations.

The humanities sequence consists of six quarters work for a total of thirty credits, but in order to extend the student's freedom of choice and the flexibility of content within the sequence provision is made for variable credit during any one quarter.

Thus a student may vary his degree of involvement in a particular seminar and receive the appropriate amount of credit for the work done. He may traverse lightly over the area covered during one quarter and then probe deeply into another area of particular interest. He may choose to take two sections during the same quarter while examining different cultures or aspects of cultures, or he may conduct an extended independent investigation of a specific area for additional credit. Similar flexibility is being planned for the sequence in mathematics and science, which covers three quarters for 15 credits.

A student who comes to Fairhaven especially well versed in the humanities, or in science and mathematics, may be exempted from some of the required seminars upon submission of an exemption request and evidence of adequate performance in an oral examination.



### *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.

Among the visitors for 1968-69 were George Tsutakawa (sculptor), Kurt Vonnegut (author), William O. Douglas (U.S. Supreme Court), Keve Bray (*Afro-American Journal*), John Logan (poet), Thomas Ball (U.S. State Department), Mike Rosen (attorney), James L. Jarrett (educator), Charles Hamilton (Simon Fraser University).

Another part of the visitor's program was an exchange in which forty Fairhaven students and faculty visited Raymond College in California; a similar number of Raymond students came to Fairhaven during the same week.

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.

A Concert-Lecture Series and an Art Film Series, sponsored by the Department of Continuing Studies, provides an opportunity for students to hear outstanding speakers, artists, and musicians, and to see leading examples of film art. In addition, Fairhaven will invite numerous guests representing various fields to give both formal and informal presentations.

Intercollegiate and intramural athletics are open to Fairhaven students. Western competes with other colleges of the Evergreen Conference in football, basketball, baseball, track, tennis, golf, swimming, cross-country and wrestling. Outdoor facilities on the campus include a football field, a track, tennis courts, and extensive general recreational areas. Indoor facilities include four standard basketball courts, a swimming pool, and others. For outdoor enthusiasts, there is skiing at Mt. Baker, hiking and mountain climbing, fresh and salt water fishing, power boating and sailing.

Students own or share in the ownership of a 13-acre tract with a cabin on Sinclair Island in the San Juans, a 9-acre lakeside tract on Lake Whatcom near the college, and a ski lodge at Mt. Baker.

### **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.

Fairhaven is an exciting concept in higher education and much of its 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 admission 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 freshmen 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.

### *Tuition and Fees (annual)*

Residents of Washington	\$264
Non-Residents of Washington	471
<i>Books and Supplies (estimated)</i>	150
<i>Room and Board in Fairhaven Residences</i>	850

Consult the General Catalog for more detailed information.

### *Total Expenses (estimated)*

Residents	\$1,264
Non-Residents	1,471

One third of the annual tuition and fees is payable each term. Board and room charges are generally paid each quarter.

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 General Catalog or apply to the Director of Financial Aids.

## CURRICULUM SUMMARY

The curriculum requirements unique to Fairhaven will comprise roughly one-half of the student's college time and will always bear the imprint of individual tailoring to individual needs. As a general guideline, the following program, with credit equivalents, is offered:

### *Fairhaven Requirements*

#### *Humanities*

One-third of the student's time the first year and a decreasing load in the following year.

- Ancient World to early 17th Century (15 credit equivalent; first year)
- Early 17th Century to 1914 (10 credit equivalent; second year)
- 1914 to present (5 credit equivalent; third year)

#### *Science-Mathematics*

Science and the scientist in contemporary society. Usually starts in the spring of the freshman year, continues for three quarters and comprises a one-third load (15 credit equivalent).

#### *Composition*

Fairhaven's writing requirement is satisfied when the

student has demonstrated college level proficiency in written work. 3 credit equivalent.

#### *Seminars*

One academic quarter in duration and one-fourth of a student's load; 4 credit equivalent each.

- Behavioral Science (Normally taken in first year).
- Philosophy and Religion.
- Aesthetics.
- Senior Seminar (Normally taken in fourth year).

#### *Fairhaven Elective Program*

Planned independent study, elective seminars, artistic and cultural events, travel and work which are pertinent to the student's areas of interest and which contribute to his understanding of himself and his relationship to society (27 credit equivalent, minimum).

#### *Area of Concentration* (variable credit hours)

Usually a major and minor taken at Western. See Western's "Departments of Instruction" in the General Catalog for requirements.

#### *Professional Education*

Students working toward the Bachelor of Arts in Education degree and teacher certification will be advised by the Fairhaven staff.

# COLLEGE PERSONNEL

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President

R. D. BROWN, Ph.D.  
Academic Dean

J. ALAN ROSS, Ph.D.  
Dean of Graduate School

HERBERT C. TAYLOR, Ph.D.  
Dean for Research and Grants

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College Architect

DON F. BLOOD, Ph.D.  
College Examiner

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Director of Computer Center

CHRIS F. KARP, B.S.  
Director of Student Activities and the Viking Union.

SAMUEL P. KELLY, Ph.D.  
Director of Center for Higher Education

MARGARETHE KINGSLEY, M.D.  
College Physician

DONALD R. KJARSGAARD, Ph.D.  
Assistant to the Academic Dean and Coordinator of the Summer Session

KERMIT KNUDTZON, B.A.  
Controller

F. STEPHEN KURTZ  
Publications Officer

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Director of the Physical Plant

CALVIN A. MATHEWS, M.A.  
Associate Registrar and Coordinator of College Relations

GERSON F. MILLER, M.A.  
Adviser to Student Publications

JOHN MUMMA, M.D.  
College Physician

JOSEPH P. NIAL, B.S.  
Personnel Director

B. EUGENE OMEY, M.A.  
Director of Admissions

WILLIAM J. O'NEIL, M.Ed.  
Registrar

RONALD L. PETERSON, M.Ed.  
Assistant Director of Admissions

LORRAINE POWERS, M.A.  
Dean of Women

FRANK N. PUNCHES, M.A.  
Director of Placement

WILLIAM F. ORME, M.Ed.  
Assistant Director of Continuing Studies

RAY S. ROMINE, M.Ed.  
Acting Dean of Men

ERNEST SAMS  
Financial Planning Officer

## 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  
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DOROTHY D. BUTTON  
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Associate Professor Emeritus of Education. B.S., M.A., Teachers College, Columbia University.

**EDWIN R. CLAPP**

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**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**

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**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.

**RAYMOND F. HAWK**

Professor Emeritus of Education. B.A., DePauw University; M.A., Stanford University; Ph.D., Washington State University.

**IMILDRED 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**

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**PRISCILLA KINSMAN**

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**MIRIAM L. PECK**

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**RUTH PLATT**

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**HAZEL JEAN PLYMPTON**

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**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.

## 1969-70 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.)

**WILLIAM R. ABEL (1962)**

Professor of Mathematics. B.A., Morningside College; M.A., University of South Dakota; Ph.D., University of Missouri.

**GOTTFRIED K.V. ADAM (1963)**

Assistant Professor of German. B.A., M.A., University of California, Berkeley.

**DONALD A. ADAMS (1964)**

Instructor of Speech. B.A., M.A., University of Washington.

**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. B.A. in Ed., Western Washington State College; M.A., University of Washington.

- MARGARET H. AITKEN (1946)  
Professor of Physical Education and Chairman of the Department. B.A., University of Washington; M.A., Ed.D., Teachers College, Columbia University.
- 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.
- DARFEL W. AMUNDSEN (1969)  
Lecturer in Foreign Languages. 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.
- MEIDEL APPELGATE (1964)  
Associate Professor of Art. A.B., M.A., University of California, Berkeley; M.A., San Diego State College; Ed.D., University of California, Berkeley.
- WALTER Z. ARMSTRONG (1969)  
Lecturer in Music. New York College of Music; Royal Conservatory of Music.
- M. CHAPPELLE ARNETT (1960)  
Assistant 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 Foreign Languages. 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 (1958)  
Assistant Professor in Biology. B.S., M.N.S., University of Oklahoma; Ph.D., The Ohio State University.
- JAMES BARCHEK (1968)  
Lecturer in English. B.S., Portland State College; M.Ed., 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.
- MYRLE E. BECK, JR. (1969)  
Assistant Professor in Geology. B.A., M.S., Stanford University; Ph.D., University of California at Riverside.
- HORACE O. BELDIN (1965)  
Professor of Education. B.S., M.S., University of Oregon; Ph.D., Syracuse University.
- MARION BESSERMAN (1952)  
Associate Professor of Chemistry. B.S., University of Washington; M.S., Purdue University; Ph.D., University of Washington.
- \*BARBARA A. BIELER (1965)  
Assistant Professor of Home Economics and of Education. B.S., M.H.Ed., Oregon State University.
- THOMAS BILLINGS (1964)  
Professor of Education. B.S., Ph.D., University of Oregon.
- RICHARD T. BISHOP (1966)  
Lecturer in Education. Ph.B., University of Chicago; M.A., Michigan State University.
- JOSEPH E. BLACK (1967)  
Assistant 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.

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\*On leave 1969-70

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\*On leave 1969-70

- 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 Sociology and Anthropology. B.A., San Francisco State College; M.A., Ph.D., Stanford University.
- MARY A. BOTTOMLEY (1968)  
Assistant Professor of Art. A.B., Indiana University; M.F.A., Indiana University.
- ELIZABETH BOWMAN (1966)  
Associate Professor of English and Linguistics. A.M., Ph.D., University of Chicago.
- BERNARD L. BOYLAN (1956)  
Professor of History. B.A., M.A., University of Washington; Ph.D., University of Missouri.
- JOHN P. BRADBURY (1969)  
Assistant Professor of Fairhaven. B.A., University of Arizona; Ph.D., University of New Mexico.
- LAURENCE BREWSTER (1948)  
Professor of Speech. B.A., Yankton College; M.A., Ph.D., University of Iowa.
- A. CARTER BROAD (1964)  
Professor of Biology and Chairman of the Department. B.A., M.A., University of North Carolina; Ph.D., Duke University.
- HENRICH BROCKHAUS (1965)  
Associate Professor of German. B.A., M.A., University of British Columbia; Ph.D., University of Washington.
- WILLIAM JOHN BROCKIE (Jan. 1970)  
Visiting Lecturer in Geography. M.A., M.A. with Honours, University of Edinburgh.
- DON W. BROWN (1954)  
Associate Professor of Education. B.S., M.A., University of Nebraska; Ed.D., Colorado State College.
- EDWIN H. BROWN (1966)  
Associate Professor of Geology. A.B., Dartmouth College; M.S.C., University of Dtago; Ph.D., University of California, Berkeley.
- HERBERT A. BROWN (1967)  
Assistant Professor of Biology. B.A., University of California, Los Angeles; Ph.D., University of California, Riverside.
- ROBERT C. BROWN (Fall 1969)  
Visiting Lecturer in Geography. B.S., Oregon State College; M.S., Oregon State University; Ph.D., Michigan State University.
- ROBERT D. BROWN (1965)  
Professor of English and Academic Dean. A.B., M.A., Ph.D., Indiana University.
- WILLARD A. BROWN (1966)  
Associate Professor of Physics. B.S., University of Washington; M.A.T., Washington State University; Ed.D., University of Florida.
- WILLIAM C. BUDD (1953)  
Professor of Psychology. B.A., Hamline University; B.S., M.A., Ph.D., University of Minnesota.
- JOHN E. BULLOCK (1967)  
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- WILLIAM A. BULTMANN (1965)  
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- DONALD J. CALL (1958)  
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- JEAN CARMEAN (1969)  
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- KATHERINE M. CARROLL (1958)  
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- DENNIS E. CATRELL (1966)  
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- MOYLE F. CEDERSTROM (1935)  
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- DONALD R. CHALICE** (1967)  
Assistant Professor of Mathematics. B.A., University of Wisconsin; M.A., Ph.D., Northwestern University.
- ROBIN W. CHANEY** (1969)  
Professor of Mathematics. B.A., Ph.D., Ohio State University.
- SEA BONG CHANG** (1964)  
Professor of Chemistry. B.S., Armed Forces College, Korea; M.A., Duke University; Ph.D., Massachusetts Institute of Technology.
- EDNA E. CHANNER** (1940)  
Associate Professor of Technology. B.A., University of Washington; M.A., University of Iowa.
- EVERETT W. CHARD** (1968)  
Lecturer in Political Science. B.A., Miami University, Ohio; M.A., University of California, Berkeley.
- \*ROBERT A. CHRISTMAN** (1960)  
Associate Professor of Geology. B.S., M.S., University of Michigan; Ph.D., Princeton University.
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- NITA CLOTHIER** (1964)  
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- GAYLE L. CORNELISON** (1966)  
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- KEITH CRASWELL** (1966)  
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- HOWARD J. CRITCHFIELD** (1951)  
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- ROBERT J. CROSS** (1969)  
Lecturer in Library and Assistant Director for Public Service. B.A., Carleton College; M.L.S., University of Washington.
- LOWELL T. CROW** (1968)  
Associate Professor of Psychology. B.S., M.A., University of South Carolina; Ph.D., University of Illinois.
- GEORGE T. CVETKOVICH** (1969)  
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- LEE A. DALLAS** (1968)  
Assistant Professor of Education and of Biology. A.B., Gettysburg College; M.S.Ed., Ed.D., Temple University.
- STANLEY M. DAUGERT** (1962)  
Professor of Philosophy and Chairman of the Department. A.B., M.A., Ph.D., Columbia University.
- MELVIN DAVIDSON** (1967)  
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- DAVID H. DAVIS** (1968)  
Instructor of History. B.A., University of Washington; M.A., Claremont Graduate School.
- ROLAND L. DE LORME** (1966)  
Associate Professor of History and Director of General Studies. A.B., University of Puget Sound; M.A., University of Pennsylvania; Ph.D., University of Colorado.
- BELA DETREKOY** (1967)  
Associate Professor of Music. Artist Diploma in Violin, Franz Liszt Academy of Music, Budapest; Diploma of International Competition, Geneva.
- CAROL J. DIERS** (1963)  
Associate Professor of Psychology. B.A., B.A. in Ed., Western Washington State College; M.A., University of British Columbia; Ph.D., University of Washington.
- WILLIAM J. DITTRICH** (1951)  
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Lecturer in Philosophy. A.B., Wayne State University.
- GEORGE F. DRAKE** (1968)  
Assistant Professor of Sociology. B.A., M.A., University of California, Berkeley.
- LeROY JOSEPH DRESBECK** (1969)  
Lecturer in History. B.S., Loyola University, Los Angeles.
- MAURICE A. DUBE** (1963)  
Associate Professor of Biology. B.S., Washington State University; M.S., Ph.D., Oregon State University.

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\*On leave Fall & Winter of 1969-70

JAMES E. DUEMMEL (1966)  
Associate Professor of Mathematics. B.A., M.A., Ph.D., Ohio State University.

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Associate Professor of Chemistry. B.S., M.S., Oregon State University; Ph.D., Purdue University.

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Lecturer in History. B.A., University of New Mexico; M.A., Colorado State College.

PETER J. ELICH (1961)  
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FRÉDERICK E. ELLIS (1965)  
Professor of Education. B.A., Reed College; B.A. in Ed., Western Washington State College; M.Ed., Ed.D., Harvard University.

ROSS C. ELLIS (1962)  
Associate Professor of Geology. B.A., Occidental College; Ph.D., University of Washington.

WILLIAME E. ELMENDORF (1958)  
Lecturer in Russian and Spanish. B.S., University of Puget Sound; M.A., University of Washington.

FRED R. EMERSON (1966)  
Lecturer in Men's Physical Education. B.A. in Ed., Western Washington State College.

JOHN E. ERICKSON (1964)  
Associate Professor of Biology. B.A., University of Omaha; A.M., Indiana University; Ph.D., University of Oregon.

EUNICE D. FABER (1968)  
Associate Professor of Foreign Languages. A.B., Howard University; M.A., Ph.D., Catholic University.

JEFFREY M. FANG (1968)  
Assistant Professor of Economics and Business. B.A., National Taiwan University; M.A., Ph.D., University of Washington.

LELAND W. FARLEY (1965)  
Lecturer in English. B.A., M.A., University of Montana.

CONSTANCE P. FAULKNER (1968)  
Assistant Professor at Fairhaven College. B.S., University of Utah.

J. KAYE FAULKNER (1962)  
Assistant Professor of Economics. B.S., Ph.D., University of Utah.

FLORA FENNIMORE (1969)  
Associate Professor of Education. B.S., Mt. Angel College; M.A., Ed.D., Washington State University.

F. RICHARD FERINGER (1962)  
Associate Professor of Education and Continuing Studies. B.S., University of Minnesota; Ed.D., University of California, Los Angeles.

DONALD A. FERRIS (1947)  
Associate Professor of Education and Director of Teacher Education Advisement and Certification. B.A., M.A., University of Washington.

MARK W. FLANDERS (1962)  
Assistant Professor of Technology. B.A., Iowa State Teachers College; M.A., University of Iowa.

A. HUGH FLEETWOOD (1962)  
Assistant Professor of Philosophy. A.B., M.A., University of Michigan.

CHARLES J. FLORA (1957)  
Professor of Zoology and President of the College. B.S., Purdue University; M.Ed., Ed.D., University of Florida.

LORRAINE O. FOLEY (1969)  
Lecturer in English. B.A., University of Rhode Island.

RICHARD W. FONDA (1968)  
Assistant Professor of Biology. B.A., M.S., Ph.D., University of Illinois.

IONE A. FOSS (1957)  
Associate Professor of Art. B.S., M.A.A., Montana State College; M.F.A., University of Oregon.

RICHARD J. FOWLER (1965)  
Assistant Professor of Technology. B.A., M.S., Washington State University; Ed.D., Texas A. & M. University.

RICHARD L. FRANCIS (1969)  
Associate Professor of English. A.B., Kenyon College; M.A., Duke University; Ph.D., Yale University.

ANDREW J. FRANK (1962)  
Professor of Chemistry. B.S., M.S., Ph.D., University of Illinois.

BARTON FRANK (1969)  
Professor of Music. B.M., M.M., Tulsa University.

THOMAS FRAZIER (1964)  
Assistant Professor and Head Catalog Librarian. B.A., M.A., M.L.S., University of Washington.

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\*On leave Fall & Winter of 1969-70

- DONNA C. FRICK (1967)  
Lecturer in Home Economics. B.A., University of Utah.
- MARIAN B. FRIER (1969)  
Lecturer in Wilson Library and Music Librarian. B.A. of M.Ed., M.L.S., University of Portland.
- JAMES E. FREIT (1969)  
Associate Professor of Education. A.B., University of Washington; Ed.M., University of Oregon; Ed.D., Harvard University.
- ALBERT J. FRODERBERG (1968)  
Associate Professor of Mathematics. B.S., M.S., Ph.D., University of Washington.
- EUGENE K. GARBER (1968)  
Associate Professor of English. B.A., Tulane University; M.A., Ph.D., University of Iowa.
- HARVEY M. GELDER (1948)  
Associate Professor of Fairhaven. B.A., Colorado State College; M.A., University of Missouri.
- GEORGE A. GERHOLD (1969)  
Assistant Professor of Chemistry. B.S., University of Illinois; Ph.D., University of Washington.
- DONN D. GILBERT (1968)  
Assistant Professor of Education. B.A., University of Arizona; M.A., California State College at Los Angeles, Ed. D., University of California, Berkeley.
- JEROME GLASS (1955)  
Associate Professor of Music. B.S., New York University; M. Mus., University of Southern California.
- PAUL C. GLENN (1969)  
Assistant Professor at Fairhaven. B.A., University of Washington; M.A., Stanford University.
- HELEN H. GOLDSMITH (1968)  
Assistant Professor of French. B.A., M.A., University of Minnesota; Ph.D., University of California, Berkeley.
- CHARLES GOSSMAN (1968)  
Lecturer in Sociology. B.A., University of Puget Sound; M.A., University of Washington.
- BARRY M. GOUGH (1968)  
Lecturer in History. B.Ed., University of British Columbia; M.A., University of Montana.
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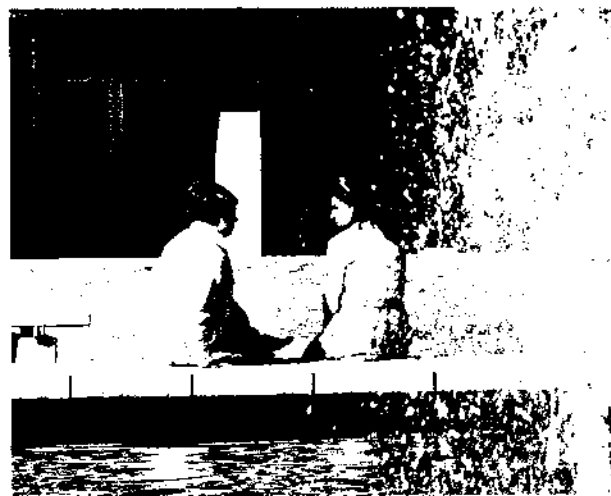
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Associate Professor of Geography. B.S., University of Chicago; M.S., Washington State University; Ph.D., University of California, Davis.

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GERARD FRANCIS RUTAN (1969)  
Associate Professor of Political Science. B.A., M.A., University of Montana; Ph.D., University of North Carolina at Chapel Hill.

MARJORIE RYAN (1961)  
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KNUTE SKINNER (1962)

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\*On leave 1969-70

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\*On leave Fall 1969

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\*On leave 1969-70

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\*On leave Fall 1969

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Assistant Professor of Chemistry. B.A., College of Great Falls; M.S., Washington State University.
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Assistant Professor of Chemistry. B.S., University of Rochester; M.S., Ph.D., University of Michigan.
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Piano. B.A., University of Wyoming.

DON McMASTERS  
Woodwinds.

MICHI NORTH  
Piano. Juilliard School of Music.

KATHIE RAMM  
Percussion. B.A., University of Washington.

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Woodwinds. B.A., M.A., Western Washington State College.

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Violin. New England Conservatory of Music; American  
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EVELYN WOHLMACHER  
Voice. B.M., University of Puget Sound.

WILLIAM WOHLMACHER  
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## ASSOCIATE IN THE ARTS—MUSIC

MITSUKO ARUGA (1968)  
Diploma, Talent Education Institute, Matsumoto, Japan.

## CONSULTANT

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B.Sc., Capetown; B.Sc., University of London; Ph.D., Institute  
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Michigan; Ph.D., Ohio State University.

GOLDIE VITT (1962)  
B.S., Eastern Montana College of Education; M.S., Montana  
State University.

## 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.

Richard Aenis, Seattle  
Terry Biggart, Seattle  
Dean McCoy, Seattle  
George Mehrens, Jr., Seattle  
Ella Polfenroth, Seattle  
Robert Probach, Seattle  
Irma Rodenhouse, Seattle

Jackie Ambrose, Shoreline  
Anthony Angell, Shoreline  
Fran Jackson, Shoreline  
Betty Temple, Shoreline

Jacqueline Lusier, Edmonds  
Dale Parker, Edmonds  
Alice Wiggins, Edmonds  
Philip Williams, Edmonds

Dwight Andrus, Everett  
Philip Zalesky, Everett

Charles Kiel, Anacortes

George Frasier, Burlington-Edison

Adolph Ravnik, Mount Vernon

William Stendal, Sedro Woolley

Beverly Kinney, Port Angeles

Eric Hoglund, Port Townsend

Carol Versteegen, Sequim

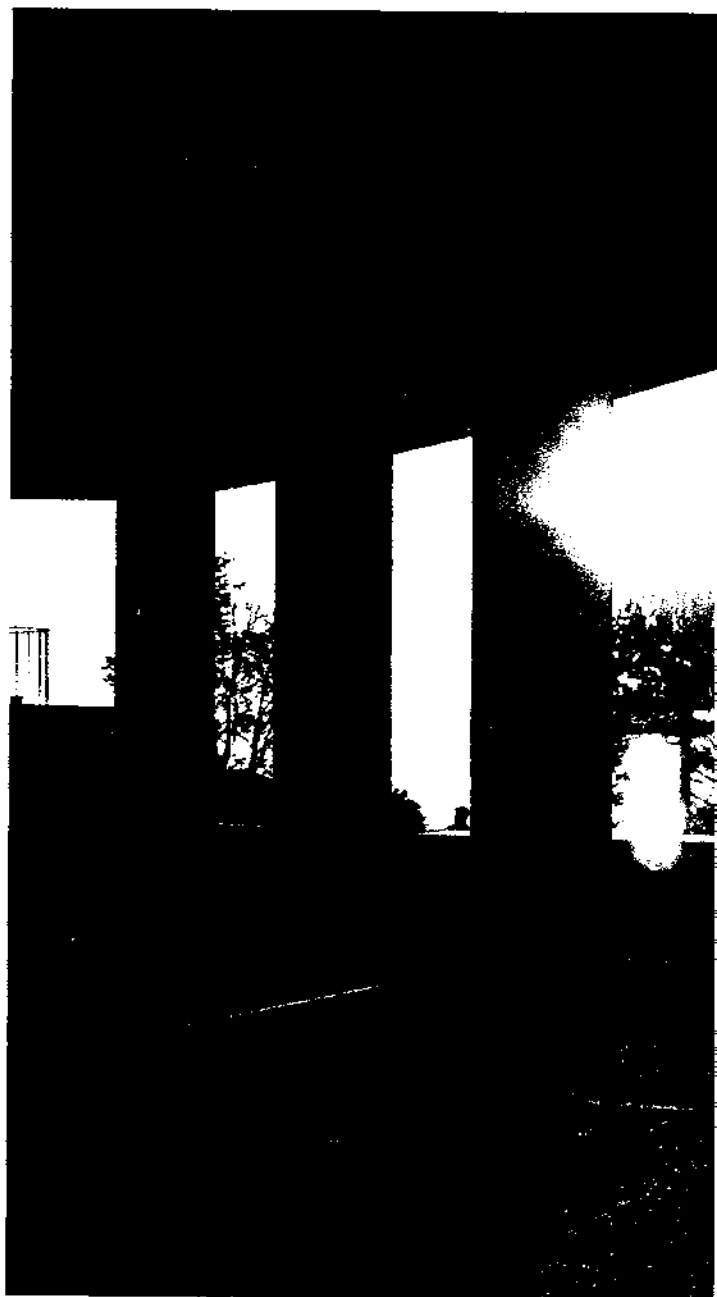
Dennis Fatland, Tacoma

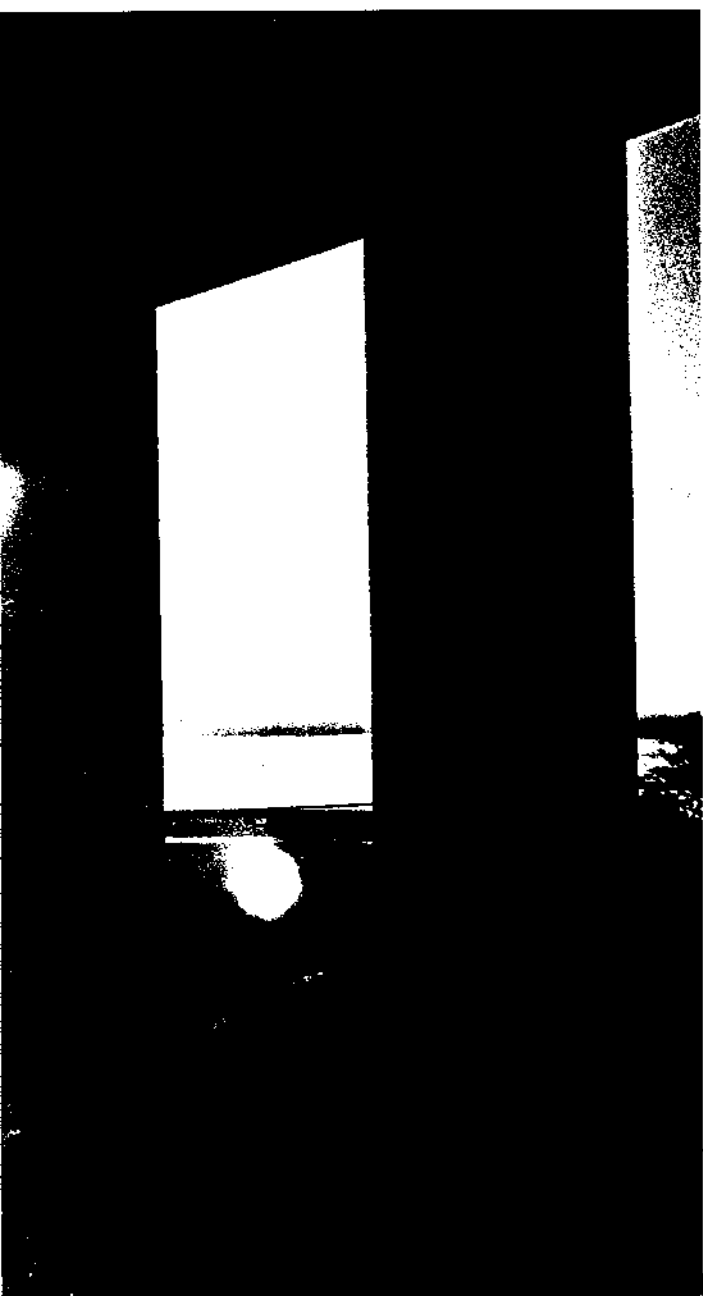
John Hanson, Tacoma

Rueben Kvamme, Tacoma

Robert Baltz, Bellevue

Others are being arranged in Oak Harbor and Kent.





## SUMMARY OF ENROLLMENT

### *Resident*

Summer Quarter, 1968	3577
Fall, Winter, Spring, 1968-69	8596

### *Extension*

Independent Study	454
Evening Classes (on campus)	852
Extension Classes (off campus)	3538
Total Extension Enrollment	4844

## DEGREES AND CERTIFICATES

### *Degrees granted from August, 1968 to June, 1969, inclusive:*

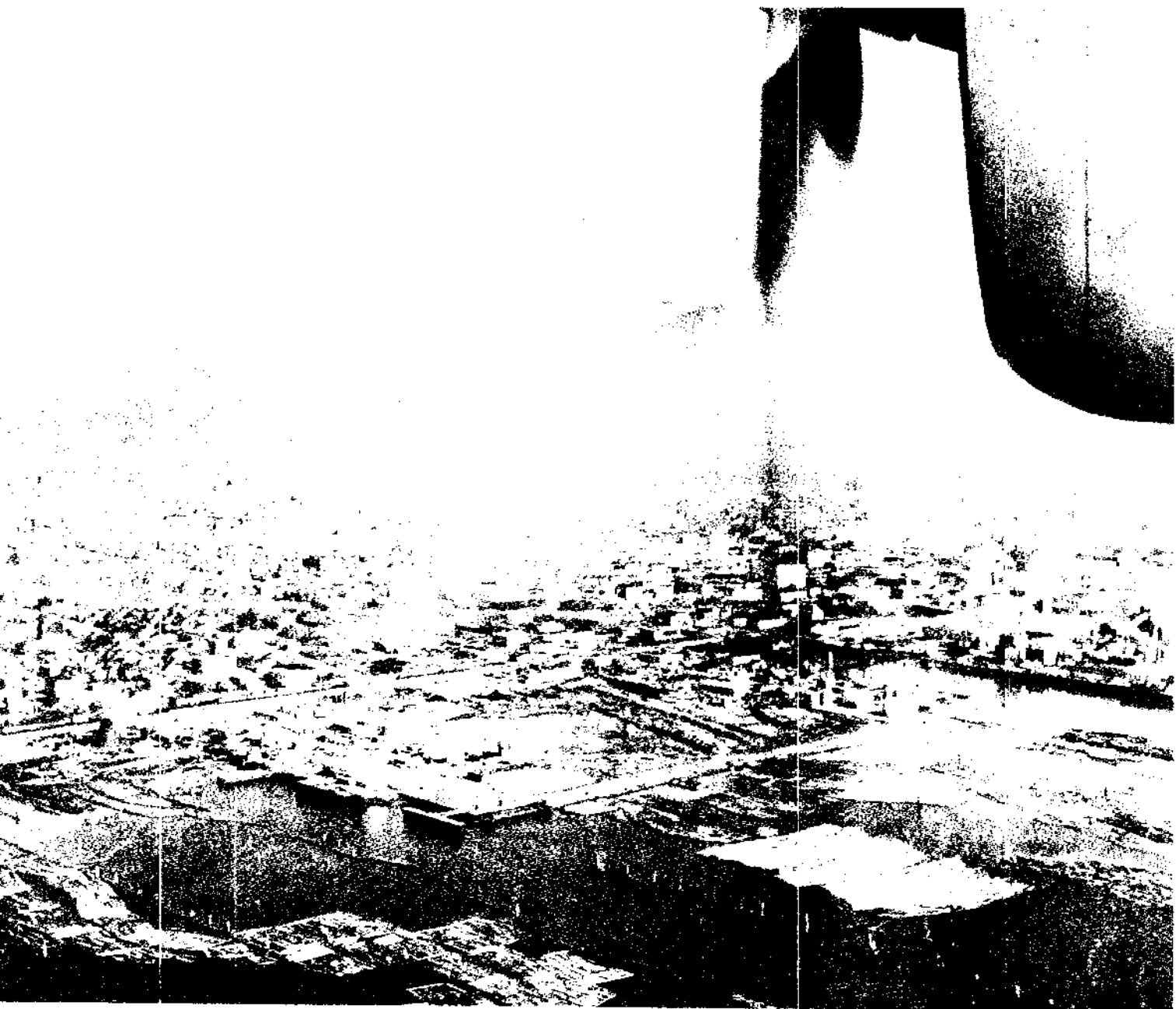
Master of Education	128
Master of Arts	26
Master of Science	26
Bachelor of Arts in Education	726
Bachelor of Arts	417
Total	1323

### *Teaching Certificates issued from August, 1968, to June, 1969, inclusive:*

Provisional	722
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### *Recommended for certification to the State Superintendent of Public Instruction-- Standard Teaching Certificate*

311
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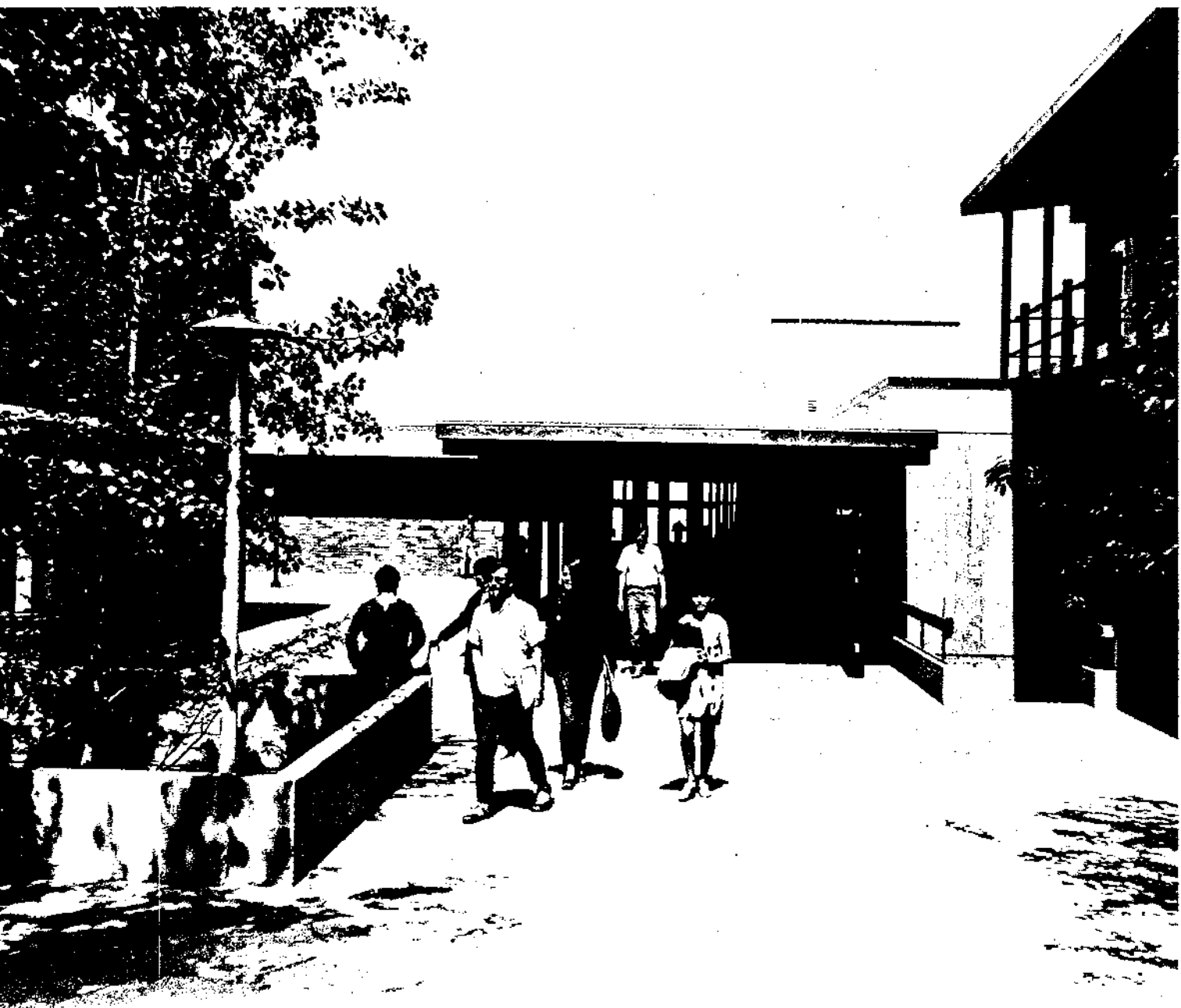
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Business Administration . . . . .	64
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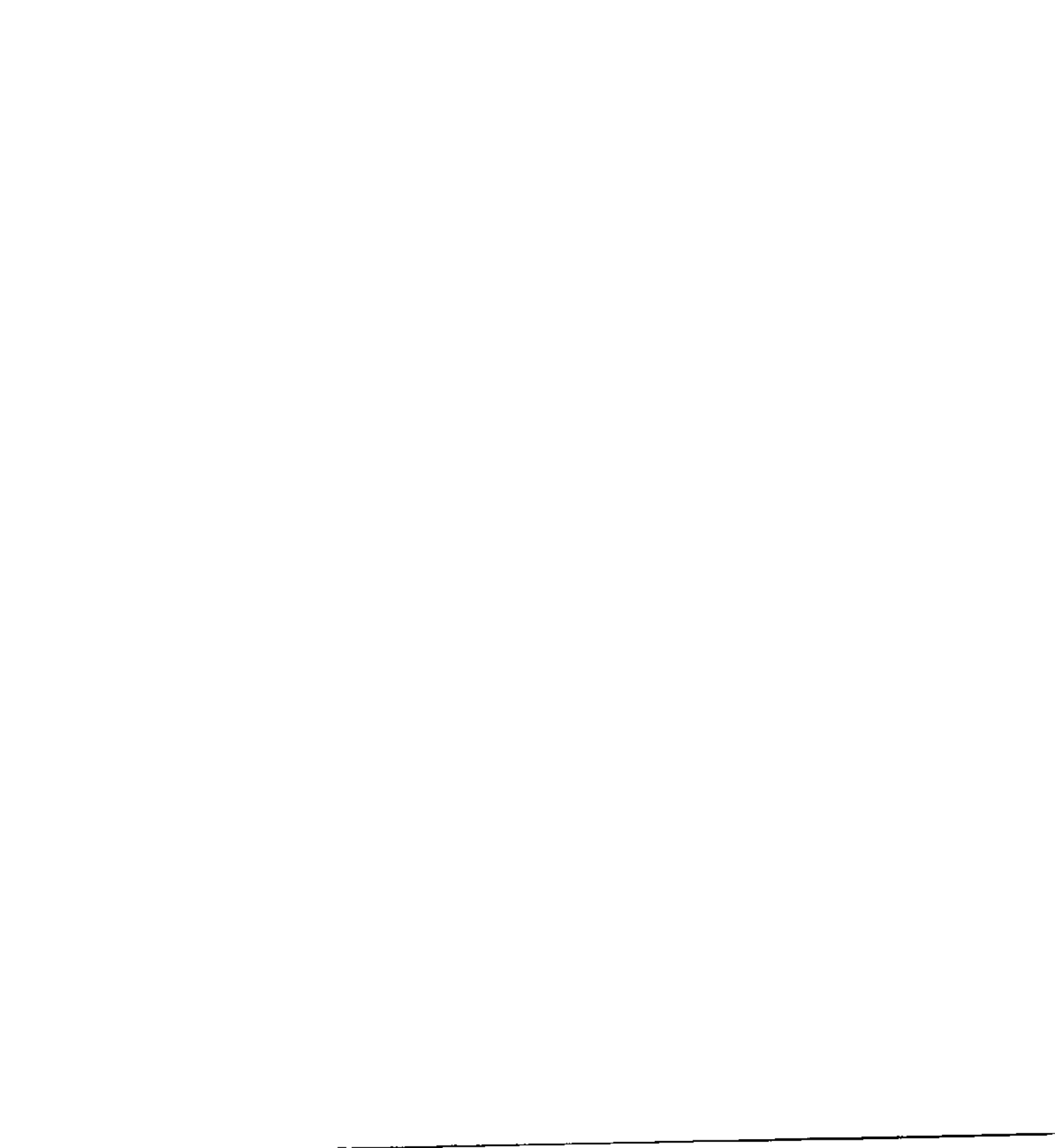


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