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WASHINGTON
STATE
COLLEGE

WESTERN WASHINGTON STATE COLLEGE BULLETIN

Vol. LXIII

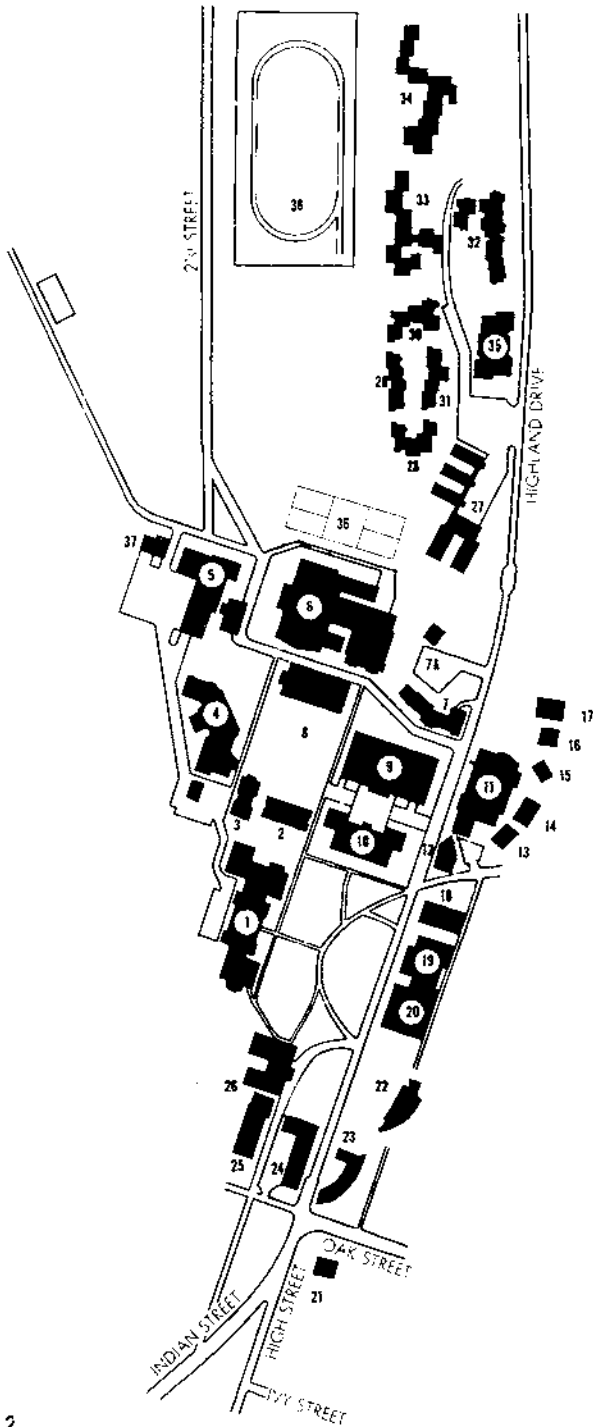
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CAMPUS MAP



1. Old Main
2. Humanities Building
3. Lecture Halls
4. Campus School
5. Arts Building
6. Carver Gymnasium
7. Education Building
- 7A. Education Annex
8. Science-Mathematics Building
9. Haggard Hall of Science
10. Wilson Library
11. Auditorium-Music Building
12. Terrace Annex
13. Music Annex
14. Housing Offices
15. President's House
16. Fresh Water Institute
17. Fairhaven College (Temporary Offices)
18. Book Store
19. Viking Union
20. Viking Commons
21. VICOED Center
22. Mathes Hall
23. Nash Hall
24. Higginson Hall
25. Edens Hall North
26. Edens Hall
27. Highland Hall
28. Ridgeway Sigma
29. Ridgeway Omega
30. Ridgeway Delta
31. Ridgeway Alpha
32. Ridgeway Kappa
33. Ridgeway Beta
34. Ridgeway Gamma
35. Ridgeway Dining Hall
36. Athletic Fields
37. Heating Plant

CONTENTS

2	Campus Map	33	ACADEMIC REGULATIONS
4	College Calendar		
7	THE COLLEGE	39	PROGRAMS OF INSTRUCTION
7	Accreditation	39	Bachelor's Degree Requirements
7	Objectives	40	General Education
10	The Campus	42	Teacher Education – The B.A. in Education Degree
10	The Wilson Library	42	Arts and Sciences – The B. A. Degree
11	Research	45	The Honors Program
12	Fairhaven College	46	Graduate Degrees
15	THE STUDENT	46	Fifth Year (Teacher Education)
15	Admission	47	<i>Programs of Continuing Studies</i>
18	Registration	49	DEPARTMENTS OF INSTRUCTION (See back cover)
	<i>Finances</i>	157	COLLEGE PERSONNEL
19	Fees	157	Board of Trustees
20	Total Costs	157	Administration
20	Financial Assistance	159	Faculty
	<i>Student Living</i>	175	ENROLLMENT AND DEGREES GRANTED
23	Housing	176	INDEX
25	Living Costs		
27	Health Service		
28	Parking		
	<i>Student Personnel Services</i>		
28	Orientation and Advisement		
28	Student Services		
30	Student Activities and Organizations		

1967-1968 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
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24	25	26	27	28	29	30

DECEMBER

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	31					

OCTOBER

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JANUARY

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NOVEMBER

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FEBRUARY

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25	26	27	28	29		

Fall Quarter, 1967

August 1

Last day to apply for admission

September 24, 7:30 p.m.

Convocation for New Freshmen

September 26

Registration of returning students

September 27, 8:00 a.m.

Classes begin

November 23, noon - November 27, 8:00 a.m.

Thanksgiving Recess

December 11 - 15

Final Examinations

Winter Quarter, 1968

January 2

Registration

January 3, 8:00 a.m.

Classes begin

February 22

Washington's Birthday Holiday

March 11 - 15

Final Examinations

MARCH

S	M	T	W	T	F	S
					1	2
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²⁴ ₃₁	25	26	27	28	29	30

JUNE

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²³ ₃₀	24	25	26	27	28	29

Spring Quarter, 1968

March 25
Registration

March 26, 8:00 a.m.
Classes begin

May 30
Memorial Day Holiday

May 31 - June 6
Final Examinations

June 7
Commencement

APRIL

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

JULY

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21	22	23	24	25	26	27
28	29	30	31			

Summer Quarter, 1968

June 17 - July 26
Six-Week Session

June 17 - August 16
Nine-Week Session

July 4
Independence Day Holiday

MAY

S	M	T	W	T	F	S
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26	27	28	29	30	31	

AUGUST

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18	19	20	21	22	23	24
25	26	27	28	29	30	31

Fall Quarter, 1968

September 30
Quarter Opens



THE COLLEGE

Western Washington State College is one of several 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 36,000 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. 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.

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;

- (c) 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 physical plant of the College is being expanded rapidly to keep pace with growing student enrollments. (See page two for graphic presentation of campus facilities.)

Since 1959, Haggard Hall of Science, Carver Gymnasium, the Humanities Building and Lecture Halls, and two wings of the Mabel Zoe Wilson Library have been added to the academic facilities. The Science-Mathematics Computer Center Building and an addition to the Arts Building are under construction. The Education-Psychology Building and a second addition to the Library are scheduled for construction during the next two to three years.

Student residences have also grown apace with the addition of Higginson Hall, the Ridgeway Residence Halls, Mathes Hall, and Nash Hall. The Viking Union, Student Cooperative Book Store, and two dining halls have been opened in the past few years.

Combined residence and academic facilities for the new Fairhaven College unit are on the drawing board.

THE LIBRARY

The Mabel Zoe Wilson Library provides modern facilities for this service center of the College. Reading areas, carrels, and study areas easily accessible to the open stacks lends attraction to the Library as a place of study for students and faculty. It houses, at present, a collection of some 155,000 books, catalogued pamphlets, and bound periodicals. The Library also includes seminar rooms, typing facilities, a room for the collection and viewing of microform materials, and a curriculum materials center for teacher education students. The building includes classrooms and quarters for instruction in library science.

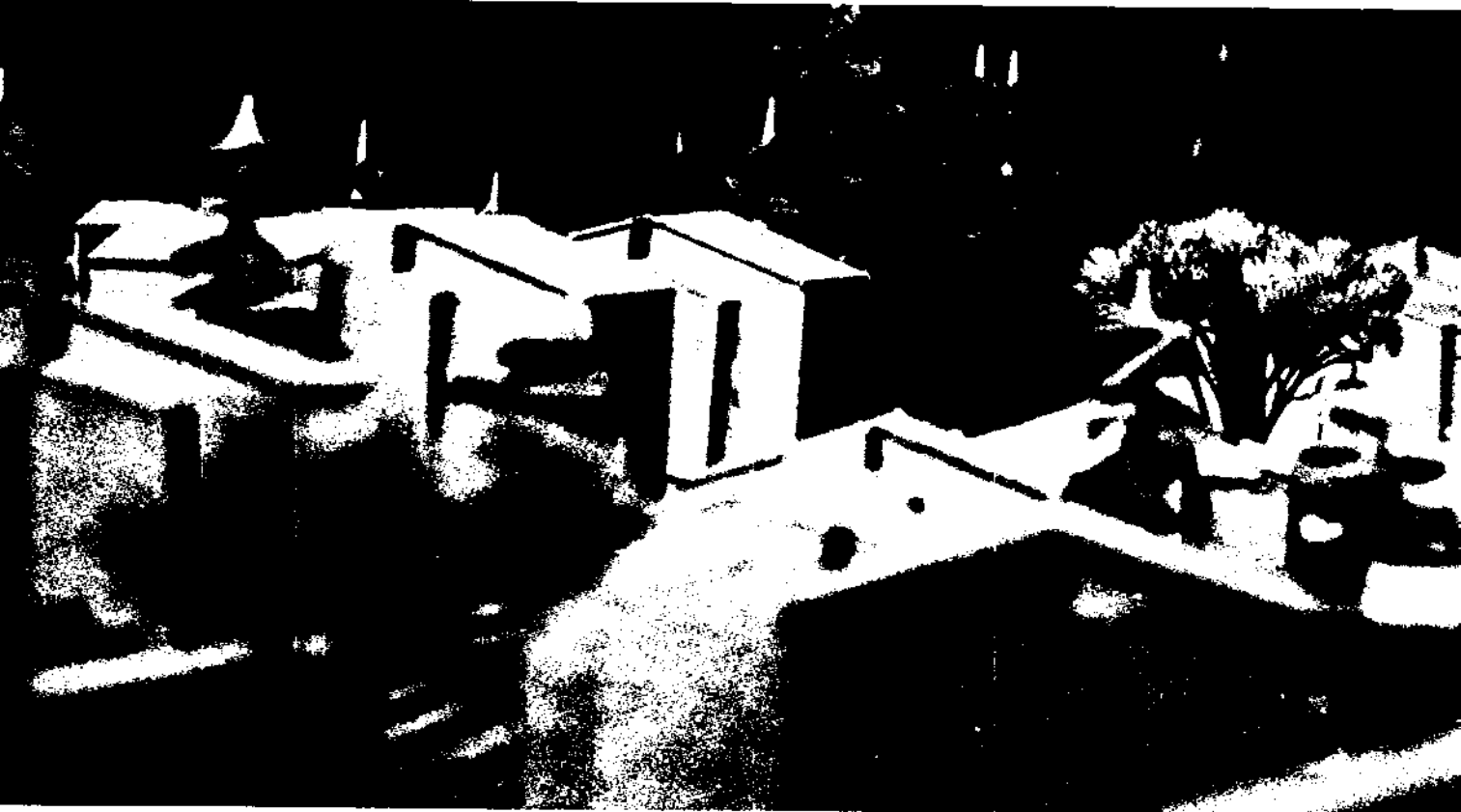
Plans are being prepared to add within the next few years space which will double the present capacity.

Supplemental to the general library is the Audio-Visual Center which maintains and operates a collection of instructional materials and equipment available to all departments.

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 these 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 establishment of the Computer Center in 1962 was made possible through a National Science Foundation grant and an educational allowance by the manufacturer of the equipment. The facilities of the Center are available to faculty, students and administration, with priority given to instruction and research. A computer programming course is given each quarter and the computer is used in other courses as an instructional tool. Increasing sophistication of types of use by faculty and administration has created a need for

larger and more flexible facilities which are soon to be added in new quarters which will open early in 1968.

With the aid of a grant from the National Science Foundation, the College purchased a neutron generator, and research is going forward apace. Beginning with the summer of 1967, a Carbon 14 laboratory will be in operation dating materials on an interdisciplinary basis for the departments of Geology, Biology, Chemistry, and Sociology-Anthropology.

FAIRHAVEN COLLEGE

The first in what the College hopes will be a series of cluster colleges is scheduled to open in the fall of 1968. Intended to offset the pressures



of bigness, Fairhaven College will be a semi-autonomous unit of 600 students with curriculum emphasis on the liberal arts. Its goal is to restore an atmosphere of intimacy and informality between faculty and students, to extend the exchange of ideas and information beyond the normal classroom hours, and to combat the frustrations and anxieties inherent in a large college or university.

Fairhaven, named after one of three communities which merged to form the City of Bellingham, will be constructed adjacent to the main campus at the southeast. It will consist of 12 four-story dormitory units housing 50 students each, a classroom seminar building and a dining hall.

The complex, mostly self-contained, will be sculptured into a wooded, gentle hillside around what

is known as Hidden Valley. Construction is scheduled to begin in the summer of 1967.

While Fairhaven's enrollment will be limited to 600 undergraduates, its faculty will number about 25. Its dean reports directly to the President of Western Washington State College.

Fairhaven will combine such advantages of the large institution as the central library, science laboratories, and recreation facilities, with the close faculty contact, small classes, and informality possible in a smaller college. The curriculum will be a broad, interdisciplinary one intended to give students a solid grasp of the liberal arts. With this as background, they will specialize in a given discipline, taking roughly half their courses in the present academic departments of the State College.



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 February 1 and not later than August 1; application by April 1 is desirable. Applications must be on file by December 15 for Winter Quarter, March 15 for Spring Quarter, and June 1 for summer session.

Freshman students must have completed the first half of the senior year; transfer students may apply during the term preceding the one for which they seek entry. Students who are clearly eligible

are admitted upon application, subject to satisfactory completion of studies undertaken subsequent to the submission of records.

Confirming Application

Each admitted student will be asked to confirm his enrollment by submitting a nonrefundable payment of \$35 on tuition and fees. This payment *should not be submitted* until requested by the College when notification of admission is sent. Additional procedural instructions are sent to those who confirm their intention to enroll by submission of the advance fee payment.

Freshmen

Graduates of Washington State high schools are ordinarily admitted if their high school records indicate (a) a cumulative grade average of 2.5 or above; or (b) rank in the upper half of the graduating class.

Students who fail to qualify on either of these criteria may receive consideration for admission



by submitting such additional evidence as specified by the Director of Admissions. As space permits the College will grant admission to students who have the capacity and maturity to succeed in an academic program.

The Washington Pre-College Tests are required of all entering freshmen as a guidance and placement aid. Residents of the State should complete the tests during the senior year when administered in their locality.

Graduates of high schools outside the State of Washington are ordinarily admitted if they meet the requirements specified above, provided they also have the results of the Scholastic Aptitude Test submitted directly to the Admissions Office by the College Entrance Examination Board. (The Washington Pre-College Tests are also required, but opportunity to take them will be provided when the out-of-state student arrives in the fall.)

Non-high school graduates may be considered for admission if they are over twenty-one years of age. Such persons may be considered by contacting the Director of Admissions for an interview and by providing the information and completing the examinations that may be required.

Application procedure involves obtaining from the high school principal or counselor an Application for Admission to Washington Higher Institutions, filling out page one and filing the entire form at the high school office for completion and mailing to the College Admissions Office. (If a form is not available, one may be obtained from the Admissions Office.)

Transfers

The College grants advanced standing for college-level 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 students in good standing at the last institution attended are ordinarily admitted who (a) satisfy requirements for freshmen admission and have attained a cumulative grade average of 2.00 in college level study; or (b) do not satisfy freshman admission requirements but have achieved a cumulative grade average of 2.00 based upon at least 40 transferable credits, or 2.50 on at least 25 transferable credits.

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.

Attention is called to the College regulation which requires each student to earn a grade of "C" or better in a course in English composition prior to enrollment in a fourth college quarter. This regulation applies equally to transfer students; they are expected to have satisfied this requirement as a condition of admission. Consideration for an exception to this regulation is given only upon formal written petition.

Application procedure involves obtaining an application from the Admissions Office. (Forms are available in the guidance offices at Washington community colleges.) Complete and mail this form and see that a complete official transcript is forwarded directly to the Admissions Office by each institution attended. Students transferring fewer than 40 quarter hours of credit must also submit a high school transcript.

Graduates

For admission to graduate standing as a candidate for a master's degree, see Graduate Bulletin.

Foreign Students

Canadian students who qualify for admission to the university in their home province are considered for admission under the same general procedures as for 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.





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.

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 ten 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 classes after the first week of instruction. Students registering late, or failing to meet a registration appointment at the scheduled time are subject to 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

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 \$10.00
(The minimum fee is \$20)

Auditors (without credit)
One or more courses, per quarter \$20.00

Continuing Studies
Courses taken by extension or in home study, per credit \$10.00

Miscellaneous Service Charges

Parking (per quarter)

General	\$ 6.00
Residence Hall	7.00
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 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. One week's advanced order is requested.

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 follow-

ing 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:

	Minimum	Average
If rooming and boarding	\$1,300.00	\$1,500.00
If housekeeping	1,250.00	1,350.00
If living at home or working for room and board	750.00	850.00

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 cash awards are made from Educational Opportunity Grant funds. The continuation of such 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 \$200-\$400 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

Application deadline for all forms of assistance is March 1. See high school counselor for necessary forms. 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 \$3, must be mailed by February 15. 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 April 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 of 1965. 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 \$1,000 per year at an annual interest rate of six 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 and one-half of it thereafter.)

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 \$15,000 is available annually for these awards. 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 approximately \$270. 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. Residence halls for men and women, and a large number of inspected homes provide accommodations for students. Privately owned boarding places and housekeeping rooms are listed only as they meet college standards. There are three types of housing available: (1) college operated residence halls, (2) college inspected off-campus housing—room and board provided, room only, or room with cooking facilities, and (3) non-inspected off-campus housing.

Assignments to residence halls are made without reference to race, creed, or color. The College expects privately operated accommodations offered through its listing service to be operated in the same manner.

Housing Regulations

Undergraduate women under 20 years of age or with less than junior status, not living with their parents, are required to live in residence halls or college inspected off-campus housing. Junior and senior women, and women 20 or older, may take independent housing; written parental permission is required for women under 21.

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 (check or money order) to the house owner. The deposit is a reservation fee and is non-refundable upon cancellation unless the vacancy is filled without loss to the owner. The rental agreement obligates the student to one quarter of occupancy.





The deposit will be refunded when the student checks out of the house, provided notice of cancellation has been given one month prior to the beginning of the following quarter, the student has completed one quarter of occupancy, has no unpaid accounts and has caused no damage beyond the normal wear.

Freshmen men, not living with their parents, are required, and sophomore men encouraged, to live in the residence halls or college inspected off-campus housing. All other men may take independent housing.

Married students and graduate students are free to make their own housing arrangements. (See non-inspected off-campus housing.)

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 (including irons) are provided in central areas of each hall. 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.

Two dining halls, (Ridgeway and Viking Commons) are located close to the residences. Students living in residence halls must also take their meals in dining halls. Both have coeducational dining.

Reservations for accommodations in the residence halls are made by completing an application and sending it to the Director of Housing, Western Washington State College, Bellingham, Washington, 98225. 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 advanced registration fee.
2. He is presently enrolled or has previously been enrolled at Western Washington State College.

Space in a residence hall is assigned according to the date of receipt of application. The room assignment is made when the student moves into a hall.

Students are notified when their applications are received whether or not they will be assured a

place in the residence hall or whether their names have been placed on a waiting list. Official assignments are made by *June 1* for fall quarter and one month before the beginning of the other quarters. Students making an application and later deciding they do not want residence hall accommodations must cancel their reservations, or have their reservations transferred to a later quarter, by notifying the Director of Housing prior to acceptance of a residence hall assignment. A \$50 *prepayment* towards the room and board fees must be made to confirm the residence hall assignment. The \$50 prepayment will apply towards the last payment of room and board for the period of time during the academic year the student resides in the hall. Once a prepayment is made, cancellation of a reservation cannot be made without a forfeiture. Cancellations made between the date of prepayment, and prior to August 1 for fall quarter or one month prior to the beginning of spring and winter quarters will result in forfeiture of \$10. The remaining \$40 will be refunded to the student.

Cancellations made after the above deadlines will result in a forfeiture of the entire \$50. Students will also forfeit the \$50 prepayment if occupancy of the residence hall is discontinued during the quarter unless a refund is approved by the Director of Housing due to unusual circumstances.

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.

Students may not move from the residence hall during the quarter. The prepayment will be forfeited if such a withdrawal occurs. If a student is found ineligible for admission to the College, all prepayments will be refunded.

Residence halls are closed during the vacation periods.

Living Costs

Room and board rates for multiple occupancy for students living in the residence halls for the entire 1967-68 academic year are:

Fall Quarter	\$271
Winter Quarter	\$245
Spring Quarter	\$229

Students entering the residence halls after fall quarter will be charged \$245 for spring quarter. These rates are subject to change by the College Board of Trustees. Room and board charges are assessed and payable by the quarter; however, partial payments may be made.

Room and board is charged from the official date





of opening of a term. No adjustment is made for a student who enters the residence hall less than five full days after the official opening date. In the case of students who enter the hall five or more full days after the official opening date, board and room charges begin on the day the student checks into the hall.

Refunds

Since the residence halls depend upon full occupancy, it is not possible to refund room rent 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. Refunds are issued by the Housing Office.

Delinquent Accounts

Room and board accounts are due at the time the student registers, or the day after he checks into a residence hall if this check-in is later than registration. Partial payments are due the first business day of the month. A fine of \$1 per business day (not to exceed \$5) will be assessed in the case of delinquent accounts. After the first payment each quarter, permission for late payment not to exceed 10 days may be granted by the Housing Office if 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 of 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. Service offered may differ and an understanding should be reached with the house owner before a rental agreement contract is signed.

The 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 36 students. A total of 450 men and women students can be accommodated in inspected off-campus housing.

Costs of rooms range from \$25 to \$35 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. Board on a meal ticket basis (21 meals per week) is available in the Viking Commons; students desiring such a meal ticket should contact the Director of Housing.

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 assuming 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.

Health Services

The primary function of the Health Service is the protection of the College community. It assists students in maintaining the good health and physical condition essential to college success. Beyond consultation in regard to health matters, service to individuals is limited to first aid care and to dealing with minor illnesses which do not require the attention of a physician. The College assists the student and his family in arranging for hospitalization or the services of a medical doctor where the need is evident.

Registered nurses who staff the center are available throughout the college day for consultation and nursing care. Emergency service at all other times is available through arrangements which have been made with one of the local hospitals.



The College maintains an infirmary on the campus to accommodate for a limited time students with minor illnesses not requiring professional medical attention or hospitalization. This service is provided without cost for a maximum of five days in any one academic year. Thereafter a nominal per diem charge is made.

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

In cases of severe illness the Health Service reserves the right to request the attendance of a physician chosen by the student. Close cooperation is maintained between the Health Service and the physician. For serious illness there are two city hospitals available to students.

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.

Beginning with the fall quarter of 1967, no students who have less than 40 quarter hours of college or university credit or 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 will into the student's first quarter.

Freshman Counseling

During his first year each student is teamed with a member of the faculty. These faculty sponsors 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 major and minor students 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 extra-curricular 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 affairs 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 affairs 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.

Athletics play an important place in the activities program, whether intercollegiate or intramural. Students interested, either as spectators or as participants, in intercollegiate sports can choose from football, basketball, baseball, track, swimming, rugby, tennis, golf, wrestling, and skiing.

The College participates as a member of the Evergreen Conference.

The comprehensive intramural schedule of class hours, includes practically all group and individual sports. All students are encouraged to participate and to reap the benefits, not only of healthful recreation, but of increased physical skill.

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 small groups.

Publications include a news weekly, *The Collegian*, 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

REMOVAL OF DEFICIENCIES

English and mathematics proficiency is expected of entering students. They must meet certain minimum requirements in English usage and in mathematics as measured by the Washington Pre-College Tests. Those who enter with a deficiency in either are required to remove that deficiency *prior to enrollment in a fourth college quarter.*

English

Students failing to meet minimum standards on the above tests must defer English 100 until the second quarter. Such students are urged to undertake review study during the first quarter. English 100, or the equivalent, must be completed satisfactorily (grade of C or better) by all students by the end of the first college year.

Mathematics

Students failing to meet minimum mathematics standards on the Washington Pre-College Tests may remove their deficiency by obtaining a satis-

factory score on a retest 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 retest.

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 constitute the work of a quarter, and forty-eight credits that of the regular academic year of three quarters.

Correspondence and extension credit earned through a fully accredited college or university may be accepted toward the bachelor's degree up to a maximum of one-fourth of the credits required. Students in residence may not register



for these courses except by special permission from the Registrar.

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

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

work done in this institution:

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

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

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

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

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

Auditors are those mature persons desiring to attend classes without credit. Admission to a class as an auditor requires prior approval of the instructor as well as official registration. A fee of \$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 used is as follows:

A	Superior	U	Unsatisfactory
B	High	S*	Satisfactory
C	Average	K	Incomplete
D	Low	W	Withdrawn
F	Failure		

*Used in student teaching courses and at the option of the department in course challenge examinations. Credit is allowed as specified but no grade points are assigned and the course is disregarded in computing grade average.

A course in which a student has 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 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 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. A grade of S and the credit involved in such a course 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. Although credit is allowed but once, both grades are counted in computing grade averages.

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 (summer excepted).

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 four weeks of instruction in any quarter with no penalty attached other than the Change of Registration fee and the loss of credit. After the fourth 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 fourth week of instruction withdrawal from the College will normally result in grades of "F" as provided above.

LOW SCHOLARSHIP

Enrollment is terminated at the end of the third quarter of college attendance (including quarters at other colleges) or any subsequent quarter if a student's cumulative grade average and his grade average for the quarter just completed both fall below 2.0. 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 completed at Western Washington State College 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; 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;
4. if, in the judgment of the College Examiner, in consultation with the department concerned, the challenge procedure is inappropriate.





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

(Programs leading to the Bachelor of Science degree are also being developed for offering in 1968-69.)

COMMON REQUIREMENTS FOR ALL BACHELOR'S DEGREES

- 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 teach-

er education curriculum requires a minimum average of 2.2.

- Foreign language: beginning with the class graduating in 1973, a minimum proficiency equivalent to the study of a language other than English for two years in secondary school or one year at the college level.
- General Education—58 credits
See list on pages 40-41.
- 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 catalogue 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 either bachelor's degree. These courses are required of all undergraduate candidates. Students who have had advanced studies in high school or who are planning more extensive study in one or more fields covered in the sequence will have certain requirements waived upon completion of the courses listed in the chart below. They are advised to take these alternate courses if they plan concentrations of which these are a part.

Requirements

Humanities

- Gen Ed 121 Ancient and Medieval World
122 Early Modern World
123 The Modern World

(Gen Ed 131, 132, 133 are parallel courses which include also English 100, 101 equivalents)

Communications

- English 100, 101 Freshman Reading and Writing
(minimum grade of C required)

- Speech 100 Fundamentals of Speech

Social Sciences

- Gen Ed 105 Behavioral Science

- Gen Ed 200 Economic and Political Institutions

- Gen Ed 321 Survey of Afro-Asia

Basis For Waiver

(See also Advanced Placement and Course Challenge, page 37)

Students who successfully complete Gen Ed 131, 132, 133 will have fulfilled the requirements for English 100, 101.

Students with extensive speech experience in high school should consult the Speech Department

Gen Ed 200 waived for those taking both Economics 201 and Pol Sci 250; majors in either field are encouraged to take these two courses.

Natural Sciences

Biology 101 General Biology

Earth Science–Geography 101 Physical Geography, or Geography 101 General Geology.

Physical Science–Chemistry 101 Chemical Concepts (for students with no high school chemistry) or Physics 101 Introductory Physics (for students with no high school physics)

Mathematics 151 Introduction to Mathematics

Earth science waived for students electing Geology 211, required for majors in biology, general science and geology.

Physical science waived for students with credit in both high school chemistry and physics, or for students electing any one of the following: Chemistry 115, 121; Physics 131, 231. Students planning majors in the sciences, home economics, mathematics, or psychology will normally take one or more of these alternate courses.

Math 151 waived for students with four years of high school mathematics or for those taking Math 121, 122, or a 200 level course; these are normally taken by majors in science, economics, mathematics, and psychology.

Physical Education

One course from each:

Aquatics

Sports and Dance

Developmental courses (men)

or

Movement Fundamentals (women)

An activity is required for each of three quarters. Students may substitute another activity for aquatics upon demonstrating competence in swimming; men students may substitute another activity for a developmental course if they meet minimum standards on the physical fitness test.

P.E. majors and minors satisfy the requirements by taking the professional activities sequences.

Normally the major part of the general education program is scheduled in the student's first year. To effect a proper distribution of students among courses throughout the three quarters, freshman study programs are largely prescribed. The year includes the Humanities sequence (General Education 121, 122, 123) the Communications courses (English 100, 101, and Speech 100), a physical education activity each quarter, and other courses from the sciences and mathematics, or a selected major field of study. Some students are selected to take the alternate program which combines the Humanities and English composition (Gen Ed 131, 132, 133)

The student will normally complete all remaining general education courses (except Gen Ed 321) in his sophomore year. All students must complete the 100 level general education courses prior to at least the last 45 credits before graduation. Transfer students entering as seniors must complete all lower division general education requirements prior to the final quarter in residence.

BACHELOR OF ARTS

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 Arts
Biology	Mathematics
Chemistry	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 academic departments on standards for recommendation.)

The program is also applicable to certification requirements in most other states. However, those who anticipate teaching outside the State of Washington are urged to consult educational authorities in the chosen state in regard to specific certification requirements.

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 also complete History 391, Washington State History and Government, and must be citizens of the United States, or obtain an alien permit issued by the State Superintendent of Public Instruction.

PROFESSIONAL EDUCATION COURSES—35 CR.

- Ed 301 American Education and the Teacher
 - Ed 315 Social Foundations of Education or 318 Development of Educational Thought
 - Ed 385 Foundations of Teaching Reading
- Secondary teachers may take either Ed 385 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.

MAJOR-MINOR CONCENTRATIONS—B.A. IN EDUCATION

Approved concentrations totalling 65 to 75 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

28-40 credits under advisement; required of all elementary teachers

- Education 485
 - Mathematics 251
 - Mathematics 481
 - Social Studies Education 425
 - Science Education 380
- or two courses from
- Biology 383
 - Geology 384
 - Physical Science 382

Two courses from:

- Art 380
- Industrial Arts 350
- Music 350
- Physical Education 306

One course from:

- Education 326
- English 495
- Library 305
- Speech 233, 355, 330, or 373

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)	Political Science (S)
Geography	Social Studies (J)
History	Speech
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 for specialists in art, in music, and in 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	Journalism
Economics	Linguistics
Geology	Philosophy
Health Science	Psychology
Library Science	Sociology-Anthropology



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

Persons holding a B.A. or B.S. degree from an accredited institution may be admitted to a *special program* leading to the provisional certificate. For selected students with strong academic records, this individually prescribed study program replaces the pattern described above. The student's academic program must include a broad liberal arts preparation and a major field acceptable for public school teaching.

Parallel Five Year Program

Commencing in the fall quarter of 1968, an *alternate* five year program for the preparation of teachers will be offered, along with the present four year program outlined above for the Bachelor of Arts in Education degree. The new program will require for initial certification three quarters of study beyond a bachelor's degree. After a year of teaching experience, a fourth quarter of prescribed study will complete the program and, with two or more years experience, lead to recommendation for the *Standard Certificate*.

Admission to the Parallel Program will require:

1. The possession of a B.A. or B.S. degree with a grade average of 2.20 or better.
2. Completion of a major-minor sequence approved for elementary and/or secondary teaching (see preceding page.)
3. Successful completion of such examinations or competency tests as the Department of Education and other agencies may approve.
4. A personal interview by a selections committee.

Further information about these programs may be obtained from the Office of Teacher Education Adviseement 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 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 grades of "B" or better in English 100 and 101 or their equivalents, or by demonstrating competence in a standardized test in English mechanics and spelling, and in expository writing in Education 301 (or in 315 or 318 for transfers with credit for Education 301). This test, made available while a student is enrolled in Education 301, may be repeated once only.
- b. *Demonstrate speech competence.* A test is given in Speech 100, or by special arrangement in the department for transfer students who have taken a similar course elsewhere.
- c. *Pass Education 301* with a grade of "C" or better and be recommended by the instructor in that course. Transfer students with satisfactory credit for a comparable course are permitted to take Education 315 or 318 in order to qualify for admission to teacher education.
- 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 enrolls in Education 301, 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 disqual-

ifies the student from further participation in the program of teacher education at this College.

These admissions regulations are administered by the Office of Teacher Education Advisement and Certification.

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. New 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, political science, and psychology. Master of Science programs have been approved in biology, chemistry, geography, geology, mathematics, and physics.

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 by the College *before courses are taken*.

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

Total credit: 45 quarter hours.

Extension and/or correspondence 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 to cooperate 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

A wide variety of non-credit programs are offered 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.



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 the 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

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 and 497 are generally reserved for special workshops or courses offered once only.

ART



Professor: Weiner • *Associate Professors:* Kelsey, Marsh, Peck, Vike • *Assistant Professors:* Applegate, Foss, Hanson, Mayor, Schlotterback, Vassdal, Wegner

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

Major 73 credits plus Supporting Courses

- Art 101, 102, 103, 130, 201, 210, 220, 230, 401
- One course from Art 240, 260, 350
- 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.

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

Minor 25 credits

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

Minor—Art History 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, 210, 220, 230, 240, 270, 381, 382
- One additional course in art history
- 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, 260, 350
- 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 242 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 sculptural construction in space employing a variety of media.

Art

- 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 media or oil media.
- 230 SCULPTURE I (3)
Prerequisite: Art 101. 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.
- 260 TEXTILES 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.
- 295 RENAISSANCE ART I (3)
Prerequisite: Art 193 and 194, or 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 III (3)
Prerequisites: Art 341. Advanced problems in ceramic form and expression.
- 350 JEWELRY I (3)
Prerequisites: Art 102, 130, 195. Design and construction of jewelry in various metals, with emphasis on silver; the setting of stones.
- 351 JEWELRY II (3)
Prerequisites: Art 195, 350. Problems in simple and centrifugal casting.
- 352 ENAMELING (3)
Prerequisites: Art 350. Techniques of enameling on metals.

- 353 GLASS (3)
Prerequisites: Art 102, 130, 195. Glass as an art medium; fusing, laminating, slumping, pressing, and casting.
- 361 TEXTILES II (3)
Prerequisites: Art 195, 260. Problems with repeat pattern using silk screen, block printing, and dyes on textiles.
- 362 TEXTILES III (3)
Prerequisites: Art 195, 260. Problems in textiles using a variety of techniques in dyes, yarns, and fabrics.
- 371 REPRODUCTION LETTERING & GRAPHIC DESIGN (2)
Prerequisites: Art 101, 102, 270, 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 execution 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 print-making 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 19th 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 194 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, 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; 18 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.

Art

- 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 expression.
- 441 ADVANCED CERAMICS (3)
Prerequisite: Art 342. Advanced problems in ceramic form and expression.
- 451 ADVANCED JEWELRY (3)
Prerequisite: Art 351. Advanced problems in jewelry as an art form.
- 461 ADVANCED TEXTILES (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.
- 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 1967.
- 498 AMERICAN ART, 1913 TO THE PRESENT (3)
Prerequisite: Art 193, 194.
- 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, Slesnick • *Associate Professors:* Erickson, Heath, Kirkpatrick, Kraft, Nickelson, Parakh, Riffey, Ross, Schweinin • *Assistant Professors:* Brown, Dube, Haard, Kohn, Mason, Schneider, Taylor • *Instructor:* Marcum.

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 the first 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)
- 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, 233 (or 461, 462, 463), 251 (or 351 or 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 Parallel Professional Program which opens in

Biology

the Fall of 1968 (see page 44). Students currently enrolled as declared majors in biology may complete the four year program, but the Teacher Education major for the Bachelor of Arts in Education degree has been discontinued for further enrollment.

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)
Major concepts of biology and their contribution to man's thinking and culture; cell physiology, genetics, growth and development, evolution.

204 GENERAL BIOLOGY (4)

Prerequisite: Biol 101. Variety, classification, development, adaptation, distribution, evolution and inter-relationship of organic forms in the plant and animal kingdoms.

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.

247 HEALTH SCIENCE (3)

Prerequisite: Biol 101. Guidance in the formation of health habits and attitudes with stress on bodily functions.

300 SPECIAL PROJECTS IN BIOLOGY (1-2)

Prerequisites: 15 credits in biological science and permission of instructor.

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 or 463.

*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 relationships of microbes; bacteria, yeasts, molds, and viruses.

371 GENETICS (4)

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 elementary school.

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

399 SEMINAR IN BIOLOGY (1)

Prerequisite: 25 credits in biological sciences and permission of instructor. Outstanding developments, past and present, in the biological sciences.

400 SPECIAL PROJECTS IN BIOLOGY (2-5)

Prerequisite: permission of instructor.

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

- 402 LIMNOLOGY (5)
Prerequisite: Biol 301. Physical and chemical characteristics of fresh water in relation to biotic communities; field trips.
- 403 PHYSIOLOGICAL ECOLOGY (4)
Prerequisites: Biol 301 and permission of instructor. Field and laboratory studies of organisms from desert, mountains, rain forest, fresh and salt water; critical survey of literature; methods for design and analysis of experiments.
- 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.
- 493 BIOLOGICAL SCIENCE FOR THE JUNIOR AND SENIOR HIGH SCHOOL (3)
Prerequisite: 15 credits in biological science. Philosophy, concepts, learning experiences and material for the teaching of biological sciences in the secondary school.
- 496a,b,c HONORS TUTORIAL (2-5 ea)
- 500 SPECIAL PROJECTS IN BIOLOGY (2-5)
Prerequisite: permission of instructor.
- 501 THESIS RESEARCH (4-9)
Prerequisite: permission of thesis advisory committee. Original investigation of a specific problem in biology. (A student should register for credit in the quarter in which he expects to complete the thesis.)
- 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 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 organism.
- 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.
- 599 SEMINAR IN BIOLOGY (2)
Prerequisite: 40 credits in biology. Selected problems in biology, with emphasis on current literature.

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

Biology

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.
- 404 PLANT COMMUNITIES (3)
Prerequisite: Biol 301. Ecology of plant communities with special emphasis on analysis, description, succession, and distribution. Week-end field trips included.
- 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.
- 475 DEVELOPMENTAL MORPHOLOGY (3)
Prerequisites: Bot 251 and 252. Experimental approach to the study of plant morphology.
- 479 PLANT PHYSIOLOGY (4)
Prerequisite: Biol 477. Mineral nutrition, water economy, soils, auxins, and other items of special importance to plant growth.

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, Zool 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. 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.
- 324 GENERAL ENTOMOLOGY (3)
Prerequisite: Zool 262. Insects: their morphology, physiology, metamorphoses, classification, and economic importance.
- 325 GENERAL ENTOMOLOGY LABORATORY (2)
Prerequisite or concurrent: Zool 324. Anatomy, physiology, and identification of insects.
- 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.

363 MAMMALOGY (5)

Prerequisite: Zool 262. Habits; identification, distribution, and classification of mammals of the Northwest; methods of collection, preparation of skins, the use of taxonomic keys.

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.

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.

450 PARASITOLOGY (4)

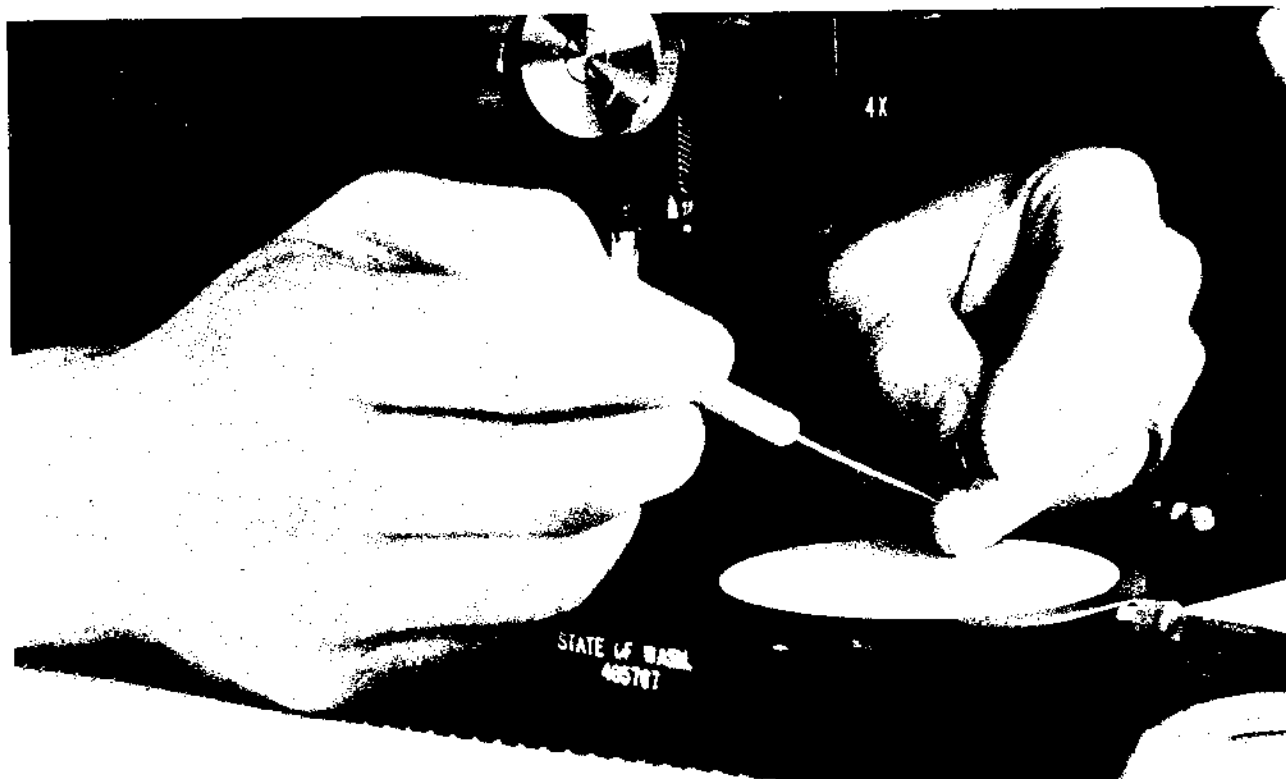
Prerequisites: Zool 261, 262; two quarters of college chemistry. Representative animal parasites with emphasis on structural and physiological adaptations of both parasite and host.

461 MARINE INVERTEBRATE ZOOLOGY (5)

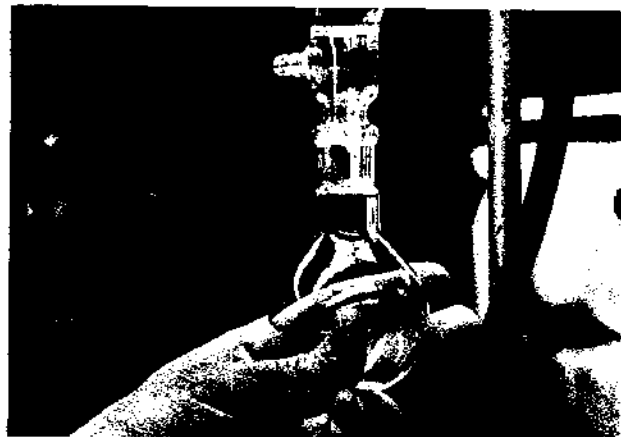
Prerequisite: Biol 301. Laboratory and field study of local marine invertebrates.

524 AQUATIC ENTOMOLOGY (3)

Prerequisites: Zool 324 and Biol 301. Classification and ecological interrelationships of insects in streams and lakes.



CHEMISTRY



Professors: Frank (Chairman), Knapman, Neuzil
Associate Professors: Besserman, Chang, Eddy
Assistant Professors: King, Kriz, Lampman, Miller, 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. Potential majors should take the following to satisfy general education science requirements: Biology 101, Chemistry 121, Geology 211.

TEACHER EDUCATION

Major Senior High School

45 credits plus Supporting Courses

- Chemistry 121, 122, 123, 127, 128, 233
- Chemistry 351, 352, 353, 354, 461, 462, 463, 492
- Supporting courses: one year college physics and 15 credits in mathematics including Math 222.

Minor 25 credits

- Chemistry 121, 122, 123, 127, 128, 251 (or 351 and 354)
- Chemistry 233 or 461 or Physical Science 492

Teaching Competence

Recommendation for teaching competence normally requires completion of the major with a grade average of 2.5.

ARTS AND SCIENCES

Major 56 credits plus Supporting Courses

- Chemistry 121, 122, 123, 127, 128, 233, 351, 352, 353, 354, 355, 434, 461, 462, 463, 464, 465
- Supporting courses: one year college physics and 15 credits in mathematics including Mathematics 222

Minor 25 credits

- Chemistry 121, 122, 123, 127, 128, 251 (or 351 and 354)
- Chemistry 233 or 461

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 396a,b,c or 496a,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)
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. Formerly Chemistry 125.
- 121 GENERAL CHEMISTRY (5)
Methods of chemistry, nature of matter, atoms, chemical bond, stoichiometry, gases, liquids, solids.
- 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 QUALITATIVE ANALYSIS LABORATORY (1)
Laboratory experiments in the systematic separation of the elements. To be taken with Chemistry 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 vigorous treatment of selected topics in general chemistry offered as a substitute for Chemistry 121, 122.
- 127 INORGANIC CHEMISTRY (3)
Prerequisite: Chem 122 or 124; not open to students with credit in Chem 131. Chemical periodicity, electrochemistry, elementary thermodynamics, quantitative methods.
- 128 ELEMENTARY QUANTITATIVE CHEMISTRY (2)
Concurrent enrollment in Chem 127 required; not open to students with credit in Chem 131. Experiments in quantitative chemistry.
- 131 QUALITATIVE ANALYSIS (5)
Prerequisite: Chem 122. The theory of electrolytic solutions and applications to systematic separations. (Discontinued after Fall 1967).
- 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.
- 233 INTRODUCTORY ANALYTICAL CHEMISTRY (5)
Prerequisites: Chem 127 and 128, or 131. Theory and practice of separation methods including precipitation, extraction, and chromatography; optical and potentiometric methods of determination.
- 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.
- 305 GLASS WORKING (1)
Prerequisite: permission of instructor. Basic glass working and construction of simple glass apparatus.
- 344 INORGANIC PREPARATIONS (2-3)
Prerequisite: Chem 233. 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.

Chemistry

355 ELEMENTARY QUALITATIVE ORGANIC ANALYSIS (2)

Prerequisite: Chem 128 or 131, 353 and 354, or concurrent. Identification and characterization of organic compounds.

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)

Prerequisite: Chem 463. Theory and experimental techniques of optical, electrical, and other physical measurements applied to chemical analysis.

441 ADVANCED INORGANIC CHEMISTRY (3)

Prerequisite: Chem 463, or permission of instructor. 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 ADVANCED QUALITATIVE ORGANIC ANALYSIS (3)

Prerequisite: Chem 355 and 434. Separation, identification, and characterization of organic compounds involving some use of instrumental techniques.

461, 462, 463 PHYSICAL CHEMISTRY (4,4,3)

Prerequisites: one year of college physics, Mathematics 222, and Chemistry 233, or concurrent, 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 INTRODUCTORY BIOCHEMISTRY (3)

Prerequisites: Chem 353 and Biol 101. The chemistry of some fundamental life processes.

472 BIOCHEMICAL LABORATORY (2)

Prerequisites: Chem 233, 354, and Chem 471, or concurrent. Laboratory techniques for the study of chemical life processes.

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)

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.

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.

541 SPECIAL TOPICS IN INORGANIC CHEMISTRY (3)

Prerequisite: Chemistry 463. 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 equivalent. 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 463 or equivalents. Isolation, structure, synthesis, biosynthesis and photochemistry of selected classes of natural products.
- 553 **ORGANIC REACTIONS (3)**
Prerequisites: Chem 353 and 463. Organic chemical reactions as applied to problems in organic synthesis.
- 561, 562 **ADVANCED PHYSICAL CHEMISTRY I, II (3 ea)**
Prerequisites: Chem 463 and Math 224 or concurrent with Chem 561. Emphasis on thermodynamics, solid state and chemical kinetics.
- 563 **MOLECULAR SPECTROSCOPY AND QUANTUM MECHANICS—THEORETICAL CHEMISTRY (3)**
Prerequisites: Chem 463, Math 301 and 331. Modern aspects of theoretical chemistry and allied fields such as quantum and statistical mechanics.
- 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.
- 581 **ADVANCED NUCLEONICS (3)**
Prerequisites: Chem 463 and 483 and Math 224. 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: Mayer (Chairman), Mitchell, Palmer ·
Associate Professors: Baydar, Haglund, Mischai-
kow, Spratlen, Zaidi · *Assistant Professors:* Faulk-
ner, McAllister, Shaffer, Walter · *Instructor:* Zoet.
Lecturer: Tebrich.

TEACHER EDUCATION

Major In Business Education

Secondary 45 credits

*This major must be accompanied by the Ec-
onomics Minor which follows.*

- Business Education 116, 117 or 215, 120, 121,
122, 201, 223, 241 or 242, 319, 321, 322, 323
- Economics 101, 201
- 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, 251, 252, 271, 408
- Five credits from Economics 253, 311, 322, 325,
335, 341

Minor—Economics 25 credits

(For other than Business Education majors)

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

Minor—Business Education 25 credits

- Business Education 319, 322 or 323
- 19 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, 251, 252, 253, 301, 302,
311, 375
- Mathematics 240, 220 (in place of Mathematics
151)

Select one of the following concentrations:

Economics

- Economics 385 (or History 341), 403
 - Fifteen credits selected under advisement from Economics 325 and 400, 410, 412, 426, 442, 461, 482, 485, 486, 491
 - Supporting courses: Geog 207, Hist 360, Math 241 or 270
- Also recommended: Soc-Anth 201 and Phil 113

General Business

- Economics 271, 353 (or 352), 408, 412
- Three courses from Economics 322, 333, 335, 411
- Supporting courses: Geog 207, Hist 360, Math 270

Accounting (Satisfies both a major and a minor)

- Economics 271, 322 or 325, 333, 335, 352, 354, 411, 455, 457
- Supporting courses: Math 270, Geog 270, Hist 360

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 Economics 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 Education 25 credits

- Courses in typing, shorthand, secretarial ac-

counting, 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, 251, 252, 253, 301, 302, 311
- Twelve upper division credits in economics 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

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.

Economics

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: Econ 201 and 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.

250 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; completion of simple returns.

251 PRINCIPLES OF ACCOUNTING (4)

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

252 PRINCIPLES OF ACCOUNTING (4)

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

253 ADMINISTRATIVE ACCOUNTING (4)

Prerequisite: Econ 252. Manufacturing accounting, financial analysis, interpretation of accounting data.

271 BUSINESS LAW I (5)

Legal principles of use in everyday business dealings, with emphasis upon contracts, agency and negotiable instruments.

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.

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)

Prerequisite: Econ 201, 202. Nature and functions of money, credit, banking, and relationship of money and bank deposits to the economy.

322 PERSONNEL MANAGEMENT (5)

Prerequisite: Econ 101 or 201. Principles and practices involved in obtaining and maintaining an effective working force; job evaluation, hiring practices, and wage administration.

325 ECONOMICS OF LABOR (5)

Prerequisite: Econ 201. The economics of the labor market; development and functioning of labor unions and collective bargaining.

333 PRINCIPLES OF PRODUCTION (5)

Prerequisites: Econ 202 and 253, 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: Econ 101 or 201, or permission of instructor. Institutions, functions, problems and policies in the distribution of industrial and consumer goods; pricing, costs, and governmental regulations.

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.

341 PRINCIPLES OF TRANSPORTATION (5)

Prerequisite: Econ 201. Economic principles and problems relative to the transportation and communication system of the United States.

350 INCOME TAX ACCOUNTING I (3)

Prerequisite: Econ 251 or permission of instructor. General income tax requirements; special problems relating to individual tax returns.

351 INCOME TAX ACCOUNTING II (3)

Prerequisite: Econ 252, 350. Special problems of partnerships, corporations, and trusts; introduction to tax research.

352 COST ACCOUNTING (5)

Prerequisite: Econ 253; 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.

- 353 **MANAGEMENT CONTROLS (3)**
Prerequisite: Econ 253; not open to students who have taken Econ 352. Cost systems, fixed and flexible budgeting, other controls available from accounting records.
- 354 **INTERMEDIATE ACCOUNTING (5)**
Prerequisite: Econ 253. Accounting theory and its application to financial statements, inventories, depreciation, and funds.
- 356 **MUNICIPAL AND GOVERNMENTAL ACCOUNTING (3)**
Prerequisite: Econ 251 or permission of instructor. Fund and budgetary accounting as applied to municipalities, governmental units, and non-profit organizations.
- 371 **BUSINESS LAW II (5)**
Prerequisite: Econ 271. Sales, conditional sales, personal property, partnership and corporation law.
- 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.
- 396a,b,c **HONORS TUTORIAL (2-5 ea)**
- 400 **SPECIAL PROBLEMS IN ECONOMICS (1-5)**
Prerequisites: 20 credits in economics and prior consultation with instructor.
- 401 **ADMINISTRATIVE ORGANIZATION AND BEHAVIOR (5)**
Prerequisite: Econ 253, or permission of instructor. Analysis of processes of management; functions, decision-making, standards of performance, interdisciplinary contributions to organizational behavior.
- 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.
- 408 **THE ROLE OF BUSINESS IN AMERICAN SOCIETY (3)**
Development of American capitalism and its legal philosophical, and ethical foundations.
- 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.
- 411 **BUSINESS ORGANIZATION AND FINANCE (5)**
Prerequisites: Econ 101 or 201, and 253 or permission of instructor. Major forms of business organization; problems dealing with sources, uses, and control of funds in business enterprises.
- 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.
- 421 **PROBLEMS IN PERSONNEL ADMINISTRATION (3)**
Problems of wage and salary administration, employing, and employee selection. Summer only.
- 426 **LABOR RELATIONS AND THE LAW (3)**
Prerequisite: Econ 325 or permission of instructor. **Non-technical course in the elements of labor law.**
- 442 **GOVERNMENT AND BUSINESS (5)**
Prerequisites: Econ 202 or permission of instructor. Public policy and business enterprise.
- 455 **ADVANCED ACCOUNTING (5)**
Prerequisite: Econ 354. Application of accounting theory to partnerships, branch accounting, installment sales, and other problems.
- 456 **CONSOLIDATIONS AND FIDUCIARY ACCOUNTING (5)**
Prerequisite: Econ 455. Special problems of consolidated corporations and fiduciaries.
- 457 **AUDITING (5)**
Prerequisites: Econ 455, or 253 and permission of instructor. Generally accepted auditing standards and principles; applications in public and internal auditing.
- 458 **ADVANCED COST ACCOUNTING AND CONTROLLERSHIP (4)**
Prerequisite: Econ 352. Critical examination of controls available to management from cost and other accounting records.
- 461 **INTERNATIONAL ECONOMICS (5)**
Prerequisite: Econ 202. International trade theories; foreign economic policies; the relationship between international trade and domestic activity.

Business Education

- 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.
- 487 COMPARATIVE INDUSTRIALIZATION: 19TH CENTURY (4)
Prerequisites: Econ 385 or permission of instructor. Similarities and differences in the pattern of industrialization in the nineteenth century.
- 491h HONORS SEMINAR (3)
- 496a,b,c HONORS TUTORIAL (2-5 ea)
- 497a WORKSHOP IN ECONOMIC EDUCATION (3)
Prerequisite: teaching experience in the social studies. Extension, Summer 1967.
- 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.
- 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 EDUCATION

- 116 INTERMEDIATE TYPEWRITING (2)
Prerequisite: one year of high school typewriting or equivalent.
- 117 ADVANCED TYPEWRITING (2)
Prerequisite: Bus Ed 116 or equivalent, or advanced high school study in typewriting. Advanced work on rough drafts, tabulation, and business communications.
- 120 BEGINNING SHORTHAND (3)
Fundamentals of Gregg Shorthand including development of skill in reading and writing from printed shorthand.

- 121 INTERMEDIATE SHORTHAND (3)
Prerequisite: Bus Ed 120 or equivalent. Continued development of skill in reading and writing more advanced forms of shorthand.
- 122 ADVANCED SHORTHAND I (3)
Prerequisite: Bus Ed 121 or equivalent. Principles of Gregg Shorthand with intensive dictation on new matter; dictation and transcription of business correspondence.
- 150 ACCOUNTING FOR SECRETARIES (3)
Theory and practice of bookkeeping and accounting, with emphasis on both cash and accrual systems.
- 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 key driven calculators, adding machines, transcribing and recording machines, and electric typewriters.
- 242 SPECIALIZED OFFICE MACHINES (3)
Prerequisite: Bus Ed 241 or equivalent. Advanced training in the use of calculators, transcribing and recording machines; introduction to data processing.
- 319 BUSINESS EDUCATION IN THE SECONDARY SCHOOL (3)
Curriculum planning with consideration of philosophy, scope, and objectives.
- 321 TEACHING BOOKKEEPING AND BASIC BUSINESS SUBJECTS (3)
Objectives, materials, and methods of presentation.
- 322 METHODS OF TEACHING TYPEWRITING (3)
Use of newest instructional aids and equipment.
- 323 METHODS OF TEACHING SHORTHAND AND TRANSCRIPTION (3)
Lesson planning, grading, demonstrations, and dictation techniques.
- 400 DIRECTED STUDY IN BUSINESS EDUCATION (1-3)
Prerequisites: senior standing and permission of instructor. Individual instruction.
- 471 CURRENT TRENDS IN THE TEACHING OF TYPEWRITING (3)
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.
- 481 PROBLEMS AND ISSUES IN BUSINESS EDUCATION (3)
Trends in business programs of secondary schools. Summer only.
- 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.

EDUCATION



Professors: Bond (Acting Chairman), Ellis, Higbee, Kuder, McCracken, Riehle, Ross, Skeen, R. Thompson, Watrous • *Associate Professors:* Bel-din, Billings, Brown, Carroll, Casanova, Feringer, Ferris, Johnson, Karason, Kelly, Lamb, Lawson, Lee, Margaritis, McInnes, Nickelson, Nicol, Panches, Savitch, Starbird, N. Thompson, Van Win-gerden • *Assistant Professors:* Jones, Kjarsgaard, Mattson, Mullen, Riddles, Schwartz, Jackson
Instructor: Taylor • *Lecturers:* Bishop, Gallo-way, Keagle, Vander Velde.

The Department of Education offers professional courses for the preparation of teachers and partici-pates in a wide variety of programs leading to the Master of Education degree.

A special program is offered for teachers inter-ested in early childhood education; consult Dr. Bearnice Skeen for details.

Education of the handicapped and the mentally retarded is also featured. Students interested should confer with Dr. Max Higbee.

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

DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, a student who wishes to graduate with departmental honors must complete Educa-tion 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; sat-isfactorily perform on a comprehensive examina-tion in Education.

GRADUATE STUDY

For a number of concentrations in Education lead-ing to the Master of Education degree, see the *Graduate Bulletin*.

COURSES IN EDUCATION

Some courses have been renumbered to coincide with the following key recently adopted by the Department of Education. Previous numbers when applicable are included in parentheses.

Key: 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.
- 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 other courses in the professional sequence.
- 315 SOCIAL FOUNDATIONS OF EDUCATION (3)
Prerequisite: Educ 301. Social forces influencing the schools; problems of social change and value conflicts; the school's role in society.
- 318 DEVELOPMENT OF EDUCATIONAL THOUGHT (3)
Prerequisite: Educ 301. Study of significant works contributing to the development of educational thought; analysis of philosophical bases of school purposes and curriculum.
- 336e,f,g HONORS TUTORIAL (2-5)
- 336h SUMMER READINGS (2-5)
- 337h SEMINAR IN RESEARCH (2)
- 360 (326) INTRODUCTION TO EXCEPTIONAL CHILDREN (3)
Prerequisite: Educ 301 or permission of department. Problems and methods of identifying and teaching children who are handicapped or gifted.

361 (388) 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.

373 ELEMENTARY STATISTICAL INFERENCE (3)

Prerequisite: Math 240 or permission of instructor. Statistical procedures and informed reading for original research. Also offered as Psychology 373.

385 FOUNDATIONS OF READING INSTRUCTION (2)

Prerequisite: Educ 301. Study-reading in content areas; speed reading; basic principles of teaching reading; standardized and informal reading testing.

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.

410 SEMINAR IN FOUNDATIONS (5)

Prerequisite: admission to the special program for degree holders. Social, historical, and philosophical bases of education.

413 HISTORY OF AMERICAN EDUCATION (4)

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

420 INSTRUCTION IN SECONDARY SCHOOLS (2)

Prerequisites: Educ 301, Psych 351. Responsibilities of teachers; classroom management; scope and sequences in public school instruction; concurrent enrollment in Psych 352 recommended.

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.

Education

423 THE JUNIOR-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.

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 (450) ADULT EDUCATION: PRINCIPLES AND METHODS (3)

Social, educational, and administrative implications of continuing education.

428 (480) 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 (483) 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; Educ 490 to be taken concurrently. 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: Educ 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 (428) KINDERGARTEN EDUCATION (3)

Prerequisites: Educ 431 or teaching experience. Historical background; recent trends; organization of facilities and materials for the kindergarten program.

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 Educ 434f.

435 CHILD AND YOUTH STUDY WORKSHOP (3)

Prerequisite: permission of department. Case record approach to the principles of child and youth study. Summers only.

436e,f,g HONORS TUTORIAL (2-5)

442 (542) 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.

450 (489) AUDIO-VISUAL INSTRUCTION (3)

Prerequisite: Educ 301. Types of audio-visual aids, technical processes, educational procedures; administration of audio-visual instruction; operation of motion picture, opaque and slide-film projectors, tape recorders and other sound and visual apparatus.

451 (482) CONSTRUCTION OF AUDIO-VISUAL MATERIALS FOR THE CLASSROOM (3)

Prerequisite: Educ 450. Skills and techniques involved in planning and making motion pictures, filmstrips, slides, still photographs, models, charts, and posters as aids in teaching.

461 OBSERVATION AND PARTICIPATION IN SPECIAL EDUCATION (3)

Prerequisite: Educ 360 or permission of department. Guided observation and limited participation in selected programs for exceptional children.

462 METHODS, CURRICULUM, AND MATERIALS FOR EXCEPTIONAL CHILDREN (3)

Prerequisite: Educ 360. Objectives, organization, facilities, and materials needed for teaching exceptional children.

463 (458) 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 (459e) 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 (459f) 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 (459g) 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 ADVANCED STATISTICAL INFERENCE (3)

Prerequisite: Educ 373 or equivalent. More advanced methods for the analysis of research data. Also offered as Psychology 473.

480 CONFERENCE IN READING (1-3)

Prerequisite: teaching experience. Offered from year to year with varying themes.

485 BASAL READING INSTRUCTION (3)

Prerequisite: Educ 385; open to undergraduates only. Basal reading instruction in grades K-8; methods and materials for teaching reading, reading readiness; word attack skills, word reading skills, comprehension skills; grouping; lesson planning.

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.

487abcd 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.

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

Prerequisites

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

- a. Admission to the professional education program
- b. Satisfactory completion of Educ 301, 385, 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: Soc Studies Educ 425, Math 481, Educ 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 at the Office of the Coordinator of Student Teaching during the winter quarter of the junior year. Normally they will enroll for an assignment in one or more quarters of the senior year. 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 (1. Whatcom County, or 2. King, Snohomish Counties).

Normally, students will be given their first choice of quarter and geographic area, but it may be necessary to assign some to a second choice of one and/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 Coordinator of Student Teaching.

Education

In addition to the filing of the plan for student teaching in the junior year, the student is to file formal application in the quarter preceding anticipated assignment.

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.

In the fall quarter only, special sections of Education 491 and 492 are offered commencing with the opening of the public schools in September. These sections are in addition to sections scheduled regularly to correspond with the College calendar.

Students not electing one of these special sections are strongly urged to observe in their home school districts for a few weeks when school opens in the fall. Arrangements should be made through the Office of Student Teaching at the College.

Resident Centers

Student teaching opportunities are offered in Resident Centers established in Everett, Edmonds, Shoreline, and Seattle. Inasmuch as these opportunities require earlier planning, it is advantageous for a student to indicate Resident Center interest at the time of filing the Declaration of Student Teaching Plan. Arrangements have been made for reasonably priced housing at these Centers within walking distance of the student teaching assignment.

490 (481) OBSERVATION AND PARTICIPATION (2)

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

491 SUPERVISED TEACHING—ELEMENTARY (16)

Prerequisites: Math 251 and three of the following: Social Studies Educ 425, Math 481, Educ 485, and a course in science education. 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: Math 251 and three of the following: Social Studies Educ 425, Math 481, Educ 495, and a course in science education; Education 491 or 493 prerequisite to Educ 494. Supervised teaching experience providing opportunities to develop and demonstrate teaching competence at the primary and/or intermediate level.

495, 496 SUPERVISED TEACHING—SECONDARY (8 ea)

Prerequisite: 30 credits in the major field; Education 492 or 495 prerequisite to 496. Supervised teaching experience providing opportunities to develop and demonstrate teaching competence at the junior high and/or senior high school level.

497t READING CONFERENCE: DEVELOPMENTAL READING IN ACTION IN THE 60'S (1)

Discussion groups and demonstrations for primary, intermediate, and secondary teachers, administrators, and reading specialists. Summer 1967.

497u ORGANIZATION AND ADMINISTRATION OF REMEDIAL READING PROGRAMS (3)

Prerequisite: enrollment in NDEA Institute in reading. Remedial reading education as a direct response to individual differences; administrative implications and the development of policies. Summer 1967.

498 SUPERVISED TEACHING—EXCEPTIONAL CHILDREN (8-16)

Prerequisite: Educ 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: Educ 315 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: Educ 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: Educ 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: Educ 318 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 Philosophy 515.
- 516 SEMINARS IN PHILOSOPHY OF EDUCATION (3 ea)
Prerequisite: Educ 318 or equivalent. Studies of the works of one man, a problem, or a movement; implications for schooling.
- 517 HISTORY OF EDUCATIONAL THOUGHT (3)
Prerequisite: Educ 413 or equivalent, and permission of instructor. Development of ideals, theories, institutional structures and practices.
- 521abcd SEMINARS IN CURRICULUM (4 ea)
Prerequisites: teaching experience and Educ 422 or 425, or permission of department. The planning and development of curriculum, including advance 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.
- 531 SEMINAR IN EARLY CHILDHOOD EDUCATION (3)
Prerequisite: Educ 422, 431, 432, and 433, or permission of department; to be taken concurrently with Educ. 591. Critical analysis of programs of early childhood education emphasizing interpersonal relations, role of agencies, and instructional procedures and materials.
- 540 (541) PUBLIC SCHOOL ORGANIZATION AND ADMINISTRATION (3)
Practical problems related to administration of school personnel, plant, and program; structure and organization of the school system.
- 541 (540) SCHOOL LAW AND FEDERAL PROGRAMS (3)
Prerequisite: Educ 540. Legal principles underlying statutes and court decisions related to the schools; legal aspects of federal programs and their administration in the schools.
- 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: Educ 540 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: Educ 540. Problems involved in school finance, including budgetary and accounting procedures.
- 546 PUBLIC SCHOOL BUILDINGS AND FACILITIES (3)
Prerequisite: Educ 540. 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 (1)
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: Educ 540. Professional relationships among certified employees and other school personnel; development and implementation of policies. Summer only.
- 550 (544) ORGANIZATION AND ADMINISTRATION OF AUDIO-VISUAL MATERIALS (3)
Prerequisite: Educ 450 or permission of department. Basic problems and principles in establishing and directing an audio-visual center; coordinating, staffing, financing, housing, and evaluating the service.
- 560 SEMINARS IN SPECIAL EDUCATION (2-5)
Prerequisites: graduate status and permission of department. Specific problems and methods for serving exceptional children. Content will vary from summer to summer; hence the course may be repeated for credit.

Education

561 ADVANCED PROBLEMS IN SPECIAL EDUCATION (3-5)

Prerequisite: permission of department. Intensive study of problems in a selected area of special education.

562 CURRICULUM AND PROBLEMS OF INSTRUCTION FOR THE MENTALLY RETARDED (3)

Prerequisite: teaching experience or permission of department. Problems of diagnosis, class organization, selection of curriculum content and instructional aids for teaching the slow learner.

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: Educ 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. Experience in the administration of early childhood units.

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

Prerequisite or concurrent: Educ 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.

ENGLISH



Professors: Brown, Cederstrom, Clapp, Hicks, McDonnell (Chairman), O'Brien, Van Aver • *Associate Professors:* Edgerton, Hovde, Huff, Larsen, Lawyer, Lee, Muldrow, Odom, Peters, Ryan, Thompson • *Assistant Professors:* Bowman, Cary, Hunt, Inniss, Johnson, Keep, Lewis, Symes
Instructors: Barton, Donker, Farley, Harrs, Haynes, Johnson, LaBelle, Merritt, Tipton, Williams • *Lecturers:* McLeod, Skinner.

A Comprehensive Examination is required of all English majors.

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, 488
- 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 200, 303
- English 391, 404a, 404b, 490, 491, 496
(Linguistics 301 or 302 recommended for the Fifth Year)

B. *Rhetoric*

- Linguistics 200
- English 302, 391, 404a, 404b, 496
- Six credits in electives under advisement

C. *Creative Writing*

- English 303a, 303h, 403a or 403b, 488
- Four credits under advisement in an area other than English

- Eight to eleven credits under departmental advisement in upper division electives.

D. *Journalism*

(See Interdepartmental Programs, page 153)

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.

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 200, 201, 301, 302, 303
- English 391, 490, 491

C. *Rhetorical Emphasis*

- Linguistics 200
- English 302, 404a, 404b
- 12 credits in electives under advisement

English

D. *Creative Writing*

- English 303a, 303b, 403a or 403b, 488
- Four credits under advisement in an area other than English
- Eleven credits in upper division electives under departmental advisement

E. *Journalism*

(See Interdepartmental Programs, page 153)

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

100 FRESHMAN READING AND WRITING (3)

Prerequisite: satisfactory performance on English placement tests or second quarter standing. The comprehension and communication of expository materials.

101 FRESHMAN READING AND WRITING (3)

Prerequisite: satisfactory completion of English 100 or equivalent. Continuation of English 100 with emphasis upon case study and the investigative paper.

102 FRESHMAN READING AND WRITING (3)

Prerequisite: satisfactory completion of English 101 or equivalent. Continuation of English 101 with emphasis on tone, style, and close analysis of literary texts leading to writing analytical and interpretative papers.

202 PRINCIPLES OF EXPOSITION (3)

Prerequisite: English 101 or equivalent; a course for non-majors who need additional instruction and practice in expository writing.

261, 262, 263 CRITICAL INTRODUCTIONS TO FICTION, DRAMA, POETRY (3 ea)

Prerequisite: English 100 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. Intended for transfer students who have not had General Education 121, 122, 123 or equivalent; credit may not be earned in parallel segments of both sequences.

302 ADVANCED EXPOSITION (3)

Prerequisite: permission of instructor. Opportunity for writing on a mature level for publication.

303 CREATIVE WRITING (3)

303a Fiction 303b Poetry
Prerequisite: permission of instructor. Opportunity for disciplined expression in poetry and/or fiction.

For all subsequent courses, English 261, 262, 263 are prerequisite for all majors and minors. Transfers are expected to complete needed courses in this series in their first two quarters in residence. For non-majors and non-minors, English 263 is prerequisite to subsequent courses. For all 400 level literature courses, the prerequisite is 15 credits in literature, or permission of instructor.

321-326 ENGLISH LITERATURE (4 ea)

- 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)

Historical, critical study of major American writers.
331 Poe through Whitman
332 Twain through Dreiser
333 Frost through Faulkner

341 Chaucer (3)

Chaucer's language and poetry, with emphasis upon *The Canterbury Tales*.

343 SHAKESPEARE (5)

A survey of the principal plays. Also offered as Speech 320.

349 MAJOR ENGLISH WRITERS (3 ea)

Different writers of eminence will be treated from year to year in this series. In 1967-68 the following are offered: 349c Milton 349e Keats 349h Fielding

- 359 MAJOR AMERICAN WRITERS (3 ea)
Different writers of eminence will be treated from year to year in this series. In 1967-68 the following are offered:
359e Hemingway 359f Faulkner
359g Frost 359h James
- 380 WORLD LITERATURE FOR THE ELEMENTARY TEACHER (3)
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.
- 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 200 or permission of instructor. Traditional, structural and transformational English grammars.
- 399a,b,c HONORS TUTORIAL (2-5 ea)
- 403 SENIOR WRITING WORKSHOP (1-5)
403a Creative Writing-Fiction
403b Creative Writing-Poetry
Prerequisite: English 302 or 303 or permission of instructor. Individual projects in various types of writing.
- 404a INTRODUCTION TO RHETORIC (3)
Rationale of informative and persuasive writing; classical and modern treatments of invention, arrangement, prose style.
- 404b RHETORICAL ANALYSIS (3)
Analysis of semantics, style, and tone; emphasis on expository writing.
- 440 PERIOD STUDIES (2-5)
Different literary periods and movements will be treated from year to year. In 1967-68 the following will be offered:
440a Modern Irish Literature
440c American Colonial Literature
- 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: acceptance for the departmental honors program, or permission of instructor. Different literary types and genres will be treated from year to year in this series.
- 461, 462, 463 DEVELOPMENT OF ENGLISH DRAMA (3 ea)
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)
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.
- 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)
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)
English and American novels since World War II.
- 480 INTRODUCTION TO ORIENTAL LITERATURE (5)
Literature of India and China as related to the thought of our time, with emphasis upon Indian epic and philosophy and the ideals of Confucius.
- 481 THE BIBLE AS LITERATURE (3)
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)
Also offered as Philosophy 483 and Sociology 483.
- 487 HISTORY OF LITERARY CRITICISM (5)
The theory of literature; analysis of critical principles and problems from ancient to modern times.
- 488 MODERN LITERARY CRITICISM (3)
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.

English

- 490 STRUCTURAL AND 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.
- 497a ORIENTATION FOR THE MODERN STUDY OF ENGLISH (5)
The nature of language; the source of "correctness" in usage, dialects, and meaning; evolution of English and the grammars of English.
- 498 WORKSHOP IN THE TEACHING OF ENGLISH (5)
- 499a,b,c HONORS TUTORIAL (2-5 ea)
- Registration in the following 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. The specific topics or writers considered in 1967-68 are listed as sub-titles.*
- 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.
- 503 WRITING SEMINAR (3)
503a Poetry (3)
Prerequisite: English 302 or 303 or equivalent.
- 520 SEMINAR IN ANGLO-SAXON LITERATURE (3-5)
Prerequisite: English 391a or equivalent.
- 521 SEMINAR IN MEDIEVAL LITERATURE (3-5)
521a Chaucer
Prerequisite: English 321 or 341 or equivalent.
- 522 SEMINAR IN SIXTEENTH-SEVENTEENTH CENTURY LITERATURE (3-5)
522a Milton
Prerequisite: English 322 or 343 or equivalent.
- 523 SEMINAR IN EIGHTEENTH CENTURY LITERATURE (3-5)
523e The Picaresque Novel
Prerequisite: English 323 or equivalent.
- 524 SEMINAR IN ROMANTIC LITERATURE (3-5)
524b Byron and Shelley
Prerequisite: English 324 or equivalent.
- 525 SEMINAR IN VICTORIAN LITERATURE (3-5)
525b Hardy 525c Conrad
Prerequisite: English 325 or equivalent.
- 526 SEMINAR IN CONTEMPORARY LITERATURE (3-5)
526e Eliot and Pound
Prerequisite: English 326 or 333 or equivalent.
- 531 SEMINAR IN AMERICAN LITERATURE: BEGINNINGS TO 1860 (3-5)
531b Rise of Realism: Hawthorne and Melville
- 532 SEMINAR IN AMERICAN LITERATURE: 1860-PRESENT (3-5)
532f Social Protest of 1930's.
Prerequisite: English 332 or equivalent.
- 543 SEMINAR IN SHAKESPEARE (3-5)
543c Shakespeare's Tragedies
Prerequisite: English 343 or equivalent.
- 560 SEMINAR IN LITERARY FORM (3-5)
560c Twentieth Century Comic Novel
- 587 SEMINAR IN LITERARY CRITICISM (3-5)
587c Theories of Comedy
- 589 DIRECTED INDIVIDUAL STUDY (1-3)
Research on a topic not included in formal courses. This course may be taken only once.
- 590 LINGUISTICS (3-5)
Prerequisite: English 490 or equivalent.
- 591 HISTORICAL LINGUISTICS (3-5)
591a Old English 591b Middle English
Prerequisite: English 491 or equivalent.
- 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



Professor: Coulet *Associate Professors:* Baird, King, Robinson (Chairman), Young
Assistant Professors: Adam, Barragan, Bouniol, Brockhaus, Dordevic, Elmendorf, Hernandez, Milicic, Moerschmer, Shiebert • *Instructor:* Hies
Lecturers: Melbin, van Voorst Vader

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, 210 (in French only), 310, 311, 331, 332, 410, 411
- Foreign Language Education 432
- Foreign Language Linguistics 370
- Electives under departmental advisement

Major—Latin Secondary

- 45 credits selected under advisement

Major—A Modern Foreign Language

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

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

Minor—A Modern Foreign Language

- 19 credits in courses numbered 201 and above in one modern language, including 6 credits in courses numbered 290 or above.

Foreign Languages

Minor—Greek or Latin

- 12 credits beyond the first year in college Latin or Greek.

Minor—Linguistics

- Linguistics 200, 201, 301, 302, 303
- 6 credits selected under departmental advisement in a foreign language.

ARTS AND SCIENCES

Major—Latin

- 45 credits in courses selected under departmental advisement.

Major—A Modern Foreign Language

45 credits in courses numbered 201 and above in French, German, Russian, or Spanish, plus supporting courses.

- Course number 290 in the selected language
- Three course from 310, 311, 410, 411
- Three course from 301, 302, 303, 304, 305, 306, 340, 341, 342, 343
- 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 credits in courses numbered 201 and above in one of the modern languages, including six credits in courses numbered 290 and above.

Minor—Greek or Latin

- 12 credits beyond the first year in Latin or Greek

Minor—Linguistics

- Linguistics 200, 201, 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 work in one foreign language for the Arts and Sciences major or 17 credits in upper division work in one foreign language for the Teacher Education major.

COURSES IN FOREIGN LANGUAGES

All students enrolling for the first time in any language at this college and having previous knowledge of the language, however acquired, must take a placement test. In some cases students may be granted advanced placement credit.

In all courses in the literature of a language (except 367), active use and continued study of the language remain primary aims.

GENERAL COURSES

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

Prerequisite: 25 credits or the equivalent in the target language. Comparison of structures (phonological, morphological and syntactic) of English and target languages.

432 METHODS AND MATERIALS FOR TEACHING MODERN FOREIGN LANGUAGES (3)

Prerequisite: 9 credits in one modern foreign language beyond the second year. Must be taken prior to or concurrent with 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.

201, 202 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.

203 SECOND YEAR FRENCH (3)

Prerequisite: French 202. Continuation of fundamentals, reading, aural comprehension and speaking.

210 PHONETICS (2)

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

237 CONVERSATION (2)

Prerequisite: French 103 or equivalent. Offered as a part of the Study Abroad Program.

290 INTRODUCTION TO FRENCH LITERATURE (3)

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

301 NINETEENTH CENTURY FRENCH LITERATURE (3)

Prerequisite: French 290 or permission of instructor. Major works and movements.

302 EIGHTEENTH CENTURY FRENCH LITERATURE (3)

Prerequisite: French 290 or permission of instructor. The Age of Enlightenment represented in various genres.

303 SEVENTEENTH CENTURY FRENCH LITERATURE (3)

Prerequisite: French 290 or permission of instructor. The classical period represented in various genres.

310, 311 THIRD YEAR COMPOSITION AND CONVERSATION (3 ea)

Prerequisite: French 203 or equivalent; French 310 prerequisite to 311. Written and oral composition and vocabulary building, *explication de texte*.

331 CIVILIZATION OF FRANCE THROUGH THE NINETEENTH CENTURY (3)

Prerequisite: French 203. Significant elements of French civilization presented through French texts.

332 FRENCH CIVILIZATION TODAY (3)

Prerequisite: French 203 or equivalent. Significant elements of twentieth century civilization.

337 CONVERSATION (4)

Prerequisite: French 202 or equivalent. Offered as a part of the Study Abroad Program.

340 THE FRENCH NOVEL (3)

Prerequisite: French 290 or permission of instructor. Interpretation and discussion of selected readings.

341 FRENCH DRAMA (3)

Prerequisite: French 290 or permission of instructor. Interpretation, discussion of selected readings.

342 FRENCH POETRY (3)

Prerequisite: French 290 or permission of instructor. The interpretation and discussion of selected readings.

357 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 MEDIEVAL FRENCH LITERATURE (3)

Prerequisite: 9 credits in upper division French. Masterpieces of the Middle Ages.

402 FRENCH RENAISSANCE LITERATURE (3)

Prerequisite: 9 credits in upper division French. Masterpieces of the sixteenth century.

403 CONTEMPORARY FRENCH LITERATURE (3)

Prerequisite: 9 credits in upper division French. Masterpieces of the twentieth century.

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.

437 CONVERSATION (4)

Prerequisite: 9 credits of upper division French. Offered as a part of the Study Abroad Program.

450 STUDIES 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)

Foreign Languages

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.
- 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 AND CONVERSATION (3 ea)
Prerequisite: German 203 or the equivalent; German 310 prerequisite to 311. Written and oral composition and vocabulary building.
- 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)
Prerequisite: 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 the development of recent German literature.
- 410, 411 ADVANCED COMPOSITION AND GRAMMAR (3)
Prerequisite: German 311 or permission of department. German 410 prerequisite to 411.
- 450 STUDIES IN GERMAN LITERATURE (3)
Prerequisite: 9 credits in upper division German or equivalent, and permission of department. Major authors and movements. Since topics vary, the course may be repeated.
- 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; selected readings from the *Iliad* and *Odyssey*; Sophocles' *Oedipus Tyrannus* and Euripides' *Medea*; selected readings from the Gospels and the Pauline Epistles.

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 minor.

367 GREEK LITERATURE IN TRANSLATION (3)

Selected readings from epic, lyric, drama, history, and oratory and their influence on Western literature; not applicable to a Greek minor.

LATIN

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

Each course prerequisite to the next. A structural approach providing a foundation in grammar, an introduction to the general laws of language, and an elementary reading knowledge with selections from Cicero, Virgil, Ovid, and other Roman writers.

201, 202, 203 SECOND YEAR LATIN (3 ea)

Prerequisite: Latin 103 or two years of high school Latin; each course prerequisite to the next. Review of fundamentals; selected readings from various Roman writers; early books of the *Aeneid*; *Metamorphoses* of Ovid; review of Greco-Roman mythology; history of Latin literature.

301 ROMAN LYRIC POETRY (3)

Prerequisite: Latin 203 or equivalent. Special attention to the lyrics, epigrams and wedding songs of Catullus and the *Odes* of Horace; review of grammar.

302 ROMAN COMEDY (3)

Prerequisite: Latin 203 or equivalent. Popular plays of the second century B.C., their influence on European drama; review of grammar.

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 (2-3)

Prerequisite: Latin 203 or permission of instructor. Systematic reviews in grammar with exercises based on Cicero; emphasis on correctness of expression and a feeling for idiom.

350 LATIN AND GREEK IN CURRENT USE (2)

No knowledge of these languages is required.) The 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 methods of 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.

Foreign Languages

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 AND CONVERSATION (3 ea)

Prerequisite: Russian 203 or the equivalent; Russian 310 prerequisite to 311. Written and oral composition 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 RUSSIAN LITERATURE IN TRANSLATION (3)

Selections from eminent Russian authors read and discussed in English; not applicable to a major or minor in Russian. When topics vary, the course may be repeated.

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 the instructor. Morphology of the verb and noun.

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: BEGINNINGS TO 1538 (3)

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

302 SPANISH LITERATURE: SIGLO DE ORO (3)

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: MODERN PERIOD (3)

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: BEGINNINGS TO 1800 (3)

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

305 SPANISH-AMERICAN LITERATURE: 1800 TO PRESENT (3)

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

306 THE MODERNISTA MOVEMENT IN SPANISH-AMERICAN LITERATURE (3)

Prerequisite: Spanish 290 or permission of department. Prose and poetry of the late 19th century writers comprising the school of modernism.

310, 311 THIRD YEAR CONVERSATION AND COMPOSITION (3 ea)

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

331 CIVILIZATION OF SPAIN (3)

Prerequisite: 10 credits in second year Spanish or equivalent. Significant elements of Spanish civilization presented through Spanish texts.

332 CIVILIZATION OF SPANISH AMERICA (3)

Prerequisite: 10 credits in second year Spanish or equivalent. Significant elements of Spanish-American civilization presented through Spanish texts.

340 READINGS IN CONTEMPORARY
SPANISH DRAMA (3)

Prerequisite: Spanish 203 or equivalent. Interpretation and discussion of selected readings.

341 THE CONTEMPORARY SPANISH NOVEL (3)

Prerequisite: Spanish 203 or equivalent. Interpretation and discussion of selected readings.

342 SPANISH POETRY (3)

Prerequisite: Spanish 203 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



Professor: Critchfield (Chairman)

Associate Professors: Miller, Monahan, Mookherjee, Fancy • *Assistant Professors:* Scott, Teshera

Instructor: Modry • *Lecturers:* Birtles, Davies, Saunders.

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, 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, 470
- One course from Geography 351, 353, 453, 454, 480, 481, 490
- Electives

All selections are to be made under departmental advisement.

Minor 20 credits

- Geography 201
- Geography 207 or 100
- Electives under advisement

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.

Major—Geography 70 credits

- Geography 201, 203, 207, 351, 481
- Two courses from Geog 311, 313, 314, 315, 316, 318, 319, 320, 401, 405
- One course from Geography 331, 423, 424, 431
- One course from Geography 341, 407, 408, 421, 422, 430, 435, 440, 470
- Two courses from Geography 353, 453, 454, 480, 490
- Electives under departmental advisement

Minor—Geography 25 credits

- Geography 201
- Electives under departmental advisement

Major—Rural and Urban Planning
65 credits

This undergraduate major 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. Early consultation with advisers in the department is essential.

- Geography 311 (or 401), 341, 351, 430

- Geography 454 (or 480 or 490)
- Economics 201, 482
- Mathematics 240 (or Sociology 275)
- Political Science 250, 253, 420 (or Geography 421), and 421
- Sociology 366, 413
- Electives under advisement from Biol 447, Econ 202, 408, 410, 415; Geog 353, 452, 453; Ind Arts 240; Math 270; Soc 431, 441 (or Political Science 450)

Minor—Rural and Urban Planning 25 credits

- Geog 341, 430
- Electives under advisement from courses listed for the major in this field (see above).

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

- 100 WORLD REGIONAL GEOGRAPHY (5)
Population, resources, and economic development of the major world regions.
- 101 THE NATURAL ENVIRONMENT (4)
Elements, processes, and unifying concepts in the natural environment of man.
- 201 HUMAN GEOGRAPHY (5)
Interrelations of man and his natural environment, Emphasizing cultural influences on world geographic patterns.

Geography

- 203 **PHYSICAL GEOGRAPHY (5)**
Principles and techniques in analysis of areal distributions in the natural environment; landforms, water, climate, soils, vegetation.
- 207 **ECONOMIC GEOGRAPHY (5)**
World resources, industries, commodities, and commerce.
- 251 **MAP READING AND ANALYSIS (2)**
Construction of maps and charts based on sources in the natural and social sciences.
- 311 **THE UNITED STATES AND CANADA (5)**
Prerequisite: 3 credits in geography. Physical environments, resources, settlement and economics of Canada and the United States.
- 313 **CARIBBEAN AMERICA (3)**
Prerequisite: 3 credits in geography. 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: 3 credits in geography. South American nations, emphasizing cultural, natural environment, economic activities, and regional differences.
- 315 **ASIA (5)**
Prerequisite: 3 credits in geography. Asia's settlement population, economic resources and activities, and associated problems.
- 316 **EUROPE (5)**
Prerequisite: 3 credits in geography. Economic, political, and cultural problems of Europe.
- 318 **THE PACIFIC (3)**
Prerequisite: 3 credits in geography. Physical environment, resources, and settlement of the Pacific Islands, Australia, and New Zealand.
- 319 **AFRICA (5)**
Prerequisite: 3 credits in geography. Resources, peoples, regions, and economic development of Africa.
- 320 **THE U.S.S.R. (3)**
Prerequisite: 3 credits in geography. 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 equivalent. Elements of climate, climatic regions, and climate as an environmental factor.
- 341 **URBAN GEOGRAPHY (5)**
Prerequisite: Geog 101 or 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)**
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)**
Prerequisite: permission of instructor. Individual projects under supervision.
- 401 **THE PACIFIC NORTHWEST (3)**
Prerequisite: 3 credits in geography. 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 100 or 201. 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: 3 credits in geography. Principles and practices in water use and water conservation in the United States.
- 423 **GEOGRAPHY OF SOILS (3)**
Prerequisite: Geog 101 or equivalent. Properties, formation, classification, distribution and management of the world's soils.

- 424 **BIOGEOGRAPHY (3)**
Prerequisite: Geog 101 or equivalent. Origin, distribution, and adaptation of plant and animal association; examination of representative plant and animal forms in relation to physical environment and to man.
- 430 **RURAL AND URBAN 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: Geography 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 sequential occupation and the reconstruction of past geographies of the United States and Canada.
- 440 **GEOGRAPHY OF POPULATION (3)**
Prerequisite: Geog 201. Distribution of population density and composition; patterns of migration and settlement in selected world areas.
- 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: 10 credits in geography. Source materials and methods of geographic instruction.
- 470 **POLITICAL GEOGRAPHY (5)**
Prerequisite: 3 credits in geography. 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 (2-5)**
Prerequisite: permission of instructor. 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)**
- 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



Associate Professors: Easterbrook (Chairman), Christman, Ellis, Ross, Swineford
Assistant Professors: Brown, Pevcar
Instructor: Babcock • *Lecturer:* Hansen

The student interested in a geology major should consult early in his college career with departmental advisers in order to plan the proper sequence of courses.

TEACHER EDUCATION

Major—Earth Science Elementary 45 credits

- Geology 211, 212, 310, 311
- Geography 331, Physics 105, 131
- Biology 383 or Physical Science 382
- Electives under departmental advisement from Geology 316, 317, 399, 400, 407, 410, 412, 413, 414, 430, 440; Geography 353, 421 or 422, 423; Physics 205, 321

Major—Earth Science Secondary 45 credits

- Geology 211, 212, 310, 311, 390, 407
- Geography 331, Physics 105, 131

- Electives from Geology 316, 317, 319, 399, 400, 410, 412, 413, 414, 418, 420, 426, 430, 440; Geography 353, 421 or 422, 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, 410, 418, 420
- 12 credits under advisement from Geology 300, 319, 399, 400, 413, 414, 416, 423, 424, 425, 426, 430, 436, 440, 444, 446, 460

□ Supporting courses: Chemistry 121, 122, 123, 127, 128, Physics 231, 232, 233 (or 131, 132, 133) Math 122, 222; choice of (a) Chemistry 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, 418, 420

□ 7 credits under advisement from Geology 300, 319, 399, 400, 410, 412, 413, 414, 416, 423, 424, 425, 426, 430, 436, 440, 444, 446, 460

□ Supporting courses: Chemistry 121, 122, Physics 131 or 231, Math 121, and 20 additional credits under advisement in mathematics, biology, physics, or chemistry.

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)

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: sophomore status or 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.

305 PRINCIPLES OF MINERALOGY (4)

Prerequisite: Chem 121. Crystallography, crystal chemistry, and crystal structure fundamental to the study of minerals.

306 DESCRIPTIVE MINERALOGY (5)

Prerequisites: Geol 305 and 211. Identification of common rock-forming and other common minerals with special reference to their geologic occurrence.

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.

Geology

- 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.
- 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. 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.
- 384 EARTH SCIENCE FOR THE ELEMENTARY SCHOOL (3)
Prerequisite: Geol 101. Concepts, experiences, and materials from the earth sciences adaptable to the elementary school.
- 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)
- 399 SEMINAR IN GEOLOGY (1)
Prerequisite: permission of department. Geological reports, papers, and discussion.
- 400 SPECIAL PROJECTS IN GEOLOGY (2-5)
Prerequisite: permission of department. Special projects under supervision.
- 407 PETROLOGY (3)
Prerequisite: Geol 306 or 311; not open to those with credit in Geol 420, 423, 424, or 425. Origin, occurrence, and classification of igneous, sedimentary, and metamorphic rocks, and hand specimen identification.
- 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 PHYSIOGRAPHY 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 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: Geol 418. Origin, occurrence, and classification of igneous, sedimentary, and metamorphic rocks; hand specimen and microscopic identification.
- 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)
Prerequisites: 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 their evolution, paleoecological significance, and stratigraphic application.

430 MAP AND AERIAL PHOTOGRAPH
INTERPRETATION (3)

Prerequisite: Geol 310. Identification and interpretation of geologic features using topographic maps and aerial photographs.

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 related to modern and ancient glaciers; effects of Pleistocene glaciations.

444 X-RAY DIFFRACTION (2)

Prerequisite: Geol 305, Chem 122, 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.

460 GEOCHEMISTRY (3)

Prerequisite: Math 122 or 220, Chem 122, Geol 420. Application of principles of physical chemistry to the study of origin of rocks and minerals.

495a,b,c HONORS TUTORIAL (2-5 ea)

500 SPECIAL PROJECTS IN EARTH SCIENCE (2-5)

Prerequisite: permission of instructor. Special projects under supervision.

510 FIELD PROBLEM (2-5)

Prerequisite: Geol 410 or recognized summer field camp. Field mapping problem and report in geology.

511 ADVANCED STUDIES IN PHYSICAL GEOLOGY (3)

Prerequisite: Geol 420 or permission of instructor. Independent or class study of recent advances in physical geology.

512 ADVANCED STUDIES IN HISTORICAL
GEOLOGY (3)

Prerequisite: Geol 316 or permission of instructor. Independent or class study of recent advances in historical geology.

514 ADVANCED STUDIES IN GEOMORPHOLOGY (3)

Prerequisite: Geol 310. Advanced work in fluvial morphology and other areas.

516 ADVANCED STUDIES IN PALEONTOLOGY (3)

Prerequisite: Geol 316. Advanced work in invertebrate or vertebrate paleontology, micropaleontology or paleobotany.

523 ADVANCED STUDIES IN PETROGRAPHY
AND PETROLOGY (3)

Prerequisites: Geol 423, 424 or 425. Advanced work in igneous, sedimentary, or metamorphic petrography and petrology.

570 THESIS (6-9)

Independent research.





HISTORY

Professors: Boylan, Bultmann, Murray (Chairman), Radke • *Associate Professors:* Hiller, McArce, Roe, Schuler • *Assistant Professors:* DeLorme, Hitchman, Horn, Jackson, Roley, Thomas
Instructors: Bullock, Christensen, Moore
Lecturer: Knibbs

TEACHER EDUCATION

Major All Levels 45 credits

- History 203, 204
- Two courses from History 426, 427, 428, 429, 431, 432, 433, 435, 436, 437, 438, 439, 440, 441, 444
- One course from History 410, 411, 412, 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.

ARTS AND SCIENCES

Major 50 credits plus Supporting Courses

- History 203, 204
- Two courses from History 426, 427, 428, 429, 431, 432, 433, 435, 436, 437, 438, 439, 440, 441, 444
- One course from History 410, 411, 412, 415, 418, 420
- Electives under advisement; History 499 strongly recommended for students anticipating graduate study in history.
- Supporting courses: Political Science 250 and one or more basic courses in other social sciences; 24 credits or reading knowledge of one appropriate foreign language.

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 honor 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, 400, 408, 499, 500, 501, 502, 503, 504, 505, 506, 599

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

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

United States—203, 204, 360, 365, 367, 391, 450, 451, 452, 453, 454, 457, 459, 461, 463, 465, 466, 550, 553, 555, 560, 561, 563, 567, 591

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

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

105, 106 HISTORY OF CIVILIZATION (5 ea)

Not open to entering freshmen nor to those who have completed General Education 121, 122, 123. Human development from earliest times to the present; an orientation to contemporary life and culture based on a study of the growth of human culture; the development of institutions, the arts, and ideas.

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.

336 FRANCE IN THE MODERN WORLD (3)

Leading political, social and intellectual trends in 19th and 20th century French history. Summer only.

341 EUROPEAN ECONOMIC HISTORY (5)

Economic development from the origins of capitalism to the present, with special emphasis on the emergence of modern industrialism.

347 EUROPEAN INTELLECTUAL HISTORY (5)

Development of the European mind from the seventeenth century to the present.

360 AMERICAN ECONOMIC HISTORY (5)

American economic development from colonial times to the present, with particular emphasis upon later periods.

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 AMERICAN INTELLECTUAL HISTORY (5)

Development of the American mind from colonial times to the present.

385 AFRICA (5)

African history from the sixteenth century to the 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.

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 (4)

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 ROME (5)

Prerequisite: Hist 105 or Gen Ed 121; open to sophomores with permission of instructor. From the foundation of Rome (753 B.C.) to the death of Theodosius (395 A.D.) and the division of the Empire.

415 WESTERN MEDIEVAL EUROPE (5)

Prerequisite: Hist 105 or Gen Ed 121; open to sophomores with permission of instructor. Political, social, economic, and cultural developments of Western Europe from the death of Theodosius I (395 A.D.) to the eve of the Hundred Years War (1337).

416 THE BYZANTINE EMPIRE (4)

Prerequisite: Hist 105 or Gen Ed 121; open to sophomores with permission of instructor. From the dedication of Constantinople to its fall (330-1453).

History

- 420 **THE RENAISSANCE AND THE REFORMATION (5)**
Prerequisite: Hist 105 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 (3)**
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.
- 431 **GERMANY (5)**
From the Thirty-years War to the present; rise of Brandenburg-Prussia and role of Germany in the international state system.
- 432 **RUSSIA, 1689-1905 (3)**
Political, social, economic, and diplomatic history from Peter the Great to the Revolution of 1905; influences on development of the modern Russian state.
- 433 **RUSSIA, 1905 TO THE PRESENT (5)**
Political, social, economic, and diplomatic history with emphasis on the period since the Bolshevik Revolution.
- 434 **RUSSIA SINCE 1917 (3)**
- 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.
- 450 **AMERICAN COLONIAL HISTORY (5)**
The colonial period from the discovery of America to the beginning of the Revolution.
- 451 **THE EARLY NATIONAL PERIOD (5)**
Development of political parties, partisan conflict concerning issues, constitutional adoption and interpretation, and foreign policies of the United States from the Revolution to 1812.
- 452 **THE AGE OF JACKSON (5)**
The United States from 1812 through the Mexican War.
- 453 **THE CIVIL WAR AND RECONSTRUCTION (5)**
Development of rival nationalisms; problems of war in North and South; efforts toward reunion; new problems in 1877.
- 454 **THE UNITED STATES, 1877-1900 (5)**
Social, economic, and political development of the American nation after Reconstruction.
- 457 **THE UNITED STATES IN THE TWENTIETH CENTURY (5)**
Political, economic, social, and intellectual development in the United States from 1900 to 1945.
- 459 **THE UNITED STATES SINCE 1945 (3)**
Internal and international consequences of the rise of the United States as a world power since the end 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 the period of French colonization to the present.
- 473 **LATIN AMERICA (5)**
From the period of early Spanish and Portuguese colonization to the present.
- 481 **CHINA (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 and the Near East; decline of Islamic influence in early times and its revival in the twentieth century.
- 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 (5)**
Selected historiographical studies—Western Europe.
- 502 **HISTORIOGRAPHY II (5)**
Selected historiographical studies—United States.
- 503 **HISTORIOGRAPHY III (5)**
Selected studies in philosophy of history; meaning and pattern in history, limits of historical methods; general theories of history.
- 504 **WRITING SEMINAR (1-4)**
Materials and methodology of historical research.
- 505 **WRITING SEMINAR (1-4)**
Prerequisite: History 504. Continuation of research begun in History 504. Not offered summers.
- 506 **WRITING SEMINAR: THESIS (1-4)**
Prerequisite: History 505. Not offered summers.
- 511-591 **GRADUATE SEMINARS (4-9 ea)**
Prerequisite for each of these seminars: 36 credits in history or permission of department; for History 511 include one upper division course in Greek history; for 512 one upper division course in Roman history.
- 511 Ancient Greece
512 Roman History
520 Renaissance and Reformation
536 English History
540 Modern European History
550 Colonial American History
553 Civil War and Reconstruction
555 Progressive Movement
560 American Economic History
561 American Diplomatic History
563 American Constitutional History
567 American Social and Intellectual History
571 History of Canada
573 Latin America
582 Modern India
591 The Pacific Northwest
- 599a **SEMINAR IN HISTORICAL RESEARCH AND WRITING (3)**
Materials and methodology of historical research.
- 599b **SEMINAR IN HISTORICAL RESEARCH AND WRITING (3)**
Continuation of History 599a.



HOME ECONOMICS

Associate Professors: Ramsland (Chairman)
Assistant Professors: Bieler, Larrabee, Roberts
Instructor: Peach

TEACHER EDUCATION

Major Secondary 45 credits

- Home Econ 100, 120, 150, 164, 253, 260, 272, 334, 338, 341, 353, 375, 410, 420, 424, 430
- Supporting courses: Art 102, 190, Econ 201
- Chemistry 115 is recommended in meeting the general education requirement in physical science.

Minor 20 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.

ARTS AND SCIENCES

- Major* 49 credits plus Supporting Courses
- Home Econ 100, 120, 150, 164, 253, 260, 272, 334, 338, 353, 370, 375, 410, 420, 424, 430
 - One course from Home Econ 362, 363, 460, or 475
 - Supporting courses: Art 102, 190, Economics 201, Sociology 201, 351

Minor 25 credits

- Home Econ 100, 120, 150 or 250
- Home Econ 253, 260, 334, 375
- Home Econ 420 or 424

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.

A new course sequence offers an emphasis in the area of nutrition education for all persons interested in working with children, youth, and the elderly. The sequence is of particular interest to nursery school teachers, elementary teachers, health and recreation workers, nursing and medical students.

COURSES IN HOME ECONOMICS

- 100 INTRODUCTION TO HOME ECONOMICS (1)
- Restricted to home economics majors 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.

- 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)**
Basic nutrition principles and nutritive needs of people, cultural aspects of foods and food habits, nutrition education.
- 151 **HUMAN NUTRITION LABORATORY (2)**
Prerequisites: Home Econ 150, Biol 101 and permission of department; Chem 101, 115, or 121 recommended. Application of methods of dietary studies, objectives, and organization of subject matter for teaching nutrition.
- 164 **TEXTILES FOR THE CONSUMER (3)**
Identification and evaluation of textiles for clothing and household purposes.
- 166 **CLOTHING SELECTION (2)**
Prerequisites: Art 102 and Home Econ 164 recommended; not open to home economics majors. Selection of clothing from aesthetic and consumer aspects.
- 192 **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, Art 102, and permission of department; open only to home economics majors and minors. Selection of clothing from the aesthetic and consumer aspects; sociological and psychological influences; new construction techniques and methods.
- 261 **INTERMEDIATE CLOTHING CONSTRUCTION (3)**
Prerequisite: Home Econ 164 (or concurrent), or permission of instructor; not open to home economics majors. Pattern adaptation, principles of fitting, advanced construction techniques, use of present-day fabrics.
- 267 **WEAVING (3)**
Weaving taught through the use of a variety of looms and materials. Also offered as Industrial Arts 201.
- 272 **HOUSEHOLD EQUIPMENT (3)**
Evaluation of household equipment; application to the family's management.
- 300 **SPECIAL PROBLEMS IN HOME ECONOMICS (1-5)**
(See Home Economics 400)
- 334 **CONSUMER ECONOMICS (2)**
Prerequisites: Gen Educ 105, Econ 201. The consumer in the economic world; his responsibilities and protections. Formerly offered as 338.
- 338 **FAMILY FINANCE (3)**
Prerequisites: Home Econ 334, Gen Educ 105, Econ 201. Management of family income and expenditures in the changing family cycle.
- 341 **HOME ECONOMICS EDUCATION (3)**
Prerequisites: Psych 371, junior status, and 20 credits in prescribed home economics. Philosophy and curriculum, emphasizing current concepts in home economics programs of the junior and senior high school.
- 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.
- 362 **FAMILY CLOTHING (2)**
Prerequisite: Home Econ 260 or 261, or permission of instructor. 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.
- 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.

Home Economics

- 370 **THE HOUSE: ITS PLANNING AND ARCHITECTURE (5)**
Prerequisite: Art 102 and permission of department. Housing for the family; historical, social, and cultural implications.
- 375 **HOME FURNISHINGS. (5)**
Prerequisites: Art 102, 190 and permission of department; Home Econ 164 recommended. Principles of design in relation to the selection and arrangement of home furnishings.
- 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 (1-5)**
Prerequisites: 36 credits in home economics and permission of instructor. Reading and discussion of recent literature and research in the five areas of home economics.
- 420 **LABORATORY EXPERIENCE WITH THE PRE-SCHOOL CHILD (3)**
Prerequisites: Home Econ 120, Psych 352; for non-majors Home Econ 120 and permission of instructor; a tuberculosis test required in compliance with the State Law. Observation of children and participation in nursery school; administration and evaluation of the child development program in the home economics curriculum.
- 422 **NURSERY EDUCATION (3)**
Prerequisite: Educ 431 or permission of department. Development of curriculum for nursery school age children emphasizing experiences that develop language and physical coordination, inquiry and creativity, and readiness for kindergarten and grade one. Also offered as Educ 432.
- 424 **FAMILY RELATIONSHIP (3)**
Prerequisites: Home Econ 120, 420; Soc 351 recommended. Concepts of the family; current issues of the family; family life education.
- 430 **HOME MANAGEMENT (2)**
Prerequisites: senior standing and permission of department. Philosophy and theory of management and decision-making in the family.
- 432 **HOME MANAGEMENT RESIDENCE (3)**
Prerequisites: Gen Educ 105, Home Econ 353, 430, permission of department. Application of the concepts and principles of home management to group and home living.
- 441 **ADVANCED HOME ECONOMICS EDUCATION (2)**
Prerequisite: Home Econ 341 or equivalent; open only to experienced home economics majors. Developments in the junior and senior high school home economics curriculum emphasizing current trends.
- 448 **EVALUATION IN HOME ECONOMICS (2)**
Prerequisites: Home Econ 341 or equivalent, supervised teaching in home economics, or graduate status. Application of current concepts in evaluation to the fields of 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, Chem 101 or 115 or 121; permission of department. Techniques of nutritional research, application to selected problems.
- 455 **EXPERIMENTAL FOODS (3)**
Prerequisites: Home Econ 253, Chem 115 or 121, and permission of department. Application of scientific principles and experimental procedures to food processes.
- 460 **TAILORING (3)**
Prerequisite: Home Econ 260 or 261, or permission of instructor. Modern tailoring techniques.
- 469 **SPECIAL PROBLEMS IN CLOTHING CONSTRUCTION (3)**
Prerequisite: Home Econ 161 or 260, or permission of instructor. Construction and fitting problems; individual projects; recent literature and research in clothing.
- 475 **ADVANCED HOME FURNISHINGS (3)**
Prerequisites: Home Econ 164, 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 375. American and international influences on contemporary design.
- 497e **EXPERIMENTAL TEXTILES AND CLOTHING (2)**
Prerequisites: home economics teaching experience and permission of department. Experimental construction techniques exploring new fabrics, lining, interfacings, finishes, and tailoring equipment. Summer 1967.
- 500 **SPECIAL PROBLEMS IN HOME ECONOMICS (1-5)**
(See Home Economics 400)

INDUSTRIAL ARTS



Professor: Schwalm

Associate Professors: Channer, Porter (Chairman), Olson • *Assistant Professors:* Black, Fowler, Hill, Moon, Shaw, Wood • *Instructor:* Ingalls.

TEACHER EDUCATION

Major Secondary 45 credits

- Industrial Arts 101, 491, 493
- 36 credits distributed among three technologies:
 - a. graphics (graphic arts, industrial design, drafting)
 - b. mechanical and electrical (power mechanics, electricity, electronics)
 - e. materials and processes (woods, metals, crafts, plastics)These credits are to be distributed according to one of the following options:
 - (1) 24 credits in one, and 12 in another technology
 - (2) 18 credits in each of two technologies
 - (3) 12 credits in each of the three technologies

Minor 25 credits

- Industrial Arts 101, 491 or 493
- Electives under departmental advisement

ARTS AND SCIENCES

Major 65 credits

- Industrial Arts 210, 223 or 231, 240, 270, 280, 310, 360
- Concentrations in four areas:
 - a. graphics (graphic arts, drafting)
 - b. mechanical and electrical (power mechanics, electricity, electronics)
 - c. materials and processes (woods, metals, crafts, plastics)
 - d. industrial design.Credits are to be apportioned among these areas according to one of the following options:
 - (1) 40 credits in one area
 - (2) 25 credits in one area and 15 in a second
 - (3) 13 credits in each of three areas
 - (4) 10 credits in each of the four areas

Industrial Arts

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 INDUSTRIAL ARTS

- 101 ORIENTATION TO INDUSTRIAL ARTS TECHNOLOGY (3)
The areas of industrial technology, program of studies, and career opportunities.
- 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, multi-view projections, supplemental views, and pictorial representations.
- 211 INDUSTRIAL GRAPHICS (3)
Prerequisite: I A 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: I A 211. Theory and problems with practical application and the projection of points, lines, surfaces, and solids.
- 215 EVOLUTION IN INDUSTRIAL DESIGN (3)
Inter-relationship with the arts, sciences, and society; designers, their philosophies and resultant impact on culture.
- 223 GENERAL METALS (5)
Introductory course to the following areas: art metal, bench metal, sheet metal, forging, pattern making, foundry, welding, and machining.
- 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.
- 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)
Basic operating principles of heat engines involving the practical application of theory to automotive, small gas, and aircraft engines.
- 300 SPECIAL PROBLEMS (1-5)
Prerequisite: permission of instructor. Special problems under supervision.
- 301 CRAFTS (3)
Design and construction in a variety of craft materials.
- 302 JEWELRY AND LAPIDARY (3)
Stonecutting and jewelry making involving techniques of shaping gem stones, forming and joining metal shapes, and enameling on metal; attention to creative design through the use of color, form, and texture.
- 304 JEWELRY DESIGN (3)
Design and construction of jewelry in various metals with emphasis on silver; the setting of stones. Also offered as Art 350.
- 305 INDUSTRIAL CERAMICS (3)
Techniques in working with clay, experimenting with glazes, and operating a kiln.
- 310 TECHNICAL ILLUSTRATION (3)
Prerequisite: I A 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)
I A 211. Problems in machine drawing, pattern drafting, and boat lofting.
- 313 ARCHITECTURAL DRAWING AND HOUSE PLANNING (3)
Prerequisite: I A 210. Historical development; considerations of design; analysis of needs; utilization of sites, preparation of plans.

- 315 **INDUSTRIAL DESIGN PROCESSES (3)**
Prerequisite: I A 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: I A 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: I A 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: I A 223. Continuation of general metals with emphasis on the machine tool industry.
- 331 **ADVANCED WOODS (3)**
Prerequisite: I A 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 (5)**
Prerequisite: I A 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: I A 340 or permission of instructor. Techniques, processes, and products of the graphic arts industry; designing, reproducing, presenting, and managing graphic materials.
- 342 **GRAPHIC ARTS FOR ART MAJOR (3)**
Prerequisite: permission of instructor. Technical processes for preparation and reproduction of graphic material.
- 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.
- 360 **GENERAL PHOTOGRAPHY I (3)**
Function, principles, and application of photography in visual communication.
- 361 **GENERAL PHOTOGRAPHY II (3)**
Prerequisite: I A 360 or permission of instructor. Application of theory and techniques to advanced projects providing a basic knowledge of commercial and industrial photography.
- 370 **ELECTRON TUBE CIRCUITRY (4)**
Prerequisite: I A 270 or Phys 155 or permission of instructor. Theory and application of electron tubes in basic electronic circuits.
- 371 **SEMI-CONDUCTORS (4)**
Prerequisite: I A 370 or permission of instructor. Characteristics of semi-conductor devices and circuits using them.
- 372 **INDUSTRIAL ELECTRONICS (4)**
Prerequisite: I A 371 or permission of instructor. Industrial uses of electronics; electron tubes, control devices, relays, and closed loop systems.
- 375 **MOTORS AND GENERATORS (3)**
Prerequisite: I A 270 or permission of instructor. Theory and practical uses of motors and generators.
- 379 **VISUAL COMMUNICATION ELECTRONICS (3)**
Prerequisite: I A 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: I A 280 or permission of instructor. Function and operating principles of hydraulic, pneumatic refrigeration machines and heat engines.
- 382 **AUTOMOTIVE ELECTRICITY (2)**
Prerequisite: I A 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.
- 384 **MECHANICS OF MATERIALS (3)**
Study and experimentation in stress, strain, torsion, shear-blending, pure bending, plane stress, and design of members.
- 390 **SAFETY EDUCATION (3)**
The cause, incidence, and effect of home, school, recreational and vocational accidents; educational programs and practices to reduce accidents.
- 391 **DRIVER EDUCATION FOR INSTRUCTORS (3)**
Conducting driver education classes in the public schools; practice teaching utilizing a dual-control automobile; lectures and demonstrations.

Industrial Arts

- 392 PROBLEMS IN DRIVER EDUCATION (3)
Prerequisite: I A 391. Problems associated with engineering, school transportation, traffic laws and enforcement, teaching methods, and administration.
- 393 ADVANCED UNITS IN DRIVER EDUCATION (3)
Prerequisite: I A 392. Individual research problems in traffic safety.
- 400 SPECIAL PROBLEMS (1-5)
Prerequisite: permission of instructor; open only to industrial arts majors. Specialized advanced study through individual instruction.
- 403 FINISH PRINCIPLES AND PRACTICE (3)
Introduction to modern finishing materials and processes.
- 413 ARCHITECTURAL PROBLEMS (3)
Prerequisite: I A 313. Advanced residential planning, cost estimating; FHA standards; building codes; individual and group research.
- 416 STRUCTURAL-AESTHETIC FACTORS IN INDUSTRIAL DESIGN (3)
Prerequisite: I A 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.
- 419 ADVANCED UNITS IN DRAFTING (1-3)
Prerequisite: I A 211. Sheet metal drafting, architectural drafting, furniture design, machine and other drafting units.
- 429 ADVANCED UNITS IN METALS (1-3)
Prerequisites: I A 223, 320. Selection, development, and work under supervision within one of the areas of general metalworking.
- 439 ADVANCED UNITS IN WOODS (1-3)
Prerequisites: I A 231, 331. Selection, development, and work under supervision in one of the areas of general woodworking.
- 440 GRAPHIC DESIGN (5)
Prerequisites: I A 341 and 361, or permission of instructor. Principles and application of effective visual communication, design, and reproduction.
- 441 GRAPHIC ARTS MANAGEMENT (5)
Prerequisite: I A 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 I A 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)
Prerequisites: I A 341, 361, Art 291, Psych 320, Econ 338, Soc/Anth 341, Speech 310 and concurrent enrollment in I A 447, 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 ADVANCED UNITS IN GRAPHIC ARTS (1-3)
Prerequisite: I A 340 or permission of instructor. Selected problems in the graphic arts.
- 459 ADVANCED UNITS IN INDUSTRIAL ARTS FOR THE ELEMENTARY SCHOOL (1-3)
Prerequisite: I A 350 or permission of instructor. Developing industrial arts units with emphasis on the relationship between industrial arts and the social studies, language arts, and literature in the elementary school.
- 469 ADVANCED UNITS IN PHOTOGRAPHY (3-5)
Prerequisite: I A 361 or permission of instructor. Problems in photography as related to medical, industrial, commercial, scientific, advertising media.
- 477 THEORY AND OPERATION OF ELECTRONIC TEST EQUIPMENT (4)
Prerequisite: I A 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: I A 371 or permission of instructor. Theory of radio and television transmitters and receivers.
- 479 ADVANCED UNITS IN ELECTRICITY (1-3)
Prerequisite: I A 371 or permission of instructor. Advanced study of problems in electricity involving motors, generators, and electronics.
- 489 ADVANCED UNITS IN POWER MECHANICS (1-3)
Prerequisite: I A 381 or permission of instructor. Planning, completion, and reporting of problems in power mechanics.
- 491 SELECTION AND ORGANIZATION OF SUBJECT MATTER IN INDUSTRIAL ARTS (3)
Curriculum development for teachers of industrial education; problems, techniques, and procedures.

- 493 **THE TEACHING OF INDUSTRIAL ARTS (3)**
Principles and procedures of organizing students, laboratories and instructional materials in teaching industrial type classes.
- 494 **INDUSTRIAL TOURS (1-5)**
Visitation to selected plants in the Pacific Northwest to acquire first-hand understanding of regional industry: analysis of processes, product design, and materials. Summer only.
- 496 **ORGANIZATION AND ADMINISTRATION OF INDUSTRIAL EDUCATION (3)**
Interrelationships of industrial arts, industrial-vocational education, adult education, technical education and apprentice training.
- 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.
- 592 **SUPERVISION AND ADMINISTRATION IN INDUSTRIAL TECHNOLOGY (3)**
The organization of men and equipment for work.
- 594 **SEMINAR IN INDUSTRIAL ARTS (1-5)**
Research in special problems.





LIBRARY SCIENCE

Library Science constitutes an instructional unit attached to the Department of Education. The faculty serving this area include:

Professor: McGaw • *Associate Professors:* Hearsey, Mathes • *Assistant Professors:* Rahmes, Scott

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 24-25 credits

- Library Science 305, 401, 402, 403, 404
- Education 450, 451
- Library Science 308

(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.

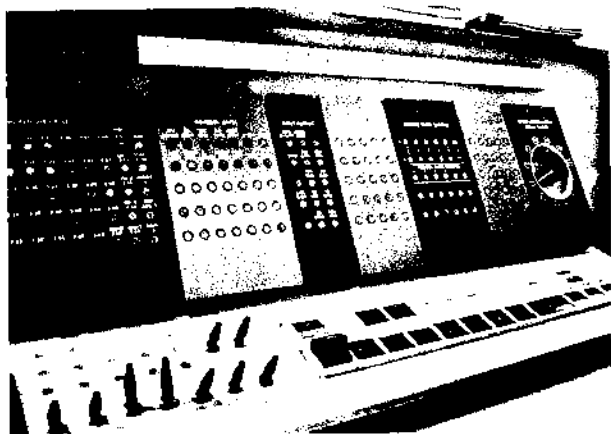
403 BASIC INFORMATION SOURCES (3)

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.

MATHEMATICS



Professors: Abel, Hashisaki (Chairman) • *Associate Professors:* Craswell, Duemmel, Gelder, Hildebrand, McFarland, Mitra, Reay, Rygg, Sanderson, Witter • *Assistant Professors:* Chalice, Faulkner, Gray, Kelley, Levin, Lindquist, McCauley, Kauffman, Read • *Lecturers:* Purtill, Ravnik

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
- Math 321 for 251 in the Elementary Teaching
- One course from the 400 level
- Electives under departmental advisement

Major Secondary 45 credits

- Mathematics 121 (if needed), 122, 222, 223, 483, 224 or 302, 241 or 305, 301, 401 or 410
- Electives from Mathematics 270 and upper division courses under advisement

Minor 24-30 credits

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

Mathematics

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, 224 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, 224

□ Not less than 18 credits in approved courses numbered 400 or above

□ Include either the one year sequence in advanced calculus (325, 425, 426), and 8 credits in modern algebra (401, 402, 403), or 8 credits from the advanced calculus sequence and the one year sequence in modern algebra.

□ 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.

Minor 25 credits

□ Mathematics 121 (if needed), 122, 222, 223

□ Electives from Mathematics 224, 241, 270 and upper division courses 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 325, 331, 401, 402, 403, 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 in 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 301, 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

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.

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.

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, 224 ANALYTIC GEOMETRY AND CALCULUS (5,4,4)

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, 224—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.

251 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.

270 DIGITAL COMPUTER PROGRAMMING (3)

Prerequisites: Math 220, 222, or 240. Machine language, compiler language, and elementary numerical methods; laboratory experience at the Computer Center.*

*The facilities of the Computer Center, including an IBM 1620 Computer, are available to qualified students free of charge for instruction in computer techniques, for research and for general education in computer applications. Mathematics 270 provides basic instruction in the use of the computer.

301 VECTORS AND MATRIX ALGEBRA (4)

Prerequisite: Math 223 or permission of instructor. Linear spaces, subspaces, dimension, linear transformations, matrices of transformations, and determinants.

302 VECTORS AND MATRIX ALGEBRA (4)

Prerequisite: Math 301. Problems and applications of linear algebra, inner products, orthogonality, special linear transformations, application to infinite dimensional spaces.

Mathematics

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)

Prerequisites: Math 270, 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.

310 EUCLIDEAN AND NON-EUCLIDEAN GEOMETRY (3)

Prerequisite: Math 223; not open to students with credit in 400 level mathematics. Metric development of Euclidean geometry, and consideration of non-Euclidean geometries.

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 ADVANCED CALCULUS (4)

Prerequisite: Math 224 or permission of instructor. Real number system; infinite sequences; infinite series; metric spaces, continuity.

331 DIFFERENTIAL EQUATIONS (4)

Prerequisite: Math 224 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.

361 VECTOR ANALYSIS (4)

Prerequisite: Math 224 or permission. Algebra of vectors, vector spaces, vector calculus, line integrals, divergence, curl, Stokes' Theorem, application of vectors to the study of work, potential theory, and fluid flow.

381 INFORMAL GEOMETRY (3)

Prerequisite: Math 251; for elementary teachers. Experimental geometry as models of physical space and geometry as a deductive system.

396a,b,c HONORS TUTORIAL (2 ea)

Prerequisite: permission of department.

399 MATHEMATICS SEMINAR (1-3)

400 SPECIAL PROBLEMS (1-5)

An opportunity for individual study under departmental supervision.

401, 402, 403 INTRODUCTION TO ABSTRACT ALGEBRA I, II, III (4 ea)

Prerequisites: Math 224 and 302, 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.

410, 411 MODERN GEOMETRY I, II (4 ea)

Prerequisite: Math 301 or 401. Synthetic projective planes; collineations, dilatations, translations and similitudes; non-Desarguean planes, non-Fano planes, vertex preserving endomorphisms; introduction of coordinates; Veblen Wedderburn systems, alternate division rings; the fundamental theorem of projective and affine geometry.

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 representations of convex sets in terms of their external structure.

425, 426 ADVANCED CALCULUS (4 ea)

Prerequisite: Math 325; Math 302, 425 prerequisite to 426. Basic concepts in metric spaces; the Riemann integral; derivations; the elementary functions; Taylor series; partial differentiations; implicit function theorem; multiple integrals, Green's theorem.

427 INTRODUCTION TO ANALYSIS (4)

Prerequisite: Math 426. Metric spaces, topological space and concepts.

441, 442, 443 MATHEMATICAL STATISTICS (4 ea)

Prerequisites: Math 301, 325, 425 (or concurrent). Probability theory; development of distributions; generating functions; averages, moments, regression, correlation, variance, and statistical inference.

471, 472, 473 NUMERICAL METHODS (3 ea)

Prerequisites: Math 270, 301 and 331 or permission of instructor. Solution of equations, polynomial approximation, interpolation, error analysis, numerical quadrature, systems of equations, matrices, eigenvalues, least-squares, minimax, ordinary and partial differential equations, boundary value problems.

481 MATHEMATICS IN GRADES 1 THROUGH 8 (4)

Prerequisite: Math 251 or permission of instructor. The teaching of mathematics in terms of objectives and methods of presentation.

483 MATHEMATICS IN THE SECONDARY SCHOOL (3)

Prerequisite: upper division courses in algebra and in geometry. Mathematics content of advanced high school courses from the point of view of the teacher; 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 251. 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.

499 MATHEMATICS SEMINAR (1-3)

500 SPECIAL PROBLEMS (1-5)

Prerequisite: 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.

511, 512, 513 TOPOLOGY (3 ea)

Prerequisite: Math 425. Topological spaces, metric spaces, convergence, connectedness, compactness, product and quotient spaces, function spaces.

521, 522 ANALYSIS (3 ea)

Prerequisite: Math 427 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-Coursat 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.

570 THESIS (variable credit)

590 MATHEMATICS CURRICULUM SEMINAR (1)

Prerequisite: admission to the Master-Teacher program. The mathematics curriculum in the public schools.

597d MODERN GEOMETRY (4)

Foundations of geometry with special emphasis on the algebraic aspects of Desargues's projective plane.

597e,f INTRODUCTION TO DIFFERENTIABLE STRUCTURES (3 ea)

Prerequisite: Math 426 and 427 or permission of instructor. Lebesgue integration in Euclidean space; differentiable manifolds, differential forms, integration on manifolds; Stokes' Theorem.

597g,h INTRODUCTION TO TOPOLOGY (3 ea)

Prerequisite: Math 426 or permission of instructor. Set theory, metric spaces, topological spaces.

598 RESEARCH (variable credit)

599 MATHEMATICS SEMINAR (1-3)

MUSIC



Professors: North (Chairman), Regier
Associate Professors: Detrekoy, Glass, Osborn, Schau), Stoner, Walter, Whitcomb, Scandrett
Assistant Professors: Ager, Hamm, Hinds, Sackri-son, Tercy-Smith
Affiliated: Bussard, Cummings, Reubart, Peterson, Shapiro, Thal, Wicks, Wohlmacher

MUSIC PERFORMANCE

All students majoring in music must be members of the band, orchestra or chorus during each quarter of residence except that quarter in which the student is enrolled in supervised teaching. A maximum of 6 credit hours may be applied toward the major requirements in music; the additional credit hours may be considered as electives.

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.

Minimum applied performance proficiency levels required for entrance to private applied music study are detailed in a bulletin available upon request from the Music Department Office.

THEORY PLACEMENT EXAMINATION

A placement examination is required for all incoming students to determine their correct status

in the theory program. This examination will be given during the first class period of Music 131 at the beginning of the fall quarter. Those not passing will be required to enroll in Music 130 as a prerequisite to Music 131. Additional information can be obtained from the Music Department Office.

CONCERT ATTENDANCE

All music majors and all freshmen enrolled in first year theory courses are required to attend at least six concerts each quarter, with the exception of the quarter spent in supervised teaching, in order to complete their total departmental music program.

PIANO COMPETENCY

All music majors are required to pass a piano proficiency examination. Students who enter as freshmen should pass the examination by the end of their sophomore year and must have fulfilled this requirement no later than the end of their junior year. Transfer students must pass the examination by the end of their first year at this college. The examination may be taken at the end of any quarter; an outline of the requirements covered is available in the Music Department Office.

SCHOLARSHIPS

In addition to general college scholarships several awards are available from off-campus music organizations. For further information consult the Music Department.

TEACHER EDUCATION

Major Concentration 70 credits

This Specialist in Music Education concentration satisfies requirements for both a major and a minor.

- Theory: Music 131, 132, 133, 231, 232, 233
- History: Music 241, 242, 243
- Conducting: Music 310, 311
- Education: Music 351, 462, 464
- Methods: Music 105, 106, 107.

(Those with voice as major instrument should substitute Music 463)

- Music 204, 205, 301, 302; 206 or 303
- Major instrument or voice—eleven quarters
- Major performing group—six credits
- Concert attendance and piano competency requirements as stated above.

Major Elementary 45 credits

- Theory: Music 131, 132, 134
- History: Music 241, 242, 243
- Education: Music 451 or 452
- Methods: Music 105, 106, 107, 204, 205, 301
- Major instrument or voice—6 credits
- Class Piano or applied keyboard—3 credits
- Major performing group—6 credits
- Include Music 351 (for 350) in Elementary Teaching Minor
- Concert attendance and piano competency requirements as stated above.

Minor 25 credits

- Music 105, 131, 132, 134, 463
- Class piano, 3 credits
- Music 242 or 243
- Major performing group, 3 credits

Music

Teaching Competence

Recommendation for teaching competence normally requires completion of the major with a grade average of 2.5 or better. The student must also satisfy the requirement in music performance and concert attendance.

Supervised Teaching

Students enrolling in the 70 credit major will complete a 16 credit supervised teaching assignment in the area of music; those enrolling in the 45 credit elementary major will complete an 8 credit supervised teaching assignment in elementary music and 8 credits in a general elementary assignment.

ARTS AND SCIENCES

Major 76 credits

- Theory: Music 131, 132, 133, 231, 232, 233, 331, 332, 333
- History: Music 241, 242, 243; Music 443 (one course in the series)
- Conducting: Music 310, 311
- Performance: major instrument or voice, 12 credits; secondary instrument or voice, 6 credits; Music 326, 3 credits; major performing groups, 6 credits.
- Concert attendance and piano competency requirements as stated above.

Minor 25 credits

- Theory: Music 131, 132, 133
- History: two courses from Music 241, 242, 243
- Major instrument or voice, 4 credits
- Major performing group, 3 credits

DEPARTMENTAL HONORS

In addition to the general honors requirements, a student planning to graduate "with honors" in

music must complete Music 396a,b,c; Music 401; Music 496a,b,c; and a comprehensive examination. Students qualifying for the Departmental Honors Program may elect either of two areas: Music History and Criticism, or Music Composition and Theory. The area chosen must be realized by a thesis and illustrated by a musical performance.

GRADUATE STUDY

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

COURSES IN MUSIC

101, 102, 103 CLASS PIANO (1 ea)

Prerequisite: each course prerequisite to the next. Fundamental techniques with stress upon sight-reading, accompanying, and literature.

105, 106, 107 CLASS VOICE (1 ea)

Prerequisite: each course prerequisite to the next. Tone production, song repertoire and interpretation for those with little or no previous vocal instruction.

121 COED CHORALE (1)

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, chords, and keys.

131 ELEMENTARY HARMONIC PRACTICE (4)

Prerequisite: passing of *theory placement examination* or Music 130. Review of scales and key signatures; emphasis on intervallic two-part counterpoint; analysis; coordinated singing, listening, and keyboard experiences stressing functional application.

132 ELEMENTARY HARMONIC PRACTICE (4)

Prerequisite: Music 131. Diatonic harmony in root position; phrase structure and chord grouping; analysis.

133 ELEMENTARY HARMONIC PRACTICE (4)

Prerequisite: Music 132. Triad inversion; figured bass; analysis; intervallic counterpoint in three voices.

- 134 **ELEMENTARY HARMONIC PRACTICE (4)**
Prerequisite: Music 132. Terminal course in harmonic practice for the elementary teaching major.
- 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.
- 201, 202, 203 **CLASS PIANO (1 ea)**
Prerequisite: Music 103; each course prerequisite to the next. Intermediate techniques; sonata literature.
- 204, 205, 206 **INSTRUMENTAL TECHNIQUES (1 ea)**
Basic principles and playing techniques of brass, woodwind and percussion instruments.
- 211-215 **INDIVIDUAL INSTRUCTION (1 ea)**
Prerequisite: Minimum Applied Performance Placement audition. See page 114.
211 Organ
212 Piano
213 Strings
214 Band instruments
215 Voice
- 221 **COLLEGE SINGERS (1)**
Open to all interested students who demonstrate the ability to sing mixed voice part-songs.
- 223 **SYMPHONIC BAND (1)**
Open to all students with band experience.
- 227 **WESTERN STATESMEN (1)**
Prerequisite: permission of instructor. Men's choral group.
- 231 **ADVANCED HARMONIC PRACTICE (3)**
Prerequisite: Music 133. Seventh chords; irregular resolution; sequence; introduction to accented dissonances; analysis.
- 232 **ADVANCED HARMONIC PRACTICE (3)**
Prerequisite: Music 231. Modulation; secondary dominants; introduction to chromatic harmony; the period form; analysis.
- 233 **ADVANCED HARMONIC PRACTICE (3)**
Prerequisite: Music 232. Chromatic harmony; modulation; relationship of harmony to larger formal units; analysis.
- 241 **HISTORY OF MUSIC TO 1600 (3)**
Music styles, forms and composers up to 1600; performance of representative compositions.
- 242 **HISTORY OF MUSIC 1600-1800 (3)**
Main styles, forms, composers in 17th-18th centuries; performance of representative compositions.
- 243 **HISTORY OF MUSIC 1800 TO PRESENT (3)**
Main styles, forms and composers from 1800 to the present; performance of representative compositions.
- 301, 302, 303 **STRING CLASS (1 ea)**
Principles and techniques of playing and teaching string instruments.
- 310 **CONDUCTING (3)**
Basic conducting techniques with laboratory experiences in elementary choral and instrumental music.
- 311 **CONDUCTING (3)**
Prerequisite: Music 310. Techniques, score reading, and interpretative analysis for conducting junior high choral and instrumental groups.
- 321 **CONCERT CHOIR (1)**
Selected group experience, vocal ability, reading skill, musicianship, and interest in serious choral music considered for membership.
- 322 **SYMPHONY ORCHESTRA (1)**
Prerequisite: permission of instructor; open to all students who can qualify.
- 323 **CHAMBER BAND (1)**
Prerequisite: participation in Music 223 and permission of instructor.
- 324 **WESTERN SYMPHONIC STRINGS (1)**
Open to all students who can qualify. String orchestra.
- 326 **CHAMBER MUSIC (1)**
Participation in small string and wind ensembles: string trio, quartet, brass and woodwind ensembles; opportunity for performance on and off campus.
- 327 **VOCAL ENSEMBLE (1)**
Prerequisite: permission of instructor. Trios, quartets, and madrigal groups.
- 331, 332, 333 **COUNTERPOINT (3 ea)**
Prerequisite: Music 233. Vocal and instrumental counterpoint from the 16th through the 18th centuries in theory and practice.
- 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.

Music

- 351 ELEMENTARY MUSIC EDUCATION (3)
Prerequisite: Music 133 and music major. Teaching techniques, materials, and organization of the elementary music program; observation and laboratory experience.
- 396a,b,c HONORS TUTORIAL (2-5 ea)
Prerequisite: approval of department.
- 401 HONORS SEMINAR (3)
- 424 OPERA PRODUCTION (1-3)
Admission by audition. Preparation of a major musical production offered for public performance.
- 426 APPLIED CHAMBER MUSIC (2)
Open to string, woodwind, and piano performers by permission of instructor. Summers only.
- 430 HARMONIC STRUCTURE AND FORM (5)
Prerequisite: Music 233. 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, Tchaikowsky, Scriabin.
- 434 PHYSICS OF MUSICAL INSTRUMENTS (3)
Production and transmission of musical tone and the acoustical problems of musical performance.
- 435, 436 COMPOSITION (3 ea)
Prerequisite: Music 233. Writing pieces in part forms, variation form, and sonata form, for solo instruments, voice, and small ensembles.
- 440 COLLEGIUM MUSICUM (1-2)
Musical literature studies from an analytical and performance standpoint; a project is required of those enrolling for 2 credits.
- 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 443d Keyboard Music
443b Solo Song 443e Chamber Music
443c Opera 443f Symphonic Music
Prerequisite: Music 243. 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 INSTRUMENTAL METHODS AND MATERIALS (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 CHORAL METHODS AND MATERIALS (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.
- 496a,b,c HONORS TUTORIAL (2-5)
Prerequisite: permission of department.
- 501 INSTRUMENTAL CONDUCTING AND REHEARSAL TECHNIQUES (3)
Advanced work in conducting school band and orchestra music; baton technique, interpretation, score preparation, and rehearsal techniques.
- 502 CHORAL CONDUCTING AND LITERATURE (3)
Successful 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 musical 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

Professors: Daugert (Chairman) • *Associate Professor:* Karason • *Assistant Professors:* Fleetwood, Lamb, Montague, Morrow, Purill

ARTS AND SCIENCES

Major 45 credits

- Philosophy 111, 112, 113, 202, 220 or 420
- Philosophy 304, 305, 306, 310, 407
- Electives under departmental advisement

Minor 25 credits

- Philosophy 111, 112, 113, 202, 310
- Electives under departmental advisement

TEACHER EDUCATION

Minor 25 credits

- Philosophy 111, 112, 113, 202, 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 LOGICAL THINKING (2)

Signs, symbols, and language in human behavior; the detection of common fallacies, ambiguities, and vagueness; practice in defining.

111 TYPES OF PHILOSOPHY (3)

Major types such as idealism, realism, Thomism, pragmatism, ordinary language; main questions and problems they were designed to solve. Recommended as a first course in philosophy.

112 INTRODUCTION TO TRADITIONAL PHILOSOPHY (3)

Fundamental problems, principles, and methods in the major fields of philosophy; traditional views concerning substance, causality, knowledge, belief, goodness, and duty.

113 INTRODUCTION TO CONTEMPORARY PHILOSOPHY (3)

Major philosophers, great problems and schools of philosophy of the 20th century, including Russell, Wittgenstein and Sartre; Positivism, Existentialism, and Ordinary Language Philosophy.

202 INTRODUCTION TO LOGIC (4)

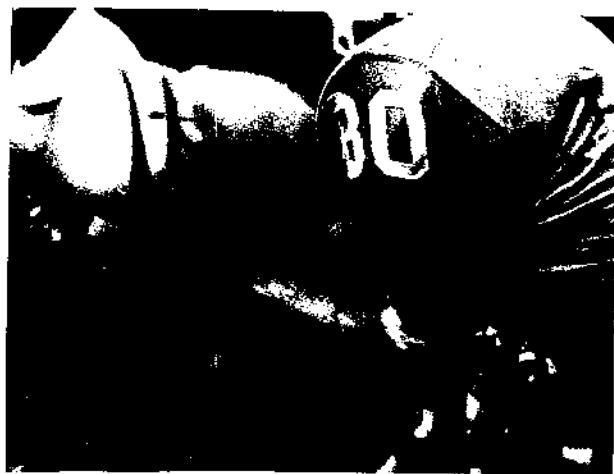
Rules of valid deduction from premises and methods of formulating valid generalizations from experience.

210 PHILOSOPHY AND PERSONAL VALUES (3)

Philosophical and critical exploration of personal values; the literature of personal values, e.g., Nietzsche, Hesse, Fromm, Krutch.

- 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.
- 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)
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)
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)
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)
Emphasis upon post-Kantian idealism with some attention to other significant movements such as utilitarianism, early existentialism, and pragmatism.
- 308 AMERICAN PHILOSOPHY (3)
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.
- 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 AND RECREATION



MEN'S DEPARTMENT

Associate Professors: Lappenbusch, LeProtti, Lounsberry, Tomaras (Chairman)

Assistant Professors: Long, Randall, Wiseman

Lecturer: Emerson

WOMEN'S DEPARTMENT

Associate Professors: Aitken (Chairman), Kilby, Hansen • *Assistant Professors:* Arnett, Gutchow, Shaffer • *Instructors:* Ames, Jacobs

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 has the opportunity to select three activities within the framework of the required program and is encouraged to elect additional courses. The requirements are normally completed in the freshman year.

Men

Students may select one course from three activity categories: aquatics,* developmental, dance, team sports, individual sports, dual sports, or varsity sports. Majors and minors should substitute courses from Physical Education 201m to 209m.

Men's Physical Fitness. Students who fail to meet minimum standards on the physical fitness test are required to enroll in a developmental course.

Women

The Physical Education Placement Test is required of entering students before enrolling in any activity class. Students are then assigned to proper sections of P.E. 102w and aquatics.

One course is to be selected from each of the following:

Movement Fundamentals—P.E. 102w.

Aquatics*—1 credit

*All students must satisfactorily pass the minimum swimming proficiency test or the beginning swimming course. Those who pass the test select another physical education activity course to complete the three-quarter requirement.

Sports and Dance—1 credit (P.E. 120 and 152 may not be used to satisfy this requirement).

Majors and minors in physical education will take P.E. 102w and the professional activities courses to meet their general education requirement.

Women thirty years of age and over may fulfill the above requirements, or work out an individual plan of activities under the guidance of the department.

TEACHER EDUCATION—MEN

Major Secondary 45 credits

- PE 201m, 202m, 203m, 207m, 208m, 209m, 351m
- PE 204m, 205, 302, 303, 308m, 404m, 490
- Health Educ 350 or 450
- Zoology 241
- Electives under departmental advisement

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, softball, swimming, tennis, track, volleyball, weight training, and wrestling. Competence in an activity may be demonstrated by completing the appropriate course with a minimum grade of "C," 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 credits

- PE 201m, 203m, 205, 302, 303, 311, 312, 326, 404m, 490
- Health Educ 252, 350, 450
- Zoology 241
- Electives under departmental advisement

Major Concentration 70 credits

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

- PE 201m, 202m, 203m, 207m, 208m, 209m, 351m
- PE 204m, 205, 302, 303, 306, 308m, 404m, 410m, 490.
- Health Educ 252, 350, 450
- Recreation 201, 250, 412
- Industrial Arts 301
- Eight credits from PE 217, 380m, 381m, 382m, 383m, 384m
- Electives under departmental advisement, some of which may be from other departments.

Minor—Physical Education 25 credits

- Six credits from P E 201m, 202m, 203m, 207m, 208m, 209m
- P E 204m, 205, 308m, 351m, 404m
- Electives under departmental advisement

Minor—Athletic Coaching 25 credits

(This minor is not open to P E majors)

- P E 204m, 302, 343m, 406m
- Zoology 241
- 10 credits from P E 217, 351m, 380m, 381m, 382m, 383m, 384m

Minor—Health Science 25 credits

- Health Education 252, 350, 450
- Biology 447; Zoology 243
- Home Economics 150
- Two courses under advisement from Biology 247, 371, Zoology 241, 261, 262

Physical Education

TEACHER EDUCATION—WOMEN

Major Secondary 48 credits*

- P E 102w, 201w, 202w, 203w, 207w, 208w, 209w
 - P E 205, 302, 305w, 320, 342w, 402, 404w, 405
 - Health Education 252
 - Zoology 241 and 243, or Zoology 248-249
- P E 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.

Major Elementary 48 credits*

- P E 102w, 201w, 202w, 203w, 207w, 208w, 209w
 - P E 205, 302, 311, 312, 326, 402, 403
 - Health Educ 252; Zool 241, 243, or 248-249
 - Two credits under departmental advisement
- Also recommended: Health Education 350 and inclusion of Educ 326 in the elementary minor

Major—Dance 48 credits *

- P E 102w, 202w, 208w, 209w
 - P E 205, 226, 228, 229, 302, 305w
 - P E 306 or 326, 320, 324, 325, 405, 425
 - Zoology 241-243 or Zool 248-249
- Additional recommended courses: P E 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)

- P E 102w, 201w, 202w, 203w, 207w, 208w, 209w
 - P E 205, 302, 305w, 311, 312, 320, 326, 342w
 - P E 402, 403, 404w, 405
 - Health Education 252, 350, 450
 - Biology 447; Home Economics 150
 - Zoology 248-249 or 241 and 243
- Additional recommended courses: Rec 250, P E 303, 490

Minor—Physical Education 28 credits*

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

Minor—Dance 25 credits

- P E 121, 123, 126, 226, 228, 229, 320, 324, 325, 425
- Philosophy 405
- Electives under departmental advisement

Minor—Health Science 25 credits

- Health Education 252, 350, 450
- Home Econ 150; Biology 447
- Zoology 248-249 or 241 and 243
- One or more credits from Biol 345, 371, Health Ed 352, Home Econ 250, Zoology 262

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.

*Includes satisfaction of 3 credit general education requirement

ARTS AND SCIENCES — MEN AND WOMEN

Major—Recreation (Men) 85 credits

- Rec 201, 250, 301, 302, 412
- 8 credits from Rec 450, 451, 452
- P E 201m, 202m, 207m, 208m, 209m
- P E 205, 216, 217, 306, 351m
- Ind Arts 240, 301; Health Educ 252
- Econ 101; Soc/Anth 201, 366
- Speech 330; Educ 450
- 13 credits from: Psych 351, 352, 440; Econ 271; Music 350; Biol 251, 252
- Electives under departmental advisement

Major—Recreation (Women) 85 credits

- Recreation 201, 250, 301, 302, 412
- 8 credits in Recreation 450, 451, 452
- P E 202w, 207w, 208w, 209w
- P E 205, 305w, 306, 320
- Health Education 252
- Supporting Courses: 1 A 301, Mus 350, Psych 351, 352, 440; Soc 201, Spch 330; 17 credits under advisement from one or two concentrations in art, music, dance, drama, outdoor education, or sports and aquatics.

Minor—Health Science 25 credits

- Biology 447; Zoology 241-243, or 248-249
- Health Educ 350; Home Econ 150
- Two courses under advisement from Health Educ 252, 450; Biol 371; Chem 115; Zool 261, 262

Minor—Dance 25 credits

- P E 121, 123, 126, 226, 228, 229, 320, 324, 325, 425
- Philosophy 405
- Electives under departmental advisement

Minor—Recreation (Women) 25 credits

- 6 credits from P E 202w, 207w, 208w, 209w
- PE 306
- Recreation 201, 250, 412, 450 (3 credits)
- Electives under departmental advisement

GRADUATE STUDY

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

ACTIVITIES COURSES (1 ea)

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
- 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

(See also PE 216 and 217 which are applicable to the aquatics requirement)

Physical Education

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

- 182w Intercollegiate Basketball
- 183m Varsity Track
- 183w Intercollegiate Softball
- 184m Varsity Wrestling
- 185m Varsity Golf
- 186m Varsity Tennis
- 186w Intercollegiate Tennis
- 188m Varsity Swimming

130-139 DUAL SPORTS

- 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 136, 137

140-149 TEAM SPORTS

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

150-161 INDIVIDUAL SPORTS

- 150 Archery
- 151m Apparatus, Stunts & Tumbling
- 151w Gymnastics, Tumbling & Rebound Tumbling
- 152 Beginning Bowling (Bowling alley fee \$6)
- 154 Beginning Golf
- 155 Intermediate Golf
- 156m Track & Field
- 156w Track & 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.

180-189 VARSITY SPORTS

- 180m Varsity Football
- 181m Varsity Basketball
- 181w Intercollegiate Hockey
- 182m Varsity Baseball

PROFESSIONAL COURSES

- 201m, 202m, 203m PROFESSIONAL ACTIVITIES (2 ea)
 - 201m Team Sports
 - 202m Individual Sports
 - 203m Aquatics (prerequisite: intermediate level swimmer)

Open to freshmen majors or minors.

- 201w, 202w, 203w PROFESSIONAL ACTIVITIES (2 ea)

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

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

- 204m ATHLETIC INJURIES AND TRAINING (3)

Treatment for injuries common to the playfield, gymnasium, and athletic field; training and safety measures for prevention of injuries; procedures for building physical stamina; experience in taping procedures.

- 205 HISTORY OF PHYSICAL AND HEALTH EDUCATION AND RECREATION (3)

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

- 207m PROFESSIONAL ACTIVITIES—TRACK AND PHYSICAL CONDITIONING (1)

Open to freshman majors and minors.

- 208m PROFESSIONAL ACTIVITIES—WRESTLING AND WEIGHT TRAINING (2)

Open to freshman majors and minors.

- 209m PROFESSIONAL ACTIVITIES—DANCE IN THE PUBLIC SCHOOLS (1)

Open to freshman majors and minors.

- 207w, 208w, 209w PROFESSIONAL ACTIVITIES (2 ea)

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

Required of sophomore majors and minors in P.E.

- 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.
- 226 RHYTHMIC ANALYSIS (2)
Prerequisite: P E 125. Inherent factors of rhythm; application of rhythmic analysis to all forms of movement including sports, dance, and aquatics.
- 228 DANCE PRODUCTION (2)
Prerequisite: P E 125. Practical experience in formulating, developing, and presenting dance programs.
- 229 DANCE COMPOSITION (2)
Prerequisite: P E 125. Lectures and laboratory in the fundamentals of composition emphasizing theme and development; preclassical dance forms, modern dance forms.
- 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. Application of physiological facts to the problems of conditioning; relation to physical activities.
- 305w METHODS AND MATERIALS FOR TEACHING SPORTS (4)
Prerequisites: P E 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: P E 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: P E 311. Selected children's games and activities for development of fundamental sports skills.
- 320 METHODS AND MATERIALS FOR TEACHING DANCE (3)
Prerequisites: P E 120, 122, 125, or equivalent. Teaching modern, folk, social, and square dancing.
- 324 THEORY AND PRACTICE OF CONTEMPORARY DANCE (2)
Prerequisites: P E 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 (2)
Principles, techniques and practice of officiating in team sports for men.
- 351m TEACHING GYMNASTICS (1)
Prerequisite: P E 151m. Intermediate performance skills, with opportunity for each student to teach several basic stunts and calisthenics.
- 380m COACHING FOOTBALL (3)
Theory and appreciation of football, with methods and materials of organization.
- 381m COACHING BASKETBALL (3)

Physical Education

- 382m COACHING BASEBALL (2)
- 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.
- 402 BODY MECHANICS AND CORRECTIVE PHYSICAL EDUCATION (3)
Prerequisites: Zool 241 or equivalent; P E 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)
Prerequisite: Psych 352; P E 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: P E 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: P E 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: P E 205, 306, and 305w or 308m. Scientific and philosophical principles related to physical education, its purposes, scope, and curriculum.
- 406m THE ADMINISTRATION OF ATHLETICS (2)
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.
- 407w SEMINAR IN GIRLS' PHYSICAL EDUCATION ACTIVITIES (3)
Prerequisite: teaching experience. Summer only.
- 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.
- 425 HISTORY AND PHILOSOPHY OF THE DANCE (3)
Historical and philosophical development of the dance and its relation to other arts from primitive man through the contemporary period.
- 430 ADVANCED TECHNIQUES AND TEACHING IN INDIVIDUAL SPORTS (3)
Prerequisite: P E 305w, or teaching experience. Special techniques for teaching dual and individual sports to the highly skilled. Summers only.
- 490 TECHNIQUES FOR EVALUATING PHYSICAL ABILITIES (3)
Prerequisites: Psych 371 and permission of instructor. Application of measurement theory to physical education; selection and administration of appropriate tests and interpretation of results.
- 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.
- 497f WORKSHOP IN COACHING MEN'S AND WOMEN'S TRACK AND FIELD, TENNIS, AND BASKETBALL (2)
Prerequisite: teaching experience. Advanced technique in coaching for secondary teachers, both men and women. Summer 1967.
- 497g TEACHERS' WORKSHOP IN CREATIVE GYMNASTICS FOR CHILDREN (2)
For elementary teachers and physical educators. Techniques for developing creativity in basic movement patterns through the use of hand apparatus and gymnastic equipment. Summer 1967.
- 498 STRAIGHT LINE PHILOSOPHY (3)
Administration of human conduct in activities as straight-line enclosures. Not limited to those with athletic experience.

- 499 **PHYSICAL FITNESS AND THE PUBLIC SCHOOL (3)**
Prerequisite: senior or graduate status or teaching experience. Organization and development of physical fitness programs in the public schools.
- 500 **PROBLEMS IN PHYSICAL EDUCATION (2-5)**
For teachers with experience in physical education. 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, P E 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)**
Design and construction 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: P E 501, Educ 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

- 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)**
Prerequisites: H Ed 252 or a current advanced American Red Cross First Aid Certificate; minimum age 20 years. 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.
- 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: P E 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), Bender, Lahti, Lindsay • *Associate Professors:* Brown, Rupaal, Veit • *Assistant Professors:* Dittrich, Johansen, Sprague

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

- One course from Physics 407, 408, Gen Sci 405
- Physical Science 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
- Electives, 3 credits
- Supporting courses: 15 credits in mathematics

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, 343, 371, 381, 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, 224, 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, 342, 343, 371, 381, 382, 471, 472 and other upper division electives; Mathematics 222, 223, 270, 301, 302, 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.

- Mathematics 121, 122, 222, 223, 224, 270, 301, 325, 331, 332, 425, 426
- 8 credits selected from Math 361, 371 and approved 400 level courses (at least 4 credits in the latter)
- Physics 231, 232, 233, 341, 342, 343, 371, 381, 471, 472

Physics

- 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, 131, 132, 133, 155, 231, 232, 233, 235, 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 ASTRONOMY (3)

Prerequisite: 1½ years high school algebra or Mathematics 100. The real and apparent motion of stars; the solar system and its origin.

130 INTRODUCTORY PHYSICS (3)

Prerequisite: Math 100 or 151 or 1½ years high school mathematics. Introduction to classical topics in physics including mechanics, optics, electricity, magnetism, and atomic structure; demonstrations.

131 PRINCIPLES OF PHYSICS (4)

Prerequisite: Physics 130 or one year high school physics. Students who have completed Physics 101 may be admitted with departmental approval. Particle mechanics and wave motion.

132 PRINCIPLES OF PHYSICS (4)

Prerequisite: Physics 131; Math 220 or equivalent introductory calculus prerequisite or concurrent. Topics from kinetic theory, optics and atomic physics.

133 PRINCIPLES OF PHYSICS (4)

Prerequisite: Physics 132. Electricity and magnetism; modern physics.

155 ELEMENTARY ELECTRONICS (2)

Prerequisite: 1½ years high school algebra or Mathematics 100 or 151, or permission of instructor. A.C. and D.C. current and circuits, principles of electron tubes and their use as rectifiers, amplifiers, and oscillators.

205 INTRODUCTION TO STELLAR ASTRONOMY (3)

Prerequisite: 1½ 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)

Prerequisite: 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; Math 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 relationships between atmospheric phenomena and the nature of matter as expressed in the principles of gravitation, thermodynamics, hydrodynamics and electrodynamics.

335 PHYSICAL OPTICS (4)

Prerequisite: one year college physics and Mathematics 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 including kinematics and dynamics of a particle; motion of a system of particles; conservative systems.

342, 343 ANALYTICAL MECHANICS (3 ea)

Prerequisites: Physics 341, Math 331 (or concurrent). The Lagrangian and Hamiltonian formulations of mechanics, dynamics of a rigid body, vibration theory and the continuum theory of matter.

355 INTRODUCTION TO ELECTRONIC CIRCUITS (3)

Prerequisite: Math 222, Physics 371 or 255 or permission of instructor. R-C and transformer coupled amplifiers, power amplifiers, feed back 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.

381 INTRODUCTION TO ATOMIC AND NUCLEAR PHYSICS (4)

Prerequisite: 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)

Prerequisite: 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 PHYSICS SENIOR LABORATORY (2)

Prerequisite or concurrent: Physics 341. Experiments in mechanics.

402 PHYSICS SENIOR LABORATORY (2)

Prerequisite or concurrent: Physics 371, 381. Experimentation in electricity, magnetism, and atomic physics.

403 PHYSICS SENIOR LABORATORY (2)

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)

Prerequisite: 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.

Physics

451 INTRODUCTION TO NUCLEAR STRUCTURE (2)

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 Mathematics 331; Physics 471 prerequisite to Physics 472. Potential theory, Maxwell's field equations, Fresnel's equations for isotropic dielectrics, introduction to the theory of wave guides, dipole and quadrupole radiation, electro-magnetic field of a moving charge, the Lienard-Wiechart potentials, classical electron theory.

481, 482, 483 INTRODUCTION TO QUANTUM MECHANICS (3 ea)

Prerequisite: Physics 343, 371, 381; Math 331, 332; each course in the sequence prerequisite to the next. Elementary theory of quantum mechanics including particles and waves, the Schroedinger theory; perturbation theory, multielectron atoms, magnetic moments, spin and relativistic effects, identical particles and the Pauli principle, X-rays, collision theory, and introduction to nuclear physics.

485, 486, 487 INTRODUCTION TO THEORETICAL PHYSICS (3 ea)

Prerequisite: Physics 343, 472; Math 331, 332; each course in the sequence prerequisite to the next. Basic mathematical tools needed by the theoretical physicists; classical mechanics, Lagrangian and Hamiltonian formulations, variational methods in mechanics, theory of linear transformations.

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.

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 including the Kepler problem in action angle variables; application of the integral invariants of Poincaré and of Lagrange and Poisson brackets, infinitesimal contact transformations; small oscillations; Lagrangian and Hamiltonian formulations for continuous systems.

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; topics in wave propagation.

581, 582 QUANTUM THEORY (3 ea)

Prerequisite: 45 credits in physics including 483 and 487, Physics 581 prerequisite to 582. Advanced concepts in quantum theory including matrix formalism, quantization of the electromagnetic field, the Dirac theory of the electron, the interaction of radiation with matter.

591, 592, 593 RELATIVITY THEORY (3 ea)

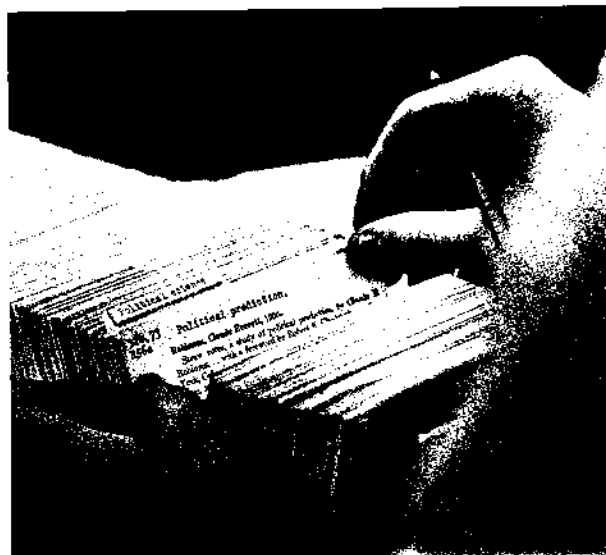
Prerequisite: 45 credits in physics including Physics 487. Special relativity mechanics and electrodynamics in Physics 591; design theory of high energy particle accelerators in Physics 592; general relativity theory including planetary motion, electrodynamic formulations, and brief reviews of the status of unified field theories in Physics 593.

598 GRADUATE SEMINAR (1-3)

599 RESEARCH (3-9)

Prerequisites: permission of instructor and department chairman. Investigation of an original problem in physics under supervision.

POLITICAL SCIENCE



Professors: Vernon (Chairman), Wuest • *Associate Professors:* Clarke, Dickson, Hebal, Payne • *Assistant Professor:* Weiner • *Instructors:* Kepl, Ziegler

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, 401, 402, 403, 404, 405, 406, 407, 453

Political Dynamics: Political Science 340, 345, 440, 442, 450, 453, 455

Public Administration: Political Science 253, 320, 345, 420, 421, 422, 423, 424, 425, 428, 453, 455

Public Law: Political Science 310, 315, 410, 411, 428

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

International Relations: Political Science 375, 376, 406, 411, 472, 474, 475

History 203, 204 and Economics 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

TEACHER EDUCATION

Major Secondary 45 credits

- Political Science 101, 250, 270
- Eight or more credits from each of *three* of the areas listed under the Arts and Sciences major.

Political Science

Minor 25 credits

- Political Science 101, 250, 270
- Five credits from each of *two* areas selected under departmental advisement.

Teaching Competence

Recommendation for teaching competence normally requires completion of the major with a grade average of 2.5 or better.

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 3.5 in upper division political science courses.

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)
Special areas of human interest and activity in political science and their relationship to government in the modern world.
- 250 AMERICAN NATIONAL GOVERNMENT (5)
Principles and institutions of national government; its main functions.

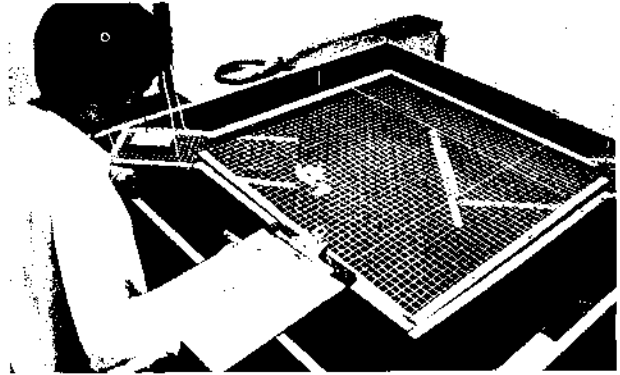
- 253 STATE AND LOCAL GOVERNMENT (5)
Prerequisite: Pol Sci 250 or permission of instructor. Sub-national levels of government and inter-governmental relations; legislative, executive, and judicial authorities; the electoral process.
- 270 INTERNATIONAL POLITICS (5)
Prerequisite: Pol Sci 250 or permission of instructor. Basic principles and forces in international relations with emphasis on the nation-state, nationalism, and international order.
- 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 440, 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 AND ELECTIONS (5)
Prerequisite: Pol Sci 101 and 250, or permission of instructor. Nature and functions of political parties; electoral methods.
- 345 GOVERNMENTAL AND POLITICAL PROBLEMS OF WASHINGTON (3)
Prerequisite: Pol Sci 250 and 253, or permission of instructor. Governmental and political issues of the State of Washington
- 360 INTRODUCTION TO POLITICAL THEORY (5)
Prerequisite: Pol Sci 101, Gen Educ 121 or History 105 or permission of instructor. Origin and evolution of major concepts in Western political thought from Pericles to Machiavelli.
- 375 FOREIGN POLICIES OF MAJOR POWERS (3)
Prerequisite: Pol Sci 270 or permission of instructor. Foreign policies of major powers other than the United States.

- 376 AMERICAN FOREIGN POLICY (3)
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 GOVERNMENT AND POLITICS OF GREAT BRITAIN (3)
Prerequisites: Pol Sci 101 or permission of instructor. Analysis of the British system of government.
- 402 GOVERNMENTS AND POLITICS OF WESTERN EUROPE (3)
Prerequisite: Pol Sci 101 or permission of instructor. Political systems of France, West Germany, Switzerland and/or other countries.
- 403 GOVERNMENT OF THE SOVIET UNION (3)
Prerequisite: Pol Sci 101 or permission of instructor. The political system of the U.S.S.R. emphasizing constitutional theory and practice, the Communist party, and the position of the individual.
- 404 GOVERNMENTS AND POLITICS OF LATIN AMERICA (3)
Prerequisite: Pol Sci 101 or permission of instructor.
- 405 THE MIDDLE EAST (3)
Prerequisite: Pol Sci 101 or permission of instructor. Outstanding political, cultural, and governmental problems of the Middle East.
- 406 GOVERNMENT AND POLITICS OF CANADA (3)
Prerequisite: Pol Sci 101 or permission of instructor. Canadian government and politics; problems such as federalism and position in the Commonwealth.
- 407 GOVERNMENTS AND POLITICS OF THE FAR EAST (3)
Prerequisite: Pol Sci 101 or permission of instructor. The political systems of China and Japan, and other selected countries of the Far East.
- 410 THE SUPREME COURT AND CIVIL RIGHTS (3)
Prerequisite: 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 (3)
Prerequisite: one of the following: Political Science 101, 250, Soc/Anth 201, Geog 341, permission of instructor. Problems related to the "exploding metropolis," alternative forms of "metro" government, and critical urban problems.
- 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.
- 440 THE LEGISLATIVE PROCESS (3)
Prerequisite: Pol Sci 101 and 250 or 253 or 340 or permission of instructor. Interaction of executives, administrators, parties, pressure groups, the press, and public in the legislative process at both national and state levels.
- 442 POLITICAL BEHAVIOR (3)
Prerequisite: Pol Sci 340 or permission of instructor. Human action in political settings, with emphasis on social class analysis, voting, and legislative behavior.
- 450 PUBLIC OPINION (3)
Prerequisites: Pol Sci 250 and 340, or permission of instructor. Nature, formation, and role of public opinion; government in the forming of public opinion.

Political Science

- 453 COMPARATIVE LOCAL GOVERNMENT (3)
Prerequisite: Pol Sci 253 or 409 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 (3)
Prerequisite: Pol Sci 253 or permission of instructor. Systems below the state or provincial level, including city, village, county, and rural.
- 461 POLITICAL THEORY: RENAISSANCE AND MODERN (3)
Prerequisite: Gen Educ 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 Educ 123 or Hist 106 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 (3)
Prerequisite: 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.
- 472 THE DEVELOPING COUNTRIES (3)
Prerequisite: Pol Sci 270 or permission of instructor. The newly independent and/or politically and economically underdeveloped nations.
- 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)
- 499 SENIOR SEMINAR: APPROACHES TO THE STUDY OF POLITICS (3)
Prerequisite: 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: Adams, Budd, Harwood, Kuder, Meade, Nugent, Woodring • *Associate Professors:* Blood, Diers, Elich, Jones, Kintz, MacKay, Mason, Meyer (Chairman), Namikas, Straughan, Thompson, Wilkins • *Assistant Professors:* Carmean, Finneran, Lippman, Panek, Reck, Tyler

TEACHER EDUCATION

Major Elementary 45 credits in addition to professional requirements

- Psychology 201, 301, 302
- Electives; recommended courses include Psych 313, 400, 402, 407, 423, 440; others may be approved by Departmental advisers

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, 407, 408, 409
- One course from Psych 421, 422, 423
- Supporting courses: Philosophy 113, Soc/Anth 201 and one of the following sequences:
 - a. Chemistry 121, 122, 251
 - b. Chemistry 115, 251, and one course from c,d,e
 - c. Physics 131, 132, 133 or 231, 232, 233
 - d. Math 220, 241, 270
 - e. Zool 241-243 or 261-262; and one course from Biology 301, 371, Zool 363 or 366

Recommended additional electives: one year of a foreign language, Philosophy 411, Psych 406, upper division mathematics or science courses.

Students planning master's degree work in psychology should consult the *Graduate Bulletin* for prerequisite courses.

Minor 24 credits

- Psychology 201, 301
- Two courses from Psych 302, 313, 320, 352, 402, 403, 407, 408, 409, 413, 440, 473
(Psych 403, 407, 409 are recommended for biology majors; Psych 320 for economics majors)

Psychology

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 in a demonstrated reading knowledge in French, German, or Russian.

GRADUATE STUDY

For concentrations in psychology leading to the Master of Education or the Master of Arts 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)

Prerequisite: Gen Ed 105. Examination of basic psychological processes utilizing results of research investigations.

301 EXPERIMENTAL PSYCHOLOGY I (5)

Prerequisite: Psych 201. Introduction to experimental methodology in psychology and treatment of results. Lectures and laboratory.

302 EXPERIMENTAL PSYCHOLOGY II (5)

Prerequisite: Psych 301. Design and conduct of psychological research investigations and statistical treatment of results; individual research project; lectures and laboratory.

303 ADVANCED GENERAL PSYCHOLOGY (4)

Prerequisites: Psych 201; Psych 373 prerequisite or concurrent. The use of quantitative techniques in behavioral analyses; lectures and laboratory. Discontinued after 1967-1968.

313, (452) 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. Application of psychological principles to industrial problems of personnel selection and appraisal, human relations, marketing, training and engineering psychology.

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)

Prerequisite: psychology major or minor; upper division status. 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.

373 ELEMENTARY STATISTICAL INFERENCE (3)

Prerequisite: Math 240 or departmental examination (see department for preparatory study program). Statistical procedures and informed reading or original research. Also offered as Education 373.

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)

Psych 301 or 303. Experimental findings, and theoretical interpretations of the biological and psychological aspects of motivation, lectures and laboratory.

403 (302) COMPARATIVE PSYCHOLOGY (5)

Prerequisites: Psych 301 or 303; Biol 101. Phylogenetic comparison of animal behavior, learning, motivation, and sensory processes in selected species of animals; lectures and laboratory.

407 PERCEPTION (5)

Prerequisite: Psych 301 or 303. Sensory processes and stimuli necessary to perception; perceptual theory, classical and contemporary. Lectures and laboratory.

408 LEARNING (5)

Prerequisite: Psych 301 or 303. Students with credit in Psych 351 admitted by department approval only. Major principles of learning, empirical evidence underlying them, and their theoretical interpretation; lectures and laboratory.

409 PHYSIOLOGICAL PSYCHOLOGY (5)

Prerequisites: Psych 301 or 303; Zool 248-249. Biological foundations of behavior; lecture and laboratory.

411 (464) PSYCHOPATHOLOGY (3)

Prerequisite: Psych 313. Psychoses, neuroses, and other forms of behavior deviation; conceptions regarding these conditions.

413 (594) FOUNDATIONS OF PSYCHOLOGICAL MEASUREMENT (3)

Prerequisite: Psych 301. Theory basic to construction and application of psychological tests and scaling techniques.

421 (406) 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 (405) 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)

Prerequisite: 15 credits in psychology and senior status. Roles of teacher, principal, psychologist, counselor, and other specialists in an integrated program; guidance and counseling techniques.

440 SOCIAL PSYCHOLOGY (5)

Prerequisites: Psych 201 and 10 credits in psychology, or 5 credits in psychology and 10 credits in sociology/anthropology. The human as a social animal.

453 INDIVIDUAL DIFFERENCES (3)

Behavioral differences among individuals.

459 SEMINAR IN EDUCATIONAL PSYCHOLOGY (1)

Prerequisite: successful completion of Independent Study Program.

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 permission of instructor. Standardized group tests commonly used in the public schools; selection and administration of tests; interpretation of norms.

473 ADVANCED STATISTICAL INFERENCE (3)

Prerequisite: Psych 301. Advanced methods for analysis of research data: advised for students who wish to pursue graduate training in psychology. Also offered as Education 473.

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

497g HUMAN LEARNING AND LANGUAGE (3)

Prerequisite: permission of instructor. Laboratory investigations concerning language, learning and the evolution of modern techniques for studying, thinking, and creativity.

497h OPERANT BEHAVIOR (5)

Prerequisite: permission of instructor.

497j CHILD PSYCHOPATHOLOGY (3)

Prerequisite: permission of instructor. Theory and research relating to childhood psychological problems; traditional and recent treatment methods.

500 SPECIAL PROBLEMS (1-3)

Prerequisite: permission of instructor.

501a,b PRO-SEMINAR IN PSYCHOLOGICAL FOUNDATIONS (4 ea)

501a perception, physiological, comparative, learning; 501a prerequisite to 501 b. 501b developmental, social, personality, abnormal.

Psychology

- 511 INSTRUMENTATION FOR PSYCHOLOGICAL RESEARCH (1)
Typical technological solutions to problems encountered in original research; lecture and laboratory.
- 522 SEMINARS IN PSYCHOLOGY (3)
Prerequisite: Psychology 501. Topics vary from quarter to quarter.
- 531a,b SUPERVISED PRACTICE IN COUNSELING (3)
Prerequisite: permission of instructor. Supervised experience with selected cases in a college, school or agency; a—college level, b—public school or community agency.
- 532 PSYCHOLOGICAL CASE WORK SEMINAR (3)
Prerequisite: Psychology 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.
- 533 COUNSELING THEORY AND PRACTICE (3)
Prerequisites: Psych 452, 536, and permission of instructor. Counseling and clinical interview with laboratory opportunity for the development of interviewing skills.
- 536 INTRODUCTION TO COUNSELING PSYCHOLOGY (3)
Prerequisite: Psych 431 and permission of instructor. Theories of psychological counseling as they relate to philosophical positions, social conditions, personality, and learning theory.
- 548 FIELD INTERNSHIP IN SCHOOL PSYCHOLOGY (0-3)
Prerequisites: Psych 578 and permission of department. Provision for an academic year of college-supervised work in school psychology. Arrangements must be made in cooperation with the school administration involved.
- 555 ADVANCED CHILD PSYCHOLOGY (3)
Prerequisite: Psych 352 or equivalent. Research and theory in the field of child development and behavior.
- 556 PSYCHOLOGY OF ADOLESCENCE (3)
Prerequisite: Psych 352 or equivalent. Advanced study of development characteristics, behavior problems, personal and social adjustments of children and youth, with implications for secondary education and guidance programs.
- 571 INDIVIDUAL APPRAISAL IN COUNSELING (3)
Prerequisites: Psych 373 or equivalent and Psychology 431 and permission of instructor. The collection, evaluation, application, and interpretation of data available to the school counselor.
- 572 INDIVIDUAL INTELLIGENCE TESTS (5)
Prerequisites: Psych 373 and permission of instructor. Theory and principles underlying the construction of individual intelligence tests; supervised practice in the administration of tests.
- 577 ADVANCED CLINICAL PROCEDURES AND REPORT WRITING (3)
Prerequisites: Psych 572 and permission of instructor. Clinical appraisal with special attention to value and limitations of personality and interest measures.
- 578 SUPERVISED PRACTICE IN SCHOOL PSYCHOLOGY (3)
Prerequisites: Psych 577 and permission of instructor. Diagnostic and interpretative work with selected cases under direct supervision.
- 591 PSYCHOLOGY OF OCCUPATIONS (3)
Prerequisites: Psych 431 and permission of instructor. Sources of occupational materials, theories of career development; applications to vocational counseling.
- 592, 593 DESIGN AND ANALYSIS OF EXPERIMENTS (3 ea)
Prerequisite: Psych 473; 592 prerequisite to 593. Multidimensional analysis of variance, trend analysis, and analysis of covariance.
- 594 MULTIVARIATE ANALYSIS (3)
Prerequisite: Psych 413, 473. Topics in correlation theory and application including factor analysis and regression analysis.
- 596a,b,c REVIEW OF PSYCHOLOGICAL APPRAISAL AND TREATMENT (2 ea)
Prerequisite: permission of instructor.
596a Survey of Intelligence and Aptitude Tests. Prerequisite: a course in principles of psychological testing. Research and theory related to more widely used individual and group tests.
596b Survey of the Techniques of Personality Evaluation. Objective and projective personality tests for children and adults.
596c Survey of Therapeutic Practices and Clinical Procedures. Major systematic approaches to psychotherapy; critical evaluation of use of drugs, shock, psychosurgery, hypnosis and other special techniques.
- 599 THESIS (6)

SOCIOLOGY- ANTHROPOLOGY



Professors: Mazur, Taylor • *Associate Professors:* Anastasio, Bosch, Call (Chairman), Harris
Assistant Professors: Douglas, Drake, Grabert, Thomas • *Instructors:* Clinton, Moser
Lecturers: Paulus, Tweddell,

TEACHER EDUCATION

Major Elementary 45 credits

- Soc/Anth 200, 201, 202, 370 or 375
 - One course from Sociology/Anthropology 390, 391, 425, 431 or 401
 - One course from Sociology/Anthropology 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 courses: Psych 440, Math 240 or equivalent

Minor—Sociology-Anthropology

25 credits

- Sociology/Anthropology 200, 201, 202
- Electives under departmental advisement

Sociology-Anthropology

Minor—Linguistics 25 credits

- Linguistics 200, 201, 301, 302, 303
- Sociology/Anthropology 448
- Electives under departmental advisement

DEPARTMENTAL HONORS

In addition to the general requirements for all honors students, a sociology/anthropology major who wishes to graduate "with honors" must demonstrate a reading knowledge of a foreign language and submit a senior thesis.

COURSES IN SOCIOLOGY-ANTHROPOLOGY

200 HUMAN EVOLUTION AND PREHISTORY (5)

The development of man; human origins and prehistory; criteria and theories of race classification; human diffusion, contacts and problems.

201 CULTURE AND SOCIETY (5)

Prerequisite: Gen Educ 105 or permission of instructor. 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.

311 WORLD DEMOGRAPHY (5)

Prerequisites: Math 240 and Soc/Anth 201, 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)

Prerequisite: 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.

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; Math 240 or equivalent. 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)**401 SEMINARS (3)**

Prerequisite: permission of instructor. Selected topics.

401h HONORS SEMINAR

Prerequisite: permission of instructor.

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.

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 (1900-1960); 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.

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.

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.

483 SOCIAL CHANGE AND THE MORAL ORDER IN RECENT LITERATURE (4)

Also offered as English 483 and Philosophy 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-archaeology; 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.

496a,b,c HONORS TUTORIAL (3-5 ea)

SPEECH



Professors: Brewster, Carlile (Chairman) • *Associate Professors:* Herbold, Napiecinski, Schinske
Assistant Professors: Flanders, Sigler, Webb
Instructors: Adams, Catrell, Cornelison, Engdahl, Smith, Webb, Wilkinson • *Lecturer:* Pring

TEACHER EDUCATION

Major—General Classroom
Elementary 45 credits

- Speech 130, 201, 204, 233, 330, 430
- Speech 331 or 433, 355, 357, 361, 373, 484
- Electives under departmental advisement

Major—Speech Therapist 45 credits

- One course from: Speech 201, 204, 205
- Speech 233, 330, 350, 355, 373, 461
- Six credits in clinical practice
- Electives under departmental advisement
- Supervised teaching under supervision of a speech therapist. Supervised teaching in a general classroom must precede this experience.

Major Secondary 45 credits

- Speech 105, 130, 201, 204 or 205, 236, 305
- Speech 350, 355, 373, 437, 485
- Electives under departmental advisement

Minor 25 credits

- Speech 105, 130, 201, 236, 373, 437, 485
- One course from Speech 204, 205, 206
- Electives under departmental advisement

ARTS AND SCIENCES

Major 50 credits

- Speech 130, 201, 233 or 341, 355, 373
- 20 credits in *one* of the following areas, plus six credits in each of the other two areas:

Theatre: Speech 230, 231, 232, 236, 237, 238, 320, 330, 331, 332, 333, 334, 336, 338, 421, 422, 424, 425, 426, 427, 430, 433, 437, 438

Public Address: Speech 202, 204, 205, 206, 207, 208, 305, 335, 401, 478, 480, 490

Speech Therapy: Speech 350, 356, 357, 358, 359, 360, 361, 454, 455, 456, 457, 458, 459, 461, 462, 463

Minor 25 credits

- Speech 130, 201, 233, 340 or 341, 355, 373
- Electives under advisement from the areas listed in the major.

GRADUATE STUDY

For a concentration in 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.
- 105 VOICE AND ARTICULATION IMPROVEMENT (2)
Open to majors and minors in speech. Laboratory work designed to improve articulation and increase voice proficiency in the classroom, on the stage, and lecture platform, and in everyday life.
- 130 INTRODUCTION TO THE THEATRE (3)
Appreciation of the art of theatre, cinema, and television; play analysis, play production, and dramatic criticism.
- 200 SPEECH ANALYSIS (3)
Prerequisite: Speech 100. Analytical study of the speech process enabling the student to improve his own speech and to deal more intelligently with the speech problems of others.
- 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)
Prerequisite: Speech 100. Fundamentals of effective participation in small problem solving groups with topics of current interest.
- 205 ARGUMENTATION AND DEBATE (3)
Prerequisite: Speech 100. Application of principles of reasoned discourse to public discussion of controversial issues; the theory of debate.
- 206, 207, 208 INTERCOLLEGIATE FORENSICS (1-3 ea)
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 THE ACTED DRAMA (1-3 ea)
Admission by tryout only. Participation in plays offered for public production. Three credits may be allowed for major work, with 1 or 2 credits for minor parts or responsibilities; a maximum total of 6 credits may be earned in these courses.
- 233 ORAL INTERPRETATION (3)
Practice in reading prose, poetry, and drama to determine the logical and emotional meaning of a selection and to project that meaning to listeners.
- 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 in the actual application of make-up for students working in activities involving stage production.
- 305 PERSUASION (3)
Prerequisite: at least one 200 level course in public address. The principles that influence the belief and action of audiences; application of these principles.
- 310 ORAL-GRAPHIC COMMUNICATION (2)
Prerequisite: Speech 100. Learning to coordinate oral and graphic communication techniques by presenting speeches involving several types of visual materials.
- 320 SHAKESPEARE (5)
A survey of the principal plays. Also offered as English 343.
- 330 INTRODUCTION TO CHILD DRAMA (3)
Children's theatre, creative dramatics, puppetry; history, value, philosophy and literature of child drama; its uses in theatre, speech therapy, education and recreation.

Speech

- 331 PUPPETRY (3)
Design, construction, and manipulation of puppets; their use in productions for the child audience, in speech therapy, in elementary education, and as a craft for children.
- 332 BEGINNING ACTING (3)
Prerequisite: Speech 233. 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.
- 338 COSTUMING (3)
The history of costume and its adaptation to the needs and limitations of the stage; laboratory work on dramatic production.
- 340 INTRODUCTION TO MASS COMMUNICATION MEDIA (3)
Development of mass media; their role in society; freedom of information; laws of libel; the communication process; audiences.
- 341 BROADCAST SPEECH (3)
Prerequisite: Speech 340 or permission of instructor. Laboratory practice before the microphone and camera; applying the methods of oral communications to the broadcast media.
- 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, 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.
- 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.
- 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.)
- 424 MODERN AMERICAN DRAMA (3)
American theatre, from O'Neill to World War II.
- 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.
- 433 **CHILDREN'S THEATRE (3)**
Prerequisite: Speech 330. Plays for children; play selection, play direction, and play production.
- 437 **PLAY DIRECTION (3)**
Theory and practice of stage direction, including play selection, casting, and blocking.
- 438 **ADVANCED PLAY DIRECTION (3)**
Prerequisite: Speech 437. Continuation of Speech 437, with special emphasis on working with the actor.
- 441 **PRODUCING AND DIRECTING THE BROADCAST PROGRAM (3)**
Prerequisite: Speech 341 or permission of instructor. Program production and directing for radio and television with emphasis on educational broadcasting.
- 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)**
Prerequisites: Speech 360. Supervised clinical practicum dealing with more complex cases.
- 461 **INTRODUCTION TO HEARING (3)**
Prerequisites: Speech 355, 356, 373. 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 **HEARING REHABILITATION (3)**
Prerequisite: Speech 461. Principles, procedures, and techniques of auditory training, speech conservation, speech reading, and language development for the aurally handicapped.
- 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)**
Prerequisite: senior or graduate status. Functions of language; ways in which language is used; its relationship to thought and action.
- 480 **THE HISTORY AND CRITICISM OF AMERICAN PUBLIC ADDRESS (3)**
Prerequisite: some background in American history. Principal speakers from Jonathan Edwards to the present day; their relationship to American political, social, and intellectual life.
- 484 **SPEECH FOR THE ELEMENTARY TEACHER (3)**
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 proposed by Aristotle, Quintilian, and Cicero, and the relationship of those principles to modern speech-making.
- 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.

Speech

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.

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.

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 DIAGNOSTIC METHODS IN SPEECH THERAPY (3)

Prerequisites: 15 credits in speech and hearing therapy. Materials, procedures, techniques and instruments used in diagnosing speech disorders.

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.

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 ten programs:

General Education	Linguistics
General Science	Physical Science
Geophysics	Science Education
Honors	Social Studies Education
Journalism	VICOED (Visual Communication Education)

GENERAL EDUCATION

Each candidate for the Bachelor of Arts and the Bachelor of Arts in Education degree is required to complete General Education courses as outlined on pages 40-41.

English 100, 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.

General Education courses given as departmental offerings include Biology 101, Chemistry 101, English 100, 101, Geography 101, Geology 101, Mathematics 151, Physics 101, Speech 100, and various physical education activities.

Descriptions of these courses are included in the respective departmental sections.

COURSES

(Interdepartmental, designated as General Education.)

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 (7 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.

131, 132, 133 HUMANITIES I, II, III (8 ea)

The same as General Education 121, 122, 123, with the addition of work in English composition. This three quarter sequence also satisfies the requirements of English 100 and 101.

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 SURVEY OF AFRO-ASIA (2)

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 Geography 331

□ Geology 211, 311

□ 3 to 8 credits from: Biol 301, 371, Botany 252 Zool 243, 261, 262, or one of the field courses: Biology 240, Botany 253, or Zoology 263

□ Electives under advisement,* with a minimum of 11 credits (including the above) in each of the science fields: physical, biological, geological.

*Dr. W. A. Brown of the Physics Department is the adviser for this major.

Interdepartmental Programs

Major Concentration 70 credits

This concentration satisfies both the major and the minor for junior high school teachers.

- Physical Science—25 credits under advisement including Phys Sci 492 and Physics 131, 132, 133 or equivalent.
- Biology and Geology—25 credits in one field and 15 credits in the other; courses are to be selected under departmental advisement* and must include Biology 493 or Geology 390.
- Electives under advisement to bring the total to 70 credits

*Dr. W. A. Brown of the Physics Department is the adviser for this major.

COURSES IN GENERAL SCIENCE

405 HISTORY OF SCIENCE (3)

Prerequisite: 30 credits in biological and/or physical science. The nature, methods, and development of science and the role of science in society; recommended for all science majors.

GEOPHYSICS

Major Concentration 110 credits

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

- Mathematics 122, 222, 223, 224, 331
- Geology 211, 212, 305, 306, 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 who are enrolled in the Honors Program.

- 151, 152, 153 TUTORIAL (2 ea)
- 161 SCIENCE COLLOQUIUM (2)
- 162 HUMANITIES COLLOQUIUM (2)
- 163 SOCIAL-SCIENCE COLLOQUIUM (2)
- 251, 252, 253 TUTORIAL (2 ea)
- 261 SCIENCE COLLOQUIUM (2)
- 262 HUMANITIES COLLOQUIUM (2)
- 263 SOCIAL-SCIENCE COLLOQUIUM (2)
- 290 SUMMER READINGS (2)
- 300 INDEPENDENT STUDY (variable credit)

- 361 SCIENCE COLLOQUIUM (2)
- 362 HUMANITIES COLLOQUIUM (2)
- 363 SOCIAL SCIENCE COLLOQUIUM (2)
- 390 SUMMER READINGS (2)
- 400 INDEPENDENT STUDY (variable credit)
- 461 SCIENCE COLLOQUIUM (2)
- 462 HUMANITIES COLLOQUIUM (2)
- 463 SOCIAL SCIENCE COLLOQUIUM (2)
- 490 SUMMER READINGS (2)

JOURNALISM

Minor

(Teacher Education or Arts and Sciences)
24 credits

- Journalism 104, 240, 304, 311, 312, 313, 411, 412, 413
- Speech 340
- One course from: English 302, 303, Industrial Arts 360, or Speech 341

This minor is offered unly in conjunction with approved majors; such majors as English, history, or political science are appropriate. See Department of English for advisement and approval.

COURSES IN JOURNALISM

- 104 NEWSWRITING (3)
Writing for newspapers; news elements and values, gathering news, structure and style of news stories; covering speeches and meetings, interviewing.
- 240 LAW OF THE PRESS (3)
Legal guarantees and limitations of the right to gather and publish news and to comment on it.
- 304 ADVANCED REPORTING (3)
Prerequisite: Journalism 104 or permission of instructor. Assignments in scientific writing, depth reporting, editorial writing; includes off-campus assignments.
- 311, 312, 313 NEWSPAPER STAFF (1 ea)
Prerequisite: Journalism 104, 240. Practice in writing copy for the college newspaper.

- 411, 412, 413 NEWSPAPER EDITING (2 ea)
Prerequisites: Journalism 311, 312, 313. Advanced assignments in editing and writing copy for the college newspaper.

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 200, 201, 301, 302, 303

Additional work according to department chosen:

- English (Arts and Sciences)—add English 391, 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.

Advisement and approval of programs should be sought from the department concerned.

COURSES IN LINGUISTICS

- 200 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.
- 201 METHODS IN COMPARATIVE LINGUISTICS (3)
Prerequisite: Linguistics 200. Principles of language typology, linguistic geography, comparative method, and historical reconstruction.

Interdepartmental Programs

- 301 PHONEMICS (3)
Prerequisite: Linguistics 200. Theory, methods, and problems of phonemic analysis and description.
- 302 MORPHEMICS (3)
Prerequisite: Linguistics 200. Theory, methods, and problems of morphemic analysis and description.
- 303 SYNTAX AND GRAMMATICAL THEORY (3)
Prerequisite: Linguistics 200. Comparative survey of modern theories of grammar with special reference to syntax.

PHYSICAL SCIENCE

Major Secondary 45 credits

- General Science 405
- Chemistry 121, 122, 127 and 128 (or 131), 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. W. A. Brown of the Physics Department is consulting adviser.

COURSES IN PHYSICAL SCIENCE

- 382 PHYSICAL SCIENCE FOR THE ELEMENTARY SCHOOL (3)
Prerequisite: science general education requirements or equivalent. Use of experiments, demonstrations, and reading to achieve selected objectives in teaching.
- 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 interdepartmental category.

Questions relating to these courses should be directed to Dr. W. A. Brown of the Physics Department, Coordinator of Science Education.

COURSES IN SCIENCE EDUCATION

- 380 SCIENCE FOR THE ELEMENTARY SCHOOL (5)
Prerequisite: general education requirements in science and mathematics. Selected generalizations and processes in science adaptable to the elementary school; classroom-laboratory study of "new" curricula with observation and participation in a clinical situation.
- 480 SPECIAL PROJECTS IN SCIENCE FOR THE ELEMENTARY SCHOOL (2-5)
Prerequisites: Biol 101 and one course for the elementary school, or teaching experience; permission of instructor.
- 490 SPECIAL PROJECTS IN SCIENCE TEACHING IN THE JUNIOR AND SENIOR HIGH SCHOOL (2-5)
Prerequisites: Phys Sci 492 or Biol 493; permission of instructor.
- 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.
- 580 SPECIAL PROBLEMS IN SCIENCE TEACHING IN THE ELEMENTARY SCHOOL (2-5)
Prerequisites: teaching experience and permission of instructor. Problems concerning content, utilization of community resources, materials of the environment, development of special areas for instruction, integration with other activities in the school program, and organization of courses of study.
- 582 IMPROVEMENT OF SCIENCE INSTRUCTION IN THE ELEMENTARY SCHOOL (2-5)
Developing science programs for a particular school system and reorganizing science instruction.

- 590 SPECIAL PROJECTS IN SCIENCE TEACHING IN THE JUNIOR AND SENIOR HIGH SCHOOL (2-5)
Prerequisites: permission of instructor and teaching experience.
- 592 IMPROVEMENT OF SCIENCE INSTRUCTION IN THE JUNIOR AND SENIOR HIGH SCHOOL (2-5)
Developing a science program to meet the needs and circumstances of a specific school situation.

SOCIAL STUDIES EDUCATION

For advisement or approval of these majors, students should consult the chairman of the Department of History.

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: 14 credits concentrated in one field: geography, history, political science, or sociology-anthropology.

Major Elementary 45 credits

- History 203, 204; Geography 201, 311
- Sociology-Anthropology 201
- Political Science 250 or Economics 201
- Electives—17 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 2.0 or better.

COURSES

- 425 SOCIAL STUDIES FOR THE ELEMENTARY SCHOOL (3)
The incorporation of social science concepts in the social studies program.
- 426 SOCIAL STUDIES FOR THE SECONDARY SCHOOL (3)
Choice and adaptation of materials of instruction to the junior and senior high school level.
- 497a HISTORY OF SOME PEASANT CULTURES (3)
Examination of five peasant cultures in terms of their political, economic, social, religious and geographic dimensions, in historical perspective. Extension, 1967.

VISUAL COMMUNICATION EDUCATION

Under the sponsorship of the Ford Foundation, Western Washington State College is undertaking two interdisciplinary pilot programs in Visual Communication Education. These were implemented in the Fall of 1966 as test programs. No additional programs in this field will be initiated until these have been tested. Cooperating departments are: Art, Chemistry, Economics and Business, English, Industrial Arts, Physics, Psychology, Sociology-Anthropology, and Speech.

FOUR-YEAR PILOT TEACHER EDUCATION PROGRAM

(Admission by approval of the Director of the VICOED Project.)

This program leads to the Bachelor of Arts in Education degree and a provisional teaching certificate. It is designed to prepare teachers competent to instruct in the visual communication area in the high school and the community college. The program includes: (1) the General Education requirements outlined on pages 40-41 with Mathematics 121 and Chemistry 115 selected from

Interdepartmental Programs

the alternate courses; (2) the professional education sequence outlined on page 42; (3) the following concentration to satisfy the major-minor requirements:

- Art 101, 102, 195, 371,
- Chemistry 208, 209
- Economics 338
- English 202 or Journalism 104
- Industrial Arts 240, 340, 341, 360, 361, 379, 447, 448, 493
- Mathematics 122
- Physics 130 or 131
- Psychology 320
- Sociology-Anthropology 431
- Speech 310, 340

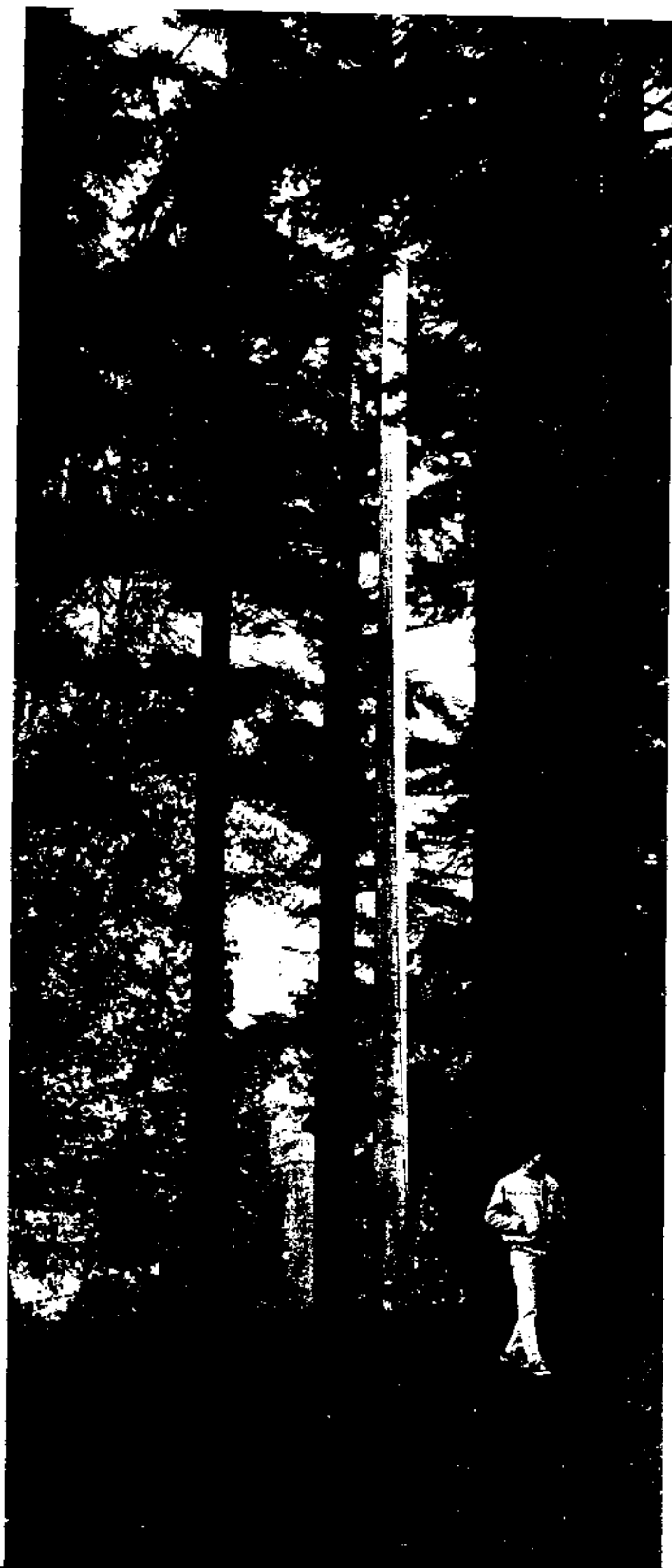
See departmental sections of the Catalog for descriptions of these courses.

TWC-YEAR PILOT TECHNOLOGY PROGRAM

(Admission by approval of the Director of the VICOED Project.)

This program is designed to prepare the student to enter industry upon completion of the sequence or to transfer to the teacher education program without undue loss of time or credit.

- Art 101, 102, 371
- Chemistry 115
- Economics 251, 335, 338
- English 100, 101, 202 or Journalism 104
- General Education 105
- Industrial Arts 210, 240, 340, 360, 361, 379, 447
- Mathematics 121, 122
- Physical education activities, three quarters.
- Physics 130 or 131
- Psychology 320
- Speech 100, 310, 340
- 9-15 credits in one of these areas: industrial graphics, graphic design, graphic arts, photography, professional writing.



COLLEGE PERSONNEL

BOARD OF TRUSTEES

David Sprague, M.A.	Seattle
Burton A. Kingsbury, LL.B.	Bellingham
Joseph T. Pemberton, LL.B.	Bellingham
Marshall Forrest, J.D.	Bellingham
Bernice M. Hall, B.A. in Ed.	Bellingham

COLLEGE ADMINISTRATION

Charles J. Flora, Ed.D.
President—Acting

Charles J. Flora, Ed.D.
Academic Dean

J. Alan Ross, Ph.D.
Dean of Graduate School and the Summer Session

Herbert C. Taylor, Ph.D.
Dean for Research and Grants

James H. Hitchman, Ph.D.
Dean of Students

Joe E. Nusbaum, B.A.
Business Manager

R. D. Brown, Ph.D.
Associate Academic Dean

Charles W. Harwood, Ph.D.
Dean of Fairhaven College

Don F. Blood, Ph.D.
College Examiner

J. Arnold Bricker, M.P.A.
Administrative Assistant to the President

Gerald W. Brock, B.S.
Director of Housing

Richard E. Coward, B.A. in Ed.
Assistant Director of Financial Aids

Timothy B. Douglas, M.S.
Assistant Director of Residence Hall Programs

F. Richard Feringer, Ed.D.
Director of Continuing Studies

Donald A. Ferris, M.A.
Director of Teacher Education Advisement and Certification

Harold A. Goltz, M.A.
Director of Campus Planning and Development

Jack N. Griffin, B.B.A.
Project Fiscal Officer

Ernest E. Harper
Chief Engineer in Educational Media

William T. Hatch, M.A.
Director of Financial Aid and Student Advisement

Robert E. Holz, A.M.T.
Director of Computer Center

Halldor Karason, Ph.D.
Director of General Studies

Samuel P. Kelly, Ph.D.
Director of Honors Program

Donald R. Kjarsgaard, Ph.D.
Assistant to the Academic Dean

Kermit Knudtson, B.A.
Controller

Louis T. Lallas, M.Ed.
Assistant Registrar

Robert Lawyer, Ph.D.
Acting Director of the Library

Herbert S. Litzinger, B.S.
Director of Physical Plant

C. W. McDonald, M.A.
Dean of Men

Calvin A. Mathews, M.A.
Associate Registrar and Coordinator of College Relations

Gerson F. Miller, M.A.
Advisor to Student Publications

James H. Mulligan, M.A.
Director of Public Information

Eugene Omev, M.A.
Director of Admissions

William J. O'Neil, M.Ed.
Registrar

Lorraine Powers, M.A.
Dean of Women

Frank N. Panches, M.A.
Director of Educational Placement

Hal Riehle, M.A.
Director of Educational Media

Ray Romine, B.S.
Assistant Director of Student Activities—Residence Halls

Ernest Sams
Financial Planning Officer

George L. Steer, B.S.
Director of Campus Security

Robert W. Thirsk, B.A. in Ed.
Assistant Director of Admissions

Douglas P. Wasko, M.Ed.
Director of Student Activities and the Student Union

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.

Hazel Breaky
Assistant Professor Emeritus of Art. B.S., graduate work, Teachers College, Columbia University; graduate of California College of Arts and Crafts, Oakland; Carnegie Scholarship University of Oregon.

May Lovegren Bettman
Instructor Emeritus in Commercial Studies. Vashon College; Washington State University; Western Michigan College of Education, Kalamazoo; Western Washington State College.

Mira E. Booth

Assistant Professor Emeritus of Music. B.A., University of Washington; M.A., Teachers College, Columbia University; University of Southern California.

Dorothy D. Button

Assistant Professor Emeritus of Education. B.A., University of California; University of Washington; M.Ed., Western Washington State College.

Linda Countryman

Associate Professor Emeritus of Home Economics. B.S., Milwaukee-Downer College; M.A., Teachers College, Columbia University; University of Chicago.

Nora B. Cummins

Professor Emeritus of Political Science and History. B.A. University of Minnesota; M.A., Columbia University; Northern Normal and Industrial School.

Irene Elliott

Assistant Professor Emeritus of Education. B.S., M.A., Columbia University.

Georgia P. Gragg

Instructor Emeritus of Commercial Studies and Handwriting. Western Washington State College; A.N., Palmer School of Penmanship.

Irwin A. Hammer

Professor Emeritus of Education. University of Toulouse, Toulouse, France; B.A., Park College; M.A., University of Colorado; University of Minnesota; University of Chicago; Ed.D., Teachers College, Columbia University.

Raymond F. Hawk

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

Thomas F. Hunt

Associate Professor Emeritus of Geography. B.A. University of Minnesota; M.A., Clark University; University of Chicago; University of California.

Lucy Kangley

Professor Emeritus of English. B.A., M.A., University of Washington; Ph.D., Columbia University; Cambridge University; University of London; University of Minnesota; University of Colorado.

Priscilla Kinsman

Assistant Professor Emeritus of Education. Ph.B., University of Chicago; M.A., Teachers College, Columbia University; University of Washington.

Ruth Platt

Associate Professor Emeritus of Zoology. B.S., M.S., University of Washington; University of California.

Hazel Jean Plympton

Associate Professor Emeritus of Art. Ph.B., University of Chicago; M.A., Teachers College, Columbia University; Reed College; Portland School of Art.

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. Sunquist

Distinguished Service Professor Emeritus of the College. B.A., M.S., University of Washington; Teachers College, Columbia University.

Ruth Weythman

Professor Emeritus of Physical Education. B.S., University of Washington; M.A., Teachers College, Columbia University; University of California, Berkeley; University of Tennessee.

1967-68 FACULTY

(The following list is complete as of June 1 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.

*On leave 1967-68

- *Henry L. Adams (1957)
Professor of Psychology. B.A., M.A., University of Kentucky; Ph.D., University of Illinois.
- Philip Ager (1965)
Assistant Professor of Music. B.A. in Ed., Western Washington State College; M.A., University of Washington.
- Margaret Aitken (1946)
Associate Professor of Physical Education and Chairman of the Department. B.A., University of Washington; M.A., Ed.D., Teachers College, Columbia University.
- Evelyn E. Ames (1964)
Instructor of Physical Education. B.S., University of Nevada; M.S., Washington State University.
- Angelo Anastasio (1955)
Associate Professor of Anthropology and Sociology. A.A., Boston University; M.A., Ph.D., University of Chicago.
- Meidel Applegate (1964)
Assistant Professor of Art. A.B., M.A., University of California, Berkeley; M.A., San Diego State College; Ed.D., University of California, Berkeley.
- *Chappelle Arnett (1960)
Assistant Professor of Physical Education. B.S., Centenary College; M.S., Purdue University.
- Randall S. Babcock (1967)
Assistant Professor of Geology. A.B., Dartmouth College; M.S., University of Washington.
- Herbert LeRoy 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.
- Guadalupe Garcia Barragon (1965)
Assistant Professor of Spanish. M.A., New Galicia.
- Robert E. Barton (1967)
Instructor of English. B.A., M.A., Washington State University.
- Vedat Baydar (1967)
Associate Professor of Economics. B.A., M.B.A., Ph.D., Academy of Economic and Commercial Sciences, Istanbul, Turkey.
- Horace O. Beldin (1965)
Associate Professor of Education. B.S., M.S., University of Oregon; Ph.D., Syracuse University.
- William Bender (1960)
Professor of Physics. B.A., M.S., University of Colorado; Ph.D., Yale University.
- Marion Besserman (1952)
Associate Professor of Chemistry. B.S., University of Washington; M.S., Purdue University; Ph.D., University of Washington.
- Barbara Bieler (1965)
Assistant Professor of Home Economics. B.S., M.H.Ed., Oregon State University.
- *Thomas Billings (1964)
Associate Professor of Education. B.S., Ph.D., University of Oregon.
- Terence G. Birtles (1967)
Visiting Lecturer in Geography. B.A., University of Queensland.
- Richard T. Bishop (1966)
Lecturer in Education. Ph.B., University of Chicago; M.A., Michigan State University.
- Joseph E. Black (1967)
Assistant Professor of Industrial Arts. B.S., Lehigh University; B.M.E., M.M.E., Cooper University, New York; Ph.D., Lehigh University.
- Don F. Blood (1951)
Associate Professor of Psychology and College Examiner. B.A. in Ed., Central Washington State College; M.A., Ph.D., State University of Iowa.
- Elden A. Bond (1966)
Professor of Education and Acting Chairman of the Department. A.B., University of Washington; M.A., Ph.D., Teachers College, Columbia University.
- James W. Bosch (1967)
Associate Professor of Sociology-Anthropology. B.A., San Francisco State College; M.A., Ph.D., Stanford Univ.
- Eileen C. Bouniol (1966)
Assistant Professor of French and Spanish. A.B., A.M., Indiana University; Ph.D., University of Missouri.
- Elizabeth Bowman (1966)
Assistant 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.

*On leave 1967-68

Laurence W. Brewster (1948)
Professor of Speech. B.A., Yankton College; M.A., Ph.D.
Iowa State University.

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)
Assistant Professor of German. B.A., M.A., University of
British Columbia.

Don W. Brown (1954)
Associate Professor of Education. B.S., M.A., University
of Nebraska; Ed.D., Colorado State College.

Edwin H. Brown (1966)
Assistant Professor of Geology. A.B., Dartmouth College;
M.S.C., University of Otago; Ph.D., University of Cal-
ifornia, Berkeley.

Herbert A. Brown (1967)
Assistant Professor of Biology. B.A., Univ. of California,
Los Angeles; Ph.D., Univ. of California, Riverside.

Robert D. Brown (1965)
Professor of English and Associate Academic Dean.
A.B., M.A., Ph.D., Indiana University.

Willard A. Brown (1966)
Associate Professor of Physics. B.S., University of Wash-
ington; 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)
Instructor of History. A.B., St. Joseph College; M.A.,
University of Pennsylvania.

*William A. Bultmann (1965)
Professor of History. A.B., Ph.D., Univ. of California, L.A.

Sene R. Carlile (1947)
Professor of Speech and Chairman of the Department.
B.A., B.S., Fort Hays, Kansas State College; M.A., Col-
orado State College; Ph.D., University of Wisconsin.

Donald J. Call (1958)
Associate Professor of Sociology and Chairman of the
Department. B.A., M.A., Ph.D., University of Oregon.

*On leave Spring 1968

Nick Arthur Callen (1967)
Instructor of Library Science and Catalog Librarian.
B.A., M.L.S., University of Oklahoma.

Clara J. Carmean (1965)
Lecturer in Humanities. M.A., University of Illinois.

Stephen L. Carmean (1964)
Assistant Professor of Psychology. B.A., M.A., Ph.D.,
University of Illinois.

**Katherine M. Carroll (1958)
Associate Professor of Education. B.S., Salem State Col-
lege; Ed.M., Ed.D., Boston University.

Meredith B. Cary (1964)
Assistant Professor of English. B.A., Central Missouri
State College; M.A.L.S., University of Michigan; M.A.,
Michigan State University.

Katherine M. Casanova (1932)
Associate Professor of Education. B.S., M.A., Teachers
College, Columbia University.

Dennis E. Catrell (1966)
Instructor of Speech. B.A., University of Michigan; M.A.,
Northern Illinois University.

Moyle F. Cederstrom (1935)
Professor of English. B.A., M.A., University of Minnesota;
Ph.D., University of Washington.

Donald R. Chalice (1967)
Assistant Professor of Mathematics. B.A., University of
Wisconsin; M.A., Northwestern University.

Sea Bong Chang (1964)
Associate Professor of Chemistry. B.S., Armed Forces
College, Korea; M.A., Duke University; Ph.D., Massa-
chusetts Institute of Technology.

Edna Channer (1940)
Associate Professor of Industrial Arts. B.A., University of
Washington; M.A., University of Iowa.

Donald R. Christensen (1967)
Instructor of History. B.A., University of Massachusetts;
M.A., University of Arizona.

Robert Christman (1960)
Associate Professor of Geology. B.S., M.S., University
of Michigan; Ph.D., Princeton University.

Edwin R. Clapp (1960)
Professor of English. A.B., Stanford University; M.A.,
Ph.D., Harvard University.

**On leave Fall 1967

- David E. Clarke (1966)
Associate Professor of Political Science. B.A., M.A., Trinity (Cambridge); Ph.D., Stanford University.
- Charles A. Clinton (1967)
Instructor of Anthropology. B.A., Western Washington State College; M.A., University of Kansas.
- Nita Clothier (1964)
Lecturer in Humanities. B.A., M.Ed., Western Washington State College.
- Gayle Cornelison (1966)
Instructor of Speech. B.A., Long Beach State College; M.A., University of Kansas.
- Keith Craswell (1966)
Associate Professor of Mathematics. B.S., M.S., Ph.D., University of Washington.
- Howard J. Critchfield (1951)
Professor of Geography and Chairman of the Department. B.A., M.A., Ph.D., University of Washington.
- Stanley M. Daugert (1962)
Professor of Philosophy and Chairman of the Department. A.B., M.A., Ph.D., Columbia University.
- Gordon L. Davies (April 1968)
Visiting Lecturer in Geography. B.A., M.A., Manchester; M.A., University of Dublin.
- Roland L. DeLorme (1966)
Assistant Professor of History. A.B., University of Puget Sound; M.A., University of Pennsylvania; Ph.D., University of Colorado.
- Bela Detrickoy (1967)
Associate Professor of Music. Academy of Music Diploma; Diploma of International Competition.
- William M. Dickson (1967)
Associate Professor of Political Science. B.A., University of Minnesota; M.S., Utah State University; Ph.D., Stanford University.
- 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)
Assistant Professor of Physics. B.S., M.S., University of Washington.
- Marjorie Donker (1967)
Instructor of English. B.A., Western Washington State College; M.A., University of Washington.
- Mihailo Dordevic (1967)
Assistant Professor of Foreign Languages. M.A., University of Belgrade; Ph.D., University of Paris.
- Lawrence Douglas (1964)
Assistant Professor of Sociology. B.A., M.A., University of British Columbia; Ph.D., University of London.
- George F. Drake (1967)
Assistant Professor of Sociology. B.A., M.A., University of California, Berkeley.
- Maurice A. Dube (1963)
Assistant Professor of Biology. B.S., Washington State University; M.S., Ph.D., Oregon State University.
- James E. Duemmel (1966)
Associate Professor of Mathematics. B.A., M.A., Ph.D., Ohio State University.
- Don J. Easterbrook (1959)
Associate Professor of Geology and Chairman of the Department. B.S., M.S., Ph.D., University of Washington.
- Lowell P. Eddy (1957)
Associate Professor of Chemistry. B.S., M.S., Oregon State University; Ph.D., Purdue University.
- William L. Edgerton (1967)
Associate Professor of English; B.A., University of Pennsylvania.
- Peter J. Elich (1961)
Associate Professor of Psychology. B.A., University of Washington; M.Ed., Western Washington State College; Ph.D., University of Oregon.
- Frederick 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.
- William E. Elmendorf (1958)
Assistant Professor of Russian and Spanish. B.S., University of Puget Sound; M.A., University of Washington.

Fred Emerson (1966)

Lecturer in Men's Physical Education. B.A. in Ed., Western Washington State College.

Lynn H. Engdahl (1966)

Assistant Professor of Speech. B.A., M.A., University of the Pacific.

John E. Erickson (1964)

Associate Professor of Biology. B.A., University of Omaha; A.M., Indiana University; Ph.D., University of Oregon.

Leland W. Farley (1965)

Instructor of English. A.B., Whitman College; M.A., Montana State University.

*J. Kay Faulkner (1962)

Assistant Professor of Economics. B.S., Ph.D., University of Utah.

Marilynn L. Faulkner (1966)

Assistant Professor of Mathematics. B.Sc., M.Sc., Ph.D., University of Alberta.

F. Richard Feringer (1962)

Associate Professor of Education and Continuing Studies and Director of 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.

Jacqueline Finneran (1967)

Assistant Professor of Psychology. A.B., University of California, Berkeley; M.A., San Jose State College.

Mark W. Flanders (1952)

Assistant Professor of Speech. 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 Academic Dean. B.S., Purdue University; M.Ed., Ed.D., University of Florida.

Ione A. Foss (1957)

Assistant Professor of Art. B.S., M.A.A., Montana State College; M.F.A., University of Oregon.

Richard J. Fowler (1965)

Assistant Professor of Industrial Arts. B.A., M.S., Washington State University.

Andrew J. Frank (1962)

Professor of Chemistry and Chairman of the Department. B.S., M.S., Ph.D., University of Illinois.

Thomas Frazier (1964)

Assistant Professor of Library Science and Head Catalog Librarian. B.A., M.A., M.L.S., University of Washington.

Virginia Galloway (1967)

Lecturer in Education. B.S., Miner Teachers College.

*Harvey M. Gelder (1948)

Associate Professor of Mathematics. B.A., Colorado State College; M.A., University of Missouri.

Jerome Glass (1955)

Associate Professor of Music. B.S., New York University; M. Mus., University of Southern California.

Alexandre Goulet (1966)

Professor of French. Baccalaureat es lettres, Laval University; Baccalaureat es Arts, Joliette College; Doctorate d'nniversite, University of Paris.

Garland F. Grabert (1967)

Assistant Professor of Sociology-Anthropology. B.A., M.A., University of Washington.

Neil R. Gray (1964)

Lecturer in Mathematics. B.A., San Francisco State College; M.S., Ph.D., University of Washington.

Monica C. Gutchow (1960)

Assistant Professor of Physical Education. B.S., University of Oregon; M.F.A., University of North Carolina.

Richard T. Haard (1967)

Assistant Professor of Biology. A.A.S., State University of New York; B.S., University of Georgia; M.S., Ph.D., Kansas State University.

Byron E. Haglund (1956)

Associate Professor of Economics. B.B.A., M.A., University of Minnesota; C.P.A., Washington, D.C., and State of Washington.

Jacob Hamm (1967)

Assistant Professor of Music. Teacher's Certificate, London Teachers' College; B.M., John Brown University; M.M., Eastman School of Music.

*On leave 1967-68

*On leave 1967-68

Alta J. Hansen (1961)

Associate Professor of Physical Education. B.S., Pacific University; M.S., Ph.D. University of Oregon.

Lawrence Hanson (1963)

Assistant Professor of Art. B.A., M.F.A., University of Minnesota.

Howard Harris (1966)

Associate Professor of Anthropology. B.A., University of Iowa; M.A., University of Missouri; B.D., Hartford Theological Seminary.

Reynold A. Harris (1967)

Instructor of English. B.S., M.A., Trinity College, Dublin.

Charles W. Harwood (1953)

Professor of Psychology and Dean of Fairhaven College. B.S., M.S., Ph.D., University of Washington.

Joseph Hashisaki (1962)

Professor of Mathematics and Chairman of the Department. B.A., Montana State University; M.A., Ph.D., University of Illinois.

Nina B. Haynes (1965)

Instructor of English. A.B., Duke University; M.A., University of North Carolina.

Herbert R. Hearsey (1941)

Associate Professor of Library Science and Associate Director of the Library-Acting. B.A., Ed.M., Tufts College; B.S. in L.S., M.A. in L.S., University of Illinois.

Wallace G. Heath (1962)

Associate Professor of Biology. B.S., Ph.D., University of Arizona

John J. Hebal (1962)

Associate Professor of Political Science. Ph.B., University of Wisconsin; M.A., University of Alabama; Ph.D., University of Minnesota.

Paul E. Herbold (1952)

Associate Professor of Speech. B.A. in Ed., Western Washington State College; M.A., University of Washington; Ph.D., University of Minnesota.

David Hernandez (1966)

Assistant Professor of Spanish. B.S., University of Illinois; M.A., Florida State University; Ph.D., University of Illinois.

*Mildred Herrick (1945)

Associate Professor of Library Science and Technical Services Librarian. B.A., Michigan State Normal College; B.A. in L.S., M.A. in L.S., University of Michigan.

Arthur Hicks (1933)

Professor of English. B.A., M.S., University of Oregon; Ph.D., Stanford University.

Roswitha Hies (1966)

Instructor of Foreign Languages. B.A., B. Mus., University of Puget Sound; M.A., M. Mus., University of Kansas.

C. Max Higbee (1962)

Professor of Education. B.A., Simpson College; M.S., Washington State University; Ph.D., University of Iowa.

James L. Hildebrand (1952)

Associate Professor of Mathematics. B.A., M.A., North Texas State University.

Claude E. Hill (1967)

Assistant Professor of Industrial Arts. B.A., M.A., University of Washington.

Harley E. Hiller (1957)

Associate Professor of History. B.A., Westmar College; M.A., Ph.D., University of Minnesota.

Evelyn M. Hinds (1960)

Assistant Professor of Music. B.A. in Ed., M. Ed., Western Washington State College.

James H. Hitchman (1966)

Assistant Professor of History and Dean of Students. B.A., Willamette University; M.A., Ph.D., University of California, Berkeley.

Thomas C. Horn (1964)

Assistant Professor of History. B.A., University of Pittsburgh; M.A., Ph.D., University of California, Berkeley.

Annis J. Hoyde (1948)

Associate Professor of English. B.A., M.A., University of Washington.

Robert Huff (1964)

Associate Professor of English. A.B., M.A., Wayne State University.

Leslie Hunt (1942)

Assistant Professor of English. B.A. in Ed., Western Washington State College; M.A., Teachers College, Columbia University.

*On leave Fall 1967

Dale L. Ingalls (1967)

Instructor of Industrial Arts. B.A. in Ed., Western Washington State College.

Kenneth Inniss (1966)

Assistant Professor of English. A.B., A.M., Indiana University; Ph.D., University of Kansas.

Harry D. Jackson (1967)

Assistant Professor of Education. B.Ed., Wisconsin State University; M.A., State University of Iowa.

Carol Jacobs (1967)

Instructor of Physical Education. B.A., M.A., University of Washington.

Robert W. Jahns (1964)

Assistant Professor of Library Science and Acquisitions Librarian. B.A., University of Iowa; B.D., Yale University; M.L.S., University of California.

Robert A. Jensen (1966)

Lecturer in Art. B.A., University of Washington; M.F.A., Washington State University.

Carl R. Johansen (1966)

Assistant Professor of Physics. B.A., Ph.D., Brigham Young University.

Alice K. Johnson (1965)

Instructor of Library Science and Documents Librarian. B.A., Central Washington State College; M.L.S., University of Washington.

Ellwood Johnson (1965)

Assistant Professor of English. B.A., M.A., University of Washington.

Richard T. Johnson (1966)

Instructor of English. B.A., Reed College; M.A., University of B.C.

Vivian Johnson (1941)

Associate Professor of Education. B.A., M.A., University of Washington.

Thomas A. Johnston (1967)

Instructor of Art. A.A., San Diego City College; A.B., San Diego State College; M.F.A., University of California, Santa Barbara.

Elvet G. Jones (1957)

Associate Professor of Psychology. B.A., M.A., University of British Columbia; Ph.D., University of Minnesota.

Henry W. Jones (1958)

Assistant Professor of Education. B.S., North Dakota State University; M.S., University of Wisconsin; Ed.D., University of California, Los Angeles.

Halldor C. Karason (1949)

Associate Professor of Education and Philosophy and Director of General Studies. B.A. in Ed., Western Washington State College; M.A., Ph.D., Univ. of Washington.

Robert M. Kauffman (1967)

Assistant Professor of Mathematics. B.A., University of the South; M.S., Louisiana State University.

Margaret B. Kcagle (1967)

Lecturer in Education. B.A., M.Ed., Western Washington State College.

William C. Keep (1966)

Assistant Professor of English. B.A., Ph.D., University of Washington.

Sara Jeanne Kelley (1967)

Assistant Professor of Mathematics. B.A., Linfield College; M.A., Bowling Green State University.

Samuel P. Kelly (1965)

Associate Professor of Education and Director of the Honors Program. B.A., B.A. in Ed., M.Ed., Western Washington State College; Ph.D., University of Chicago.

Ruth Kelsey (1948)

Associate Professor of Art. B.A., Washington State University; M.A., University of California, Berkeley.

James Cary Kepl (1967)

Instructor of Political Science. B.A., Western Washington State College; M.A., University of California, Santa Barbara.

Emelia Louise Kilby (1956)

Associate Professor of Physical Education. B.S., the Mary Washington College, University of Virginia; M.A., New York University; Ph.D., University of Washington.

Donald M. King (1966)

Assistant Professor of Chemistry. B.S., Washington State University; Ph.D., California Institute of Technology.

Eleanor King (1953)

Associate Professor of French and German. B.A., University of Toronto; Ph.D., University of Wisconsin.

B. L. Kintz (1965)

Associate Professor of Psychology. A.B., M.A., Ph.D., University of Iowa.

Florence J. Kirkpatrick (1925)

Associate Professor of Biology. B.S., University of Washington; M.A., Mills College.

Donald R. Kjarsgaard (1967)

Assistant Professor of Education and Assistant to Academic Dean. Licentiate to Trinity College; M. Ed., Western Washington State College; Ph.D., Univ. of Oregon.

Fred W. Knapman (1942)

Professor of Chemistry. B.A. in Ed., Western Washington State College; M.S., University of Washington; Ed.D., Teachers College, Columbia University.

Mary G. Knibbs (1963)

Lecturer in History. B.A. in Ed., M.Ed., Western Washington State College.

Hubertus Kohn (1966)

Assistant Professor of Biology. Ph.D., University of Innsbruck, Austria.

Gerald F. Kraft (1961)

Associate Professor of Biology. B.A., San Jose State College; M.S., Washington State University; Ph.D., Oregon State University.

George S. Kriz, Jr. (1967)

Assistant Professor of Chemistry. B.S., University of California, Berkeley; Ph.D., Indiana University.

Merle S. Kuder (1937)

Professor of Education and of Psychology. B.A., University of Arizona; M.A., Ph.D., Teachers College, Columbia University.

Maurice M. La Belle (1965)

Instructor of English. B.A., M.A., Washington State University.

Arnold M. Lahti (1955)

Professor of Physics. B.A., B.A. in Ed., Western Washington State College; Ph.D., University of Minnesota.

George S. Lamb (1965)

Associate Professor of Education. A.B., Macalester College; M.A., University of Washington; Ph.D., University of Minnesota.

Roger E. Lamb (1965)

Assistant Professor of Philosophy. A.B., Hastings College; Ph.D., University of Rochester.

Gary M. Lampman (1964)

Assistant Professor of Chemistry. B.S., University of California, Los Angeles; Ph.D., University of Washington.

Charles F. Lappenbusch (1933)

Associate Professor of Physical Education. B.S., M.A., University of Washington.

Edith B. Larrabee (1957)

Assistant Professor of Home Economics. B.A., East Texas State University; M.A., Colorado State College.

Golden L. Larsen (1956)

Associate Professor of English. B.S., M.S., Utah State University; Ph.D., University of Washington.

David Lawson (1966)

Associate Professor of Education. B.S.S., College of the City of New York; M.A., Columbia University; Ed.D., Teachers College, Columbia University.

W. Robert Lawyer (1960)

Associate Professor of English and Acting Director of the Library. B.A., Ph.D., University of Washington.

Lawrence Lee (1962)

Associate Professor of English. B.A., M.A., Ph.D., University of Utah.

Wayne Lee (1966)

Associate Professor of Education. B.S., M.T., Southeastern State College; Ed.D., Oklahoma State University.

Stanley J. LeProtti (1964)

Associate Professor of Physical Education. B.A., San Francisco State College; M.A., California State Polytechnic College.

Richard G. Levin (1967)

Assistant Professor of Mathematics. B.S., University of Pennsylvania; Ph.D., University of California, Davis.

Merrill Lewis (1962)

Assistant Professor of English. B.A., M.A., University of Oregon.

Norman F. Lindquist (1967)

Assistant Professor of Mathematics. B.A., Linfield College.

Richard H. Lindsay (1961)

Professor of Physics. B.S., University of Portland; M.A., Stanford University; Ph.D., Washington State University.

Louis G. Lippman (1966)

Assistant Professor of Psychology. B.A., Stanford University; M.A., Ph.D., Michigan State University.

Boyd Long (1966)

Assistant Professor of Men's Physical Education. B.S., M.A., University of New Mexico.

*James R. Lounsberry (1959)

Associate Professor of Physical Education. B.A. in Ed., Central Washington State College; M.S., Ed.D., University of Washington.

William R. MacKay (1962)

Associate Professor of Psychology. A.B., Brown University; M.A., Ed.D., University of California, Berkeley.

Richard C. McAllister (1961)

Assistant Professor of Economics. B.A., M.A., University of Washington; C.P.A., State of Washington.

James G. McAree (1961)

Associate Professor of History. B.A., M.A., University of Southern California; Ph.D., University of Minnesota.

S. Glenn McCauley (1965)

Lecturer in Mathematics. B.S., University of Arizona; M.S., University of Washington.

Robert A. McCracken (1963)

Professor of Education. B.A., M.A., Ph.D., Syracuse University.

Robert McDonnell (1967)

Professor of English and Chairman of the Department. B.A., St. John's University; M.A., Ph.D., University of Minnesota.

*James E. McFarland (1960)

Associate Professor of Mathematics. B.S., Denison University; M.S., Ph.D., Oregon State University.

Howard F. McGaw (1963)

Professor of Library Science. A.B., Vanderbilt University; M.A., B.S. in I.S., George Peabody College for Teachers; Ed.D., Teachers College, Columbia Univ.

Ruby D. McInnes (1948)

Associate Professor of Education. B.A., University of Washington; M.A., Teachers College, Columbia Univ.

Raymond G. McInnis (1965)

Instructor of Library Science and Reference Librarian. B.A., University of British Columbia; M.L.S., University of Washington.

Donald B. McLeod (1963)

Lecturer in English. B.A., Whitman College; M.A., Montana State University.

Raymond R. McLeod (1961)

Professor of Physics and Chairman of the Department. B.A., M.A., Univ. of British Columbia; Ph.D., Purdue.

Judyann Marcum (1967)

Instructor of Biology. B.A., Oregon State University.

Stephen Margaritis (1963)

Associate Professor of Education. B.A., University of Athens; M.A., Ph.D., University of Southern California.

David F. Marsh (1957)

Associate Professor of Art and Chairman of the Department. B.A., Central Washington State College; M.S., University of Oregon.

James S. Martin (1955)

Professor of Biology. B.S., M.S., Ph.D., University of Washington.

*David T. Mason (1966)

Assistant Professor of Biology. A.B., Reed College; M.A., Ph.D., University of California, Davis.

Evelyn P. Mason (1959)

Associate Professor of Psychology. B.A., Mills College; M.A., Ph.D., Washington University.

Miriam S. Mathes (1934)

Associate Professor of Library Science. B.A., New York College for Teachers, Albany; M.A., Teachers College, Columbia University; B.L.S., M.L.S., School of Library Service, Columbia University.

John P. Mattson (1967)

Assistant Professor of Education. B.A., Washington State University; M.Ed., Western Washington State College; Ph.D., University of Iowa.

Erwin S. Mayer (1953)

Professor of Economics and Chairman of the Department. B.A., Hunter College; Ph.D., Univ. of Washington.

Robin C. Mayor (1962)

Assistant Professor of Art. N.D.D., Drawing, Painting, Art History, St. Martin's School of Art, England.

D. Peter Mazur (1960)

Professor of Sociology and Demography. A.B., Stetson University; M.A., University of Colorado; Ph.D., University of Washington.

Robert D. Meade (1965)

Professor of Psychology. R.A., Indiana University; M.A., Ph.D., University of Pennsylvania.

*On leave 1967-68

**On leave Winter 1968

- Ronald T. Melbin (1966)
Lecturer in Spanish. B.A., University of California, Berkeley.
- Jane Merritt (1965)
Instructor of English. B.A., M.A., Texas Technological College.
- Merle Meyer (1966)
Associate Professor of Psychology and Chairman of the Department. B.A., Central Washington State College; M.S., Ph.D., University of Washington.
- Vladimir Milicic (1962)
Assistant Professor of Russian and Linguistics. Certificate of Baccalaureate; Gymnasium for Boys, Belgrade; M.A., University of Chicago.
- Elbert E. Miller (1957)
Associate Professor of Geography. B.A. in Ed., Central Washington State College; M.A., Ph.D., University of Washington.
- Gerson F. Miller (1967)
Associate Professor of English and Advisor to Student Publications. A.B., University of California, Berkeley; M.A., Pennsylvania State University.
- John A. Miller (1966)
Assistant Professor of Chemistry. B.S., Oregon State University; Ph.D., Iowa State University.
- Michael K. Mischaikow (1964)
Associate Professor of Economics. B.A., School of Commerce and Finance, Bulgaria; M.B.A., Hochschule f. Welthandel, Austria; M.A., Ph.D., Indiana University.
- Howard E. Mitchell (1955)
Professor of Economics. B.A., Whitworth College; M.A., Ph.D., University of Washington.
- Shashanka S. Mitra (1967)
Associate Professor of Mathematics. B.S., M.A., University of Calcutta; Ph.D., University of Washington.
- Southard M. Modry (1966)
Assistant Professor of Geography. B.A., University of California, Berkeley; M.S., University of Wisconsin.
- Kurt W. Moerschner (1964)
Assistant Professor of German. B.Comm., B.A., Sir George Williams University, Canada; M.A., (Psychology) M.A., (German), Ph.D., University of Colorado.
- Robert L. Monahan (1955)
Associate Professor of Geography. B.A., University of Washington; M.A., University of Michigan; Ph.D., McGill University.
- Phillip Montague (1966)
Assistant Professor of Philosophy. B.S., Loyola University; Ph.D., Stanford University.
- Debnath Mookherjee (1961)
Associate Professor of Geography. B.S., M.Sc., University of Calcutta; Ph.D., University of Florida.
- Donald E. Moon (1966)
Assistant Professor of Industrial Arts. B.S. in Ed., California State College, California, Pa.; M.A., Teachers College, Columbia University.
- Michael J. Moore (1966)
Instructor of History. B.A., University of Washington.
- Frank A. Morrow (1966)
Assistant Professor of Philosophy. B.A., De Pauw University; A.M., Ph.D., University of Michigan.
- Douglas S. Moser (1966)
Instructor of Anthropology and Sociology. B.A., Western Washington State College; M.A., University of British Columbia.
- George M. Muldrow (1960)
Associate Professor of English. B.J., M.A., University of Missouri; Ph.D., Stanford University.
- Neill D. Mullen (1966)
Assistant Professor of Education. B.A. in Ed., Western Washington State College; M.A., Colorado State College.
- Keith A. Murray (1946)
Professor of History and Chairman of the Department. B.A., Whitworth College; M.A., Ph.D., University of Washington.
- Gediminas A. Namikas (1962)
Associate Professor of Psychology. B.A., Northwestern University; M.S., Ph.D., University of Wisconsin.
- Thomas H. Napieccinski (1965)
Associate Professor of Speech. B.A., M.A., Ph.D., University of Wisconsin.
- Edward F. Neuzil (1959)
Professor of Chemistry. B.S., North Dakota State College; M.S., Purdue University; Ph.D., University of Washington.

Alden L. Nickelson (1962)

Associate Professor of Education. B.S., M.A., Ph.D., University of Washington.

Synva K. Nicol (1937)

Associate Professor of Education. B.A., Fresno State College; M.A., Teachers College, Columbia University.

Charles M. North (1966)

Professor of Music and Chairman of the Department. B.S., Northwestern University; B.M., Chicago Musical College; M.M., D.M.A., Eastman School of Music, University of Rochester.

Frank A. Nugent (1961)

Professor of Psychology and Director of Counseling Center. B.S., New Jersey State Teachers College; M.A., Columbia University; Ph.D., University of California, Berkeley.

James H. O'Brien (1946)

Professor of English. B.A., Seattle University; M.A., Ph.D., University of Washington.

Evelyn Odom (1936)

Associate Professor of English. B.A., Winthrop College; M.A., Teachers College, Columbia University.

Fred A. Olsen (1961)

Associate Professor of Industrial Arts. B.A., University of Washington; M.S., Stout College, Wisconsin; Ph.D., Ohio State University.

°Thomas Osborn (1962)

Associate Professor of Music. B.A., Princeton University; B.M., M.M., Yale University; D.M.A., University of Southern California.

Vilis Paeglis (1961)

Instructor of Library Science and Catalog Librarian. Mag. Phil., University of Latvia; M.A.L.S., University of Michigan.

Harold O. Palmer (1956)

Professor of Business Education. B.A., College of Emporia, Kansas; Ed.M., University of Oregon; Ed.D., Oregon State University.

David M. Panek (1965)

Assistant Professor of Psychology. B.A., Beloit College; M.S., University of Wisconsin; Ph.D., Washington State University.

Jal S. Parakh (1966)

Associate Professor of Biology. B.S., Osmania University, India; M.S., University of Florida; Ph.D., Cornell Univ.

Dick S. Payne (1961)

Associate Professor of Political Science. A.B., M.P.A., Ph.D., Harvard University.

Janice R. Peach (1964)

Instructor of Home Economics. B.S., South Dakota State University; M.S., Oklahoma State University.

Miriam L. Peck (1946)

Associate Professor of Art. B.A., M.A., M.F.A., University of Washington.

Robert A. Peters (1964)

Associate Professor of English and Linguistics. B.A., Ohio State University; M.A., Western Reserve University; Ph.D., University of Pennsylvania.

Richard K. Peterson (1966)

Assistant Professor—Catalog Librarian. B.A., University of Washington; B.A. in Ed., Western Washington State College; M.A., Ph.D., M. Lib., University of Washington.

David R. Pevear (1967)

Instructor of Geology. B.S., Allegheny College.

Sam R. Porter (1962)

Associate Professor of Industrial Arts and Chairman of the Department. A.B., Iowa State Teachers College; M.A., Teachers College, Columbia University; Ed.D., University of Missouri.

Julian T. Pring (1967)

Lecturer in Speech. B.A., M.A., Balliol College, Oxford; Ph.D., University of London.

Frank N. Punches (1948)

Associate Professor of Education and Director of Educational Placement. B.A., University of Washington; M.A., Washington State University.

Elizabeth B. Purtill (1965)

Lecturer in Mathematics. B.Ed., Duquesne University; M.A., Michigan State University.

Richard L. Purtill (1962)

Assistant Professor of Philosophy. B.A., M.A., Ph.D., University of Chicago.

August Radke (1953)

Professor of History. B.A., M.A., Ph.D., University of Washington.

Gayle Rahmes (1966)

Assistant Professor of Library Science, Education Librarian. B.S., Oregon State University; M.L.S., University of Washington.

°On leave 1967-68

- Dorothy Ramsland (1949)
Associate Professor of Home Economics and Chairman of the Department. B.S., University of Wisconsin; M.S., Michigan State University.
- Charles R. Randall, Jr. (1962)
Assistant Professor of Physical Education. B.A., Eastern Washington State College; M.A., Washington State Univ.
- Franklin C. Raney (1966)
Associate Professor of Geography. B.S., University of Chicago; M.S., Washington State University; Ph.D., University of California, Davis.
- Adolph L. Ravnik (1967)
Lecturer in Mathematics. B.A., Western Washington State College.
- Thomas T. Read (1967)
Assistant Professor of Mathematics. B.A., Oberlin College; M.A., Yale University.
- John R. Reay (1963)
Associate Professor of Mathematics. B.A., Pacific Lutheran University; M.S., University of Idaho; Ph.D., University of Washington.
- Martin Reck (1967)
Assistant Professor of Psychology. B.A., Brooklyn College; M.S., Purdue University.
- Bernard W. Regier (1945)
Professor of Music. B.S.M., Kansas State Teachers College; M. Mus., University of Michigan; D.M.A., University of Southern California.
- Ruth Remsberg (1965)
Instructor of Library Science and Catalog Librarian. B.S. in L.S., University of Washington.
- Willard P. Riddles (1962)
Assistant Professor of Education. B.A., M.A., Arizona State University; Ed.D., University of Colorado.
- Hal Riehle (1967)
Professor of Education and Director of Educational Media. B.S., Central Michigan University; M.A., University of Florida.
- *Meribeth M. Riffey (1957)
Associate Professor of Biology. B.S., M.S., Northwestern University; Ph.D., Washington State University.
- Jane E. Roberts (1966)
Assistant Professor of Home Economics. B.S., M.S., University of Wisconsin.
- Walter L. Robinson (1960)
Associate Professor of German and Chairman of the Department of Foreign Languages. B.A., M.A., Ph.D., University of Texas.
- *Alfred L. Roe (1962)
Associate Professor of History. B.A., St. Olaf College; M.A., Ph.D., University of Minnesota.
- Paul L. Roley (1967)
Assistant Professor of History. B.A., Illinois College; M.A., Northwestern Univ.; Ph.D., University of Illinois.
- Charles A. Ross (1964)
Associate Professor of Geology. B.A., University of Colorado; M.S., Ph.D., Yale University.
- J. Alan Ross (1942)
Professor of Education and of Psychology; Dean of Graduate School and of the Summer Sessions. B.A. in Ed., Western Washington State College; M.A., Ph.D., Yale University.
- June R. P. Ross (1967)
Associate Professor of Biology. B.S., Ph.D., University of Sydney, Sydney, Australia.
- Ajit S. Rupaal (1946)
Associate Professor of Physics. M.Sc., Panjab University; Ph.D., University of British Columbia.
- Marjorie Ryan (1961)
Associate Professor of English. A.B., M.A., University of Michigan; Ph.D., University of Minnesota.
- *Paul T. Rygg (1962)
Associate Professor of Mathematics. B.A., Montana State University; M.S., Ph.D., Iowa State University.
- True Sackrison (1964)
Assistant Professor of Music. Diploma, Curtis Institute of Music.
- Donovan F. Sanderson (1963)
Associate Professor of Mathematics. B.S., M.S., Ph.D., Iowa State University.
- Bryan G. R. Saunders (Jan. 1968)
Visiting Lecturer in Geography. B.A., University of Keele; Dip.Ed., M.A., University of Adelaide.
- Leonard Savitch (1967)
Associate Professor of Education. B.S., Pennsylvania State; M.A., Teachers College, Columbia University; Ph.D., University of Washington.

*On leave 1967-68

*On leave 1967-68

- Robert L. Scandrett (1967)
Associate Professor of Music. B.A., Seattle Pacific College; M.A., Ph.D., University of Washington.
- David B. Schaub (1953)
Associate Professor of Music. B.A., Mus.B., Lawrence College; M.A., Harvard University; Ph.D., University of California, Berkeley.
- Erhart A. Schinske (1957)
Associate Professor of Speech. B.A., Hamline University; M.A., Ph.D., University of Minnesota.
- Thomas Schlotterback (1965)
Assistant Professor of Art. B.F.A., M.F.A., University of Kansas.
- David E. Schneider (1966)
Assistant Professor of Biology. B.S., Bates College; Ph.D., Duke University.
- Carl U. Schuler (1959)
Associate Professor of History. B.S., M.A., Ph.D., University of Wisconsin.
- Ray A. Schwalm (1949)
Professor of Industrial Arts. B.S., Millersville State College; M.S., Ed.D., Oregon State University.
- Joseph S. Schwartz (1967)
Instructor of English. A.B., M.A., University of California, Berkeley.
- Seymour E. Schwartz (1967)
Assistant Professor of Education. B.S., M.S., Wayne State University.
- Donald J. Schwemmin (1960)
Associate Professor of Biology. B.S., M.S., Ph.D., University of Michigan.
- James W. Scott (1966)
Assistant Professor of Geography. B.A., St. Katherine's College.
- William H. O. Scott (1960)
Assistant Professor of Library Science and Associate Director for Data Processing. A.B., A.M., A.M.L.S., University of Michigan.
- Clyde M. Senger (1963)
Professor of Biology. B.A., Reed College; M.S., Purdue University; Ph.D., Utah State University.
- Edward H. Shaffer (1965)
Assistant Professor of Economics. B.A., M.A., University of Michigan; Ph.D., Columbia University.
- J. LaVerne Shaffer (1967)
Assistant Professor of Physical Education. B.S., Lock Haven State College; M.S., State University College at Cortland, New York.
- Robert Shaw (1965)
Assistant Professor of Industrial Arts. B.A. in Ed., M.Ed., Western Washington State College
- Stanley Shiebert (1963)
Assistant Professor of Classics. B.A., University of Nebraska; M.A., University of Washington
- Byron Sigler (1963)
Assistant Professor of Speech. B.A., M.F.A., Tulane University; Ph.D., Stanford University.
- Bearnice Skeen (1947)
Professor of Education. B.S., M.S., University of Oregon; Ed.D., Washington State University.
- Knute Skinner (1962)
Lecturer in English. A.B., Colorado State College; M.A., Middlebury College; Ph.D., University of Iowa.
- *Irwin L. Slesnick (1963)
Professor of Biology. B.A., M.S., Bowling Green University; M.S., University of Michigan; Ph.D., Ohio State University.
- Alden C. Smith (1966)
Assistant Professor of Speech. B.S., Florida Southern College; M.S., Syracuse University.
- Mary Terey-Smith (1967)
Assistant Professor of Music. B.A., Liszt Academy of Music, Budapest; M.A., University of Vermont.
- Donald L. Sprague (1965)
Assistant Professor of Physics. B.S., M.S., Ph.D., University of Washington.
- **Thaddeus H. Spratlan (1961)
Associate Professor of Economics. B.S., M.A., Ph.D., Ohio State University.
- Richard O. Starbird (1962)
Associate Professor of Education. B.A., Heidelberg College; M.A., Columbia University; Ed.D., Teachers College, Columbia University.

*On leave Fall 1967

**On leave 1967-68

Paul H. Stoner (1961)

Associate Professor of Music. B.M., University of Kansas; M.A., University of Iowa; D.M.A., University of Southern California.

James H. Straughan (1964)

Associate Professor of Psychology and Coordinator School Psychologist, School Counselor Program. B.A., University of Florida; Ph.D., Indiana University.

Ada Swineford (1966)

Associate Professor of Geology. S.B., S.M., University of Chicago; Ph.D., Pennsylvania State University.

Kenneth M. Symes (1967)

Assistant Professor of English. B.A., M.A., Utah State University.

Herbert C. Taylor, Jr. (1951)

Professor of Anthropology and Dean of Research and Grants. B.A., M.A., University of Texas; Ph.D., University of Chicago.

John Taylor (1966)

Instructor of Education. B.A., University of British Columbia; M.Ed., Western Washington State College.

Ronald Taylor (1964)

Assistant Professor of Biology. B.A., Idaho State College; M.A., Univ. of Wyoming; Ph.D., Washington State Univ.

Robert W. Teshera (1965)

Assistant Professor of Geography. B.A., B.A. in Ed., Western Washington State College.

David L. Thomas (1964)

Assistant Professor of Sociology. B.S., Florida State University; M.A., Ph.D., University of Iowa.

Leslie J. Thomas (1962)

Assistant Professor of History. B.A., St. Olaf College; M.S., Ph.D., University of Wisconsin.

Nell C. Thompson (1967)

Associate Professor of Education. B.A., M.S., Cladron State College.

*Ralph H. Thompson (1950)

Professor of Education. B.A., Dickinson College; M.A., University of Delaware; Ed.D., University of Illinois.

Richard W. Thompson (1967)

Associate Professor of Psychology. B.A., M.A., Ph.D., Michigan State University.

Robert G. Tipton (1965)

Instructor of English. B.A., M.A., University of Nebraska.

William A. Tomaras (1961)

Associate Professor of Physical Education, Director of Athletics, and Chairman of the Department. B.A., M.S., University of Illinois; Ed.D., University of Oregon.

Colin E. Tweddell (1965)

Lecturer in Anthropology and Linguistics. B.A., M.A., Ph.D., University of Washington.

Vernon O. Tyler, Jr. (1965)

Assistant Professor of Psychology. B.S., University of Washington; M.A., University of Iowa; Ph.D., University of Nebraska.

Albert Van Aver (1939)

Professor of English. B.A., Reed College; M.A., Claremont College; Ph.D., University of Cincinnati.

Philip B. Vander Velde (1967)

Lecturer in Education. B.A., Calvin College; M.A., Michigan State University.

Margaretha J. van Voorst Vader (1964)

Lecturer in French Candidate's title, University of Amsterdam.

Stewart Van Wingerden (1951)

Associate Professor of Education. B.A. in Ed., Western Washington State College; M.A., Colorado State College; Ed.D., Washington State University.

Thomas G. Vassdal (1967)

Assistant Professor of Art. B.A. in Ed., University of Nevada; M.A., University of Iowa.

Jiri J. Veit (1963)

Associate Professor of Physics. B.Sc., University of London; M.Sc., University of Birmingham; Ph.D., University of London.

Manfred C. Vernon (1964)

Professor of Political Science and Chairman of the Department. LL.B., University of Cologne; J.D., University of Berlin; Ph.D., Stanford University.

Gene E. Vike (1962)

Associate Professor of Art. B.A. in Ed., B.A., Western Washington State College; M.S., Pratt Institute.

Ada G. Walter (1961)

Assistant Professor of Business Education. B.S., Winthrop College; M.B.A., University of Denver.

*On leave Fall and Winter 1967-68

Don C. Walter (1947)

Associate Professor of Music. B.A., Wartburg College; M.A., Colorado State College; Ed.D., University of Oregon.

*Mary W. Watrous (1957)

Professor of Education. A.B., University of Nebraska; M.A., Gonzaga University; Ed.D., University of Washington.

Loren L. Webb (1965)

Assistant Professor of Speech. B.S., University of California, Berkeley; M.A., Redlands University.

Walter F. Wegner (1961)

Assistant Professor of Art. B.S., University of Wisconsin; M.F.A., University of Iowa.

Bernard Weiner (1966)

Assistant Professor of Political Science. A.B., University of Miami; M.A., Ph.D., Claremont Graduate School and University Center.

Homer Weiner (1964)

Professor of Art. B.F.A., Bradley University; M.F.A., University of Iowa.

Robert Whitcomb (1963)

Associate Professor of Music. B. Mus., M. Mus., College of Music of Cincinnati; A.M.D., Eastman School of Music, University of Rochester.

Mark L. Wicholas (1967)

Assistant Professor of Chemistry. A.B., Boston University; M.S., Michigan State University.

James W. Wilkins, Jr. (1967)

Associate Professor of Psychology. A.B., M.A., Kent State University; Ph.D., Michigan State University.

Colleen J. Wilkinson (1966)

Instructor of Speech. B.S., M.A., Kansas State University.

Jeffery A. Williams (1967)

Instructor of English. B.A., University of British Columbia.

H. William Wilson (1966)

Assistant Professor of Chemistry. B.Sc., University of Alberta; Ph.D., University of Washington.

Don W. Wiseman (1962)

Assistant Professor of Physical Education. B.A., Idaho State University; M.S., Washington State University.

George E. Witter (1955)

Associate Professor of Mathematics. B.A., M.A., Miami University.

Grant R. Wood (1966)

Assistant Professor of Industrial Arts. A.B., College of Southern Utah; B.S., M.S., Utah State University.

Paul D. Woodring (1939)

Distinguished Service Professor of the College. B.S.Ed., Bowling Green State University; M.A., Ph.D., Ohio State University. Honorary degrees: L.H.D., Kalamazoo College; Pd.D., Coe College; Litt.D., Ripon College; L.H.D., Bowling Green State University; LL.D., University of Portland.

*John J. Wuest (1960)

Professor of Political Science. B.S., M.S., University of Southern California; Ph.D., University of California, Los Angeles.

Raymond A. Young (1961)

Associate Professor of Spanish. B.A., University of British Columbia; M.Lib., University of Washington; Ph.D., University of Madrid.

Baqar Zaidi (1967)

Associate Professor of Economics and Business. B.A., M.B.A., D.B.A., University of Washington.

David W. Ziegler (1967)

Instructor of Political Science. B.A., Oberlin College; M.A., Harvard University.

Edna Zoet (1965)

Instructor of Business Education. A.B., Stanford University; M.Ed., Western Washington State College.

AFFILIATED TEACHERS OF MUSIC

Nancy Bussard

Piano. B.A., Whitman College.

Nicholas Bussard

Oboe. B.A., Whitman College; M.M., University of Oregon.

Roy M. Cummings

Trumpet. B.M., University of Washington.

Sonja Peterson

Piano. B.M., Willamette University; M.S., Juillard School of Music.

*On leave Fall 1967

*On leave 1967-68

Betty Reubart
Voice. B.A., University of Missouri at Kansas City.

Isabel Shapiro
Flute. B.M., M.M., Manhattan School of Music.

Arthur Thal
Violin. New England Conservatory of Music; American Conservatory of Music.

Dolores Wicks
Piano. B.A., Western Washington State College; Julliard School of Music Diploma.

William Wohlmacher
Clarinet. B.M., University of Puget Sound; M.M., East-Man School of Music.

CONSULTANT

Buell C. Kingsley (1963) Consultant
Consultant Counseling Center. B.A., Dartmouth College;
M.D., University of Oregon.

RESEARCH ASSOCIATES

James a'Argaville Clark (1964)
B.Sc., Capetown; B.Sc., University of London; Ph.D., Institute of Paper Chemistry, Lawrence College.

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

STUDENT TEACHING SUPERVISORS

College-School District Joint Appointments

Dr. Harry Garrison
Resident Center Director (Seattle)

Miriam Burton, Edmonds

Dwight Andrus, Everett
Philip Zalesky, Everett

Nancy Carroll, Seattle
Ray Cohrs, Seattle
Charles Fletcher, Seattle
Robert Hasson, Seattle
Lee Leiner, Seattle
Philip McCluskey, Seattle
Irma Rodenhouse, Seattle

Anna Lea Ambrose, Shoreline
Norma Dimmit, Shoreline
Frances Jackson, Shoreline
Betty Temple, Shoreline



SUMMARY OF ENROLLMENT

Resident

Summer Quarter, 1966	2883
Fall, Winter, Spring, 1966-67	6349

Extension

Correspondence	335
Evening Classes (on campus)	857
Extension Classes (off-campus)	1261
Total Extension Enrollment	2453

Degrees and Certificates

Degrees granted from August 1966 to June, 1967, inclusive:

Master of Education	91
Master of Arts	14
Master of Science	6
Bachelor of Arts in Education	635
Bachelor of Arts	338
Total	1084

Teaching Certificates issued from August, 1966 to June, 1967, inclusive:

Three-Year Elementary	5
Provisional	635
Total	640

Recommended for certification to the State Superintendent of Public Instruction—
Standard Teaching Certificate

248



INDEX

Academic Advisement	28	Continuing Studies	47
Academic Probation	36	Course Challenge	37
Academic Regulations	33	Course Listings, Guide to.....	See back cover
Accreditation of the College	7	Course Numbering System	49
Administrative Officers	157	Credit by Examination	37
Admission—Freshmen	15	Credits, Definition of	33
Admissions—Transfers	16	Deficiencies, Entrance	33
Admission to Teacher Education	45	Degrees Granted, 1966—1967	175
Advanced Placement	37	Deposit, Enrollment	15
Anthropology	143	Deposit, Housing	25
Art	50	Discipline	18
Arts and Sciences Programs	42	Economics	64
Assistantships, Graduate	22	Education, Department of	70
Attendance	34	Elementary Teaching	43
Auditors	19, 34	Employment, Part-Time	21
Bachelor of Arts in Education	42	English	76
Bachelor of Arts	42	Enrollment Summary, 1966—1967	175
Biology	55	Entrance Tests	16
Board of Trustees	157	Examinations, Final	35
Botany	58	Extension Study	47
Business Education	64, 68	Faculty	159
Calendar, Official	4	Faculty-Emeritus	158
Campus Map	2	Fairhaven College	12
Certificates Issued, 1966-1967	175	Fees	19
Changes in Registration	36	Fifth Year Program for Teachers	44
Chemistry	60	Finances, Student	19

Financial Assistance	20	Objectives of the College	7
Five Year Program, Teacher Education	44	Parking and Traffic	28
Foreign Languages	81	Philosophy	120
French	83	Physical Education	122
General Education	40, 150	Physical Science	154
General Science	151	Physics	130
Geography	88	Placement Offices	29
Geology	92	Political Science	135
Geophysics	152	Probation, Academic	36
German	84	Psychology	139
Grade Points	35	Recreation	129
Grade Reports	35	Refund of Fees	20
Grading System	35	Registration	19
Graduate Study	46	Repeating Courses	35
Graduation Requirements	39	Research	11
Greek	85	Reservations, Room	24
Health Education	129	Rural and Urban Planning	89
Health Examination	18	Russian	85
Health Science	123	Scholarships	21, 22
Health Service	27	Scholarship, Low	36
History	96	Science Education	154
Home Economics	100	Secondary Teaching	43
Honors Courses	152	Social Studies Education	155
Honors Program	45	Sociology	143
Housing, On-Campus	24	Spanish	86
Housing, Off-Campus	26	Speech	146
Housing Regulations	23	Student Activities	30
Humanities	150	Student Finances	19
Industrial Arts	103	Student Living	23
Journalism	153	Student Personnel Offices	28
Latin	85	Study Abroad	47
Library, Wilson	10	Supervised Teaching	73
Library Science	108	Teaching Certification	42
Linguistics	153	Teacher Education Curriculum	42
Living Costs	25	Termination of Enrollment	36
Load, Academic	34	Trustees, Board of	157
Loans, Student	21, 22	Tuition	19
Majors and Minors, Arts and Sciences	42	University Transfer Programs	45
Majors and Minors, Teacher Education	43	Warning, Low Scholarship	36
Master of Education	46	Withdrawal from College	36
Master of Arts and Master of Science	46	Withdrawal from Courses	36
Mathematics	109	Visual Communication Education (VICOED)	155
Music	114	Zoology	58



Index to Courses and Concentrations

143 ANTHROPOLOGY	
50 ART	
85 BIOLOGY	
52 BOTANY	
68 BUSINESS EDUCATION	
60 CHEMISTRY	
64 ECONOMICS	
70 EDUCATION	
76 ENGLISH	
81 FOREIGN LANGUAGES	83 FRENCH
	84 GERMAN
	85 GREEK
	85 LATIN
	85 RUSSIAN
	86 SPANISH
88 GEOGRAPHY	
92 GEOLOGY	
123 HEALTH EDUCATION	
96 HISTORY	
106 HOME ECONOMICS	151 GENERAL EDUCATION
103 INDUSTRIAL ARTS	151 GENERAL SCIENCE
	157 GEOPHYSICS
	152 HONORS
157 INTERDEPARTMENTAL PROGRAMS	151 HUMANITIES
	153 JOURNALISM
	153 LINGUISTICS
108 LIBRARY SCIENCE	154 SCIENCE EDUCATION
109 MATHEMATICS	155 SOCIAL STUDIES EDUCATION
114 MUSIC	155 VISUAL COMMUNICATION EDUCATION
120 PHILOSOPHY	
122 PHYSICAL EDUCATION	
130 PHYSICS	
135 POLITICAL SCIENCE	
139 PSYCHOLOGY	
125 RECREATION	
143 SOCIOLOGY	
146 SPEECH	
58 ZOOLOGY	

How to use the Marginal Index: 1) Find item desired in alphabetical list. 2) Grasping catalog with both hands, bend back to expose left marginal marks. 3) Match the line from item in the list to parallel mark on the margin. 4) Open catalog at marked page.