



1966-67  
CATALOG

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WASHINGTON  
STATE  
COLLEGE

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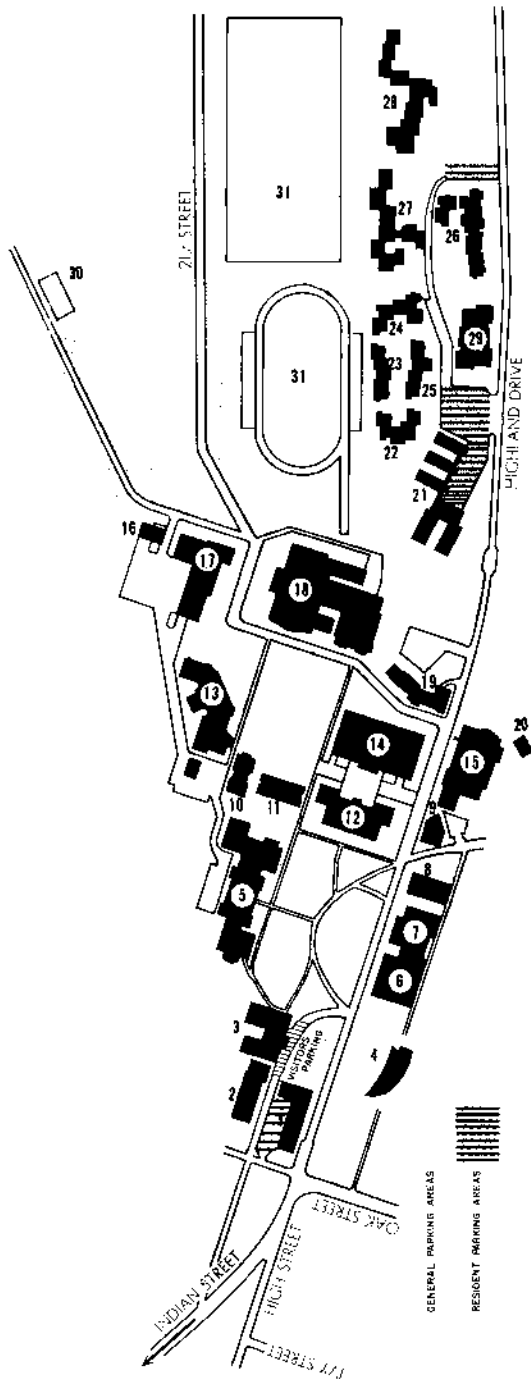


"Colleges have many obligations to the people they serve.

One of the most important of these is meaningful communication between and among all groups who comprise the college community. I am proud of the fact that Western Washington State College provides an atmosphere which admirably fulfills this obligation."

HARVEY C. BUNKE  
President

# THE CAMPUS



1. Higginson Hall
2. Edens Hall North
3. Edens Hall
4. Mathes Hall
5. Old Main
6. Viking Commons
7. Viking Union
8. Book Store
9. Terrace Annex
10. Lecture Halls
11. Humanities Bldg.
12. Library
13. Campus School
14. Haggard Hall of Science
15. Auditorium-Music Building
16. Heating Plant
17. Arts Building
18. Carver Gymnasium
19. Education Building
20. President's House
21. Highland Hall
22. Ridgeway Sigma
23. Ridgeway Omega
24. Ridgeway Delta
25. Ridgeway Alpha
26. Ridgeway Kappa
27. Ridgeway Beta
28. Ridgeway Gamma
29. Ridgeway Dining Hall
30. Tennis Courts
31. Athletic Fields

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S E P T E M B E R							N O V E M B E R							J A N U A R Y						
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30	31																			

## COLLEGE

### *Fall Quarter, 1966*

August 1

Last day to apply for admission

September 25, 7:30 p.m.

Convocation for New Freshmen

September 27

Registration of returning students

September 28, 8:00 a.m.

Classes begin

November 11

Veterans' Day Holiday

November 23, noon-November 28, 8:00 a.m.

Thanksgiving Recess

December 12-16

Final Examinations

### *Winter Quarter, 1967*

January 3

Registration

January 4, 8:00 a.m.

Classes begin

February 22

Washington's Birthday Holiday

March 13-17

Final Examinations

MARCH							MAY							JULY							
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30																				

## CALENDAR

### *Spring Quarter, 1967*

March 27  
Registration

March 28, 8:00 a.m.  
Classes begin

May 30  
Memorial Day Holiday

June 2-8  
Final Examinations

June 9  
Commencement

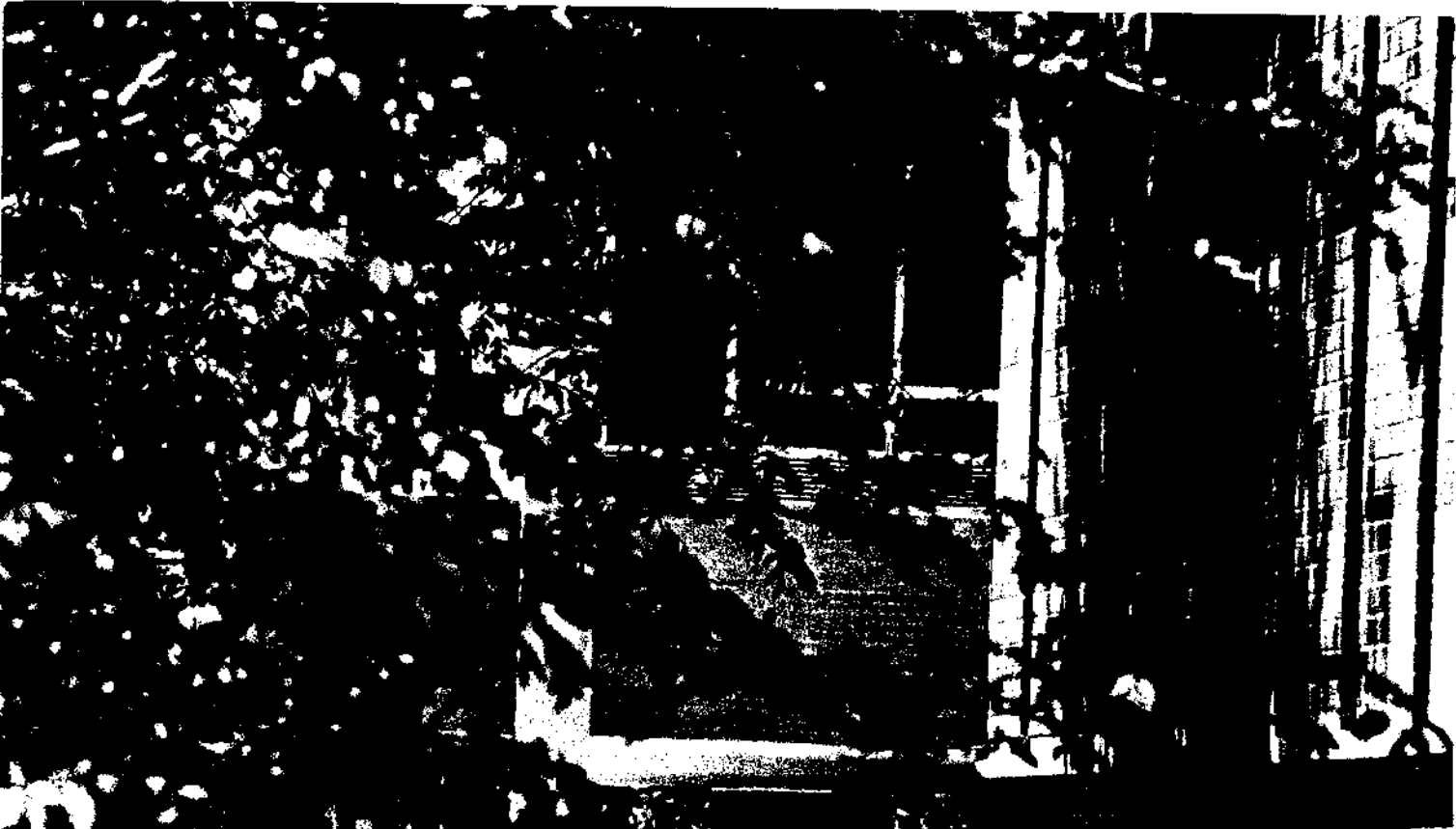
### *Summer Quarter, 1967*

June 19-July 28  
Six-Week Session

June 19-August 18  
Nine-Week Session

July 4  
Independence Day Holiday

August 18  
Summer Sessions Close





# THE COLLEGE

## HISTORY AND GOVERNMENT

Western Washington State College is one of three 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 State 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.

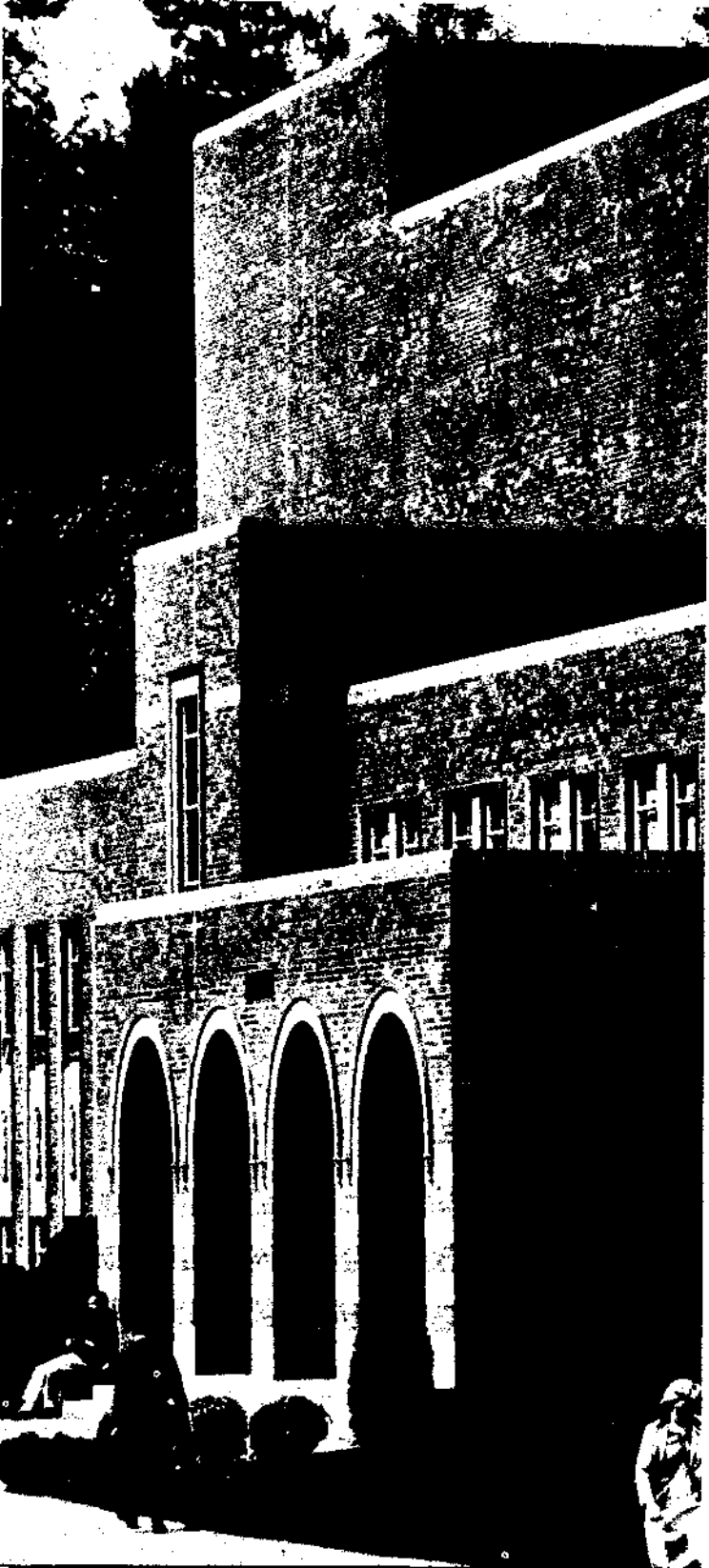
The college is now a multipurpose institution offering degree programs in teacher education and in the arts and sciences at both the undergraduate and graduate levels. Preprofessional studies are available for transfer to professional schools.

## ACCREDITATION

Full accreditation has been granted to the College by the Northwest Association of Secondary and Higher Schools and by the National Council for the Accreditation of Teacher Education.

## OBJECTIVES

Western Washington State College is a community of scholars. Students, who are apprentice scholars, associate with members of the faculty, who are seasoned scholars, in the advancement and dissemination of truth and beauty.



The College strives to provide its students with the opportunity and the incentive for gaining a higher education which will develop their intellectual powers and enlarge their understanding and appreciation of their cultural heritage. Such education is appropriate to free citizens and provides a sound basis for any vocational pursuit.

A principal responsibility of the College is to prepare teachers, administrators, and other personnel for the public schools of Washington. To this end, programs leading to the Bachelor of Arts in Education and the Master of Education degrees are offered.

Programs within the liberal arts and sciences lead to the Bachelor of Arts, the Master of Arts, and the Master of Science degrees.

For students intending to enter schools of law, medicine, etc., preprofessional studies are available.

To accomplish these functions the total college program provides planned experiences in the areas of general education, professional education of teachers, and subject matter specialization.

*The aims of the general education program are:*

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

To train the student in the methods and tools of thought and expression;

To assist the student in integrating his knowledge;

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

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

*The aims of the teacher education program, developed upon a foundation of general education, are:*



To develop the student's knowledge of the subject matter and techniques appropriate to his teaching field; understanding of individual differences and the process of growth and learning in children; understanding of the processes whereby personality is formed and maladjustments avoided; understanding of the place of the school in society and its present organization and administration; interest in forming his own philosophy of education.

To provide the student, before provisional (fourth-year) certification with the background and the opportunity to demonstrate his skill in planning and in carrying out his ideas independently; skill in using established methods of instruction, plus a willingness to experiment with new methods; ability to evaluate his own teaching practices; ability to work cooperatively with children, colleagues, parents, and others in the community; ability to discriminate between the significant and the less significant in education.

To provide the student, prior to standard (fifth-year) certification, with an opportunity to extend his knowledge of subject matter appropriate to his teaching fields; to obtain training in techniques found lacking after one year of teaching under a provisional certificate.

*Subject matter specialization should meet the needs of a person who seeks*

Increased depth of subject matter mastery appropriate to his teaching assignment.

A sound basis for pursuing further and more advanced study in a specialized field.

## THE CAMPUS

The physical plant of the College has been expanded to keep pace with rapidly growing student enrollments. (See page 2 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. Student residences have also grown apace with the addition of Higginson Hall, the Ridgeway Residence Halls, and Mathes Hall. The Viking Union, Student Cooperative Book Store, and two dining halls have been opened in the past few years. Construction has been authorized for the Science-Mathematics-Computer Center Building and the Art Annex to begin soon. Planning is proceeding for other buildings to be added as enrollment continues its rapid growth in the next decade.

## THE LIBRARY

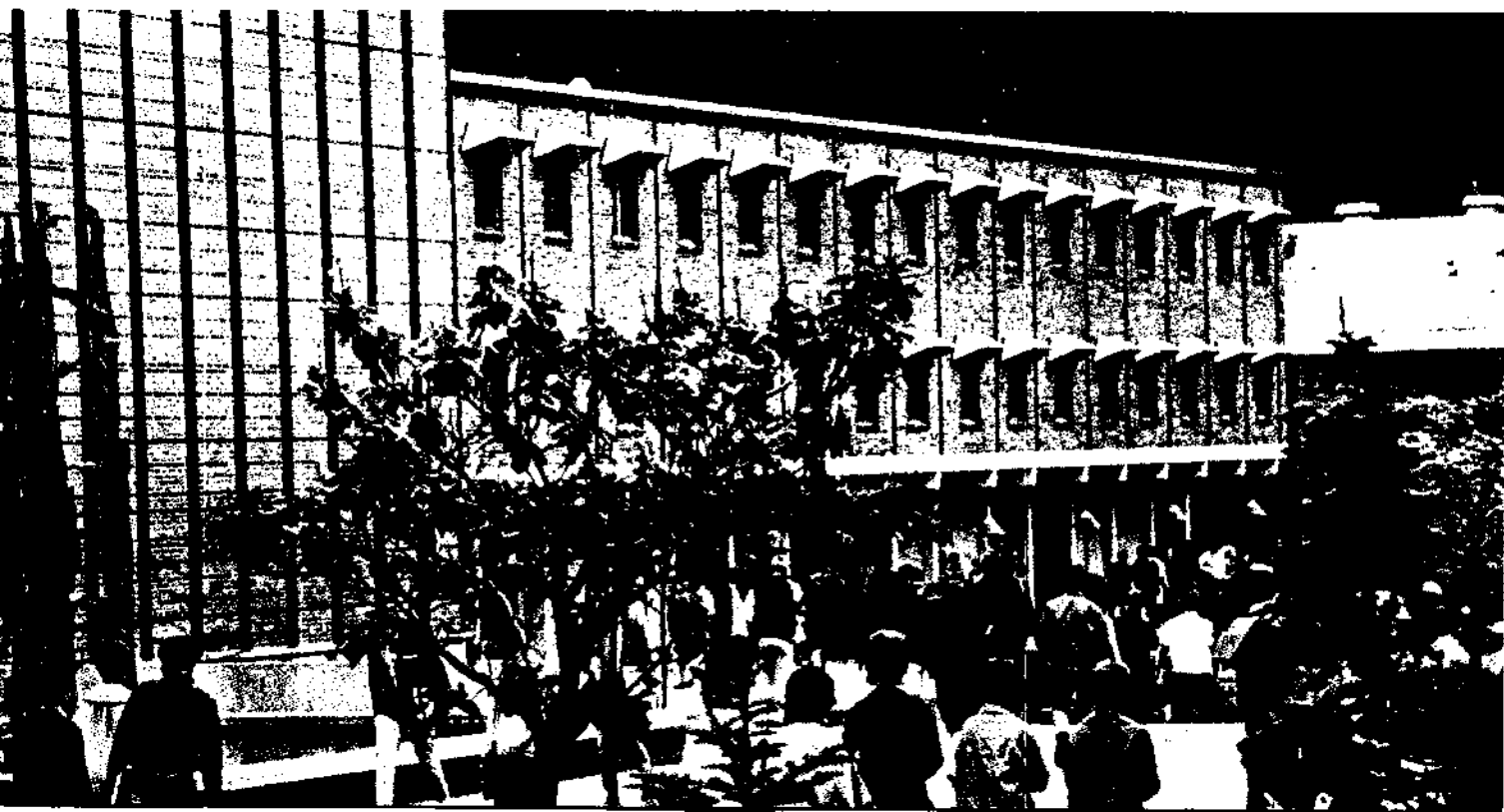
The remodeled and expanded Wilson Library provides adequate modern facilities for this service center of the College. The addition of reading areas, carrels, and study areas easily accessible to the open stacks lends attraction to the Library as a place of study for students and faculty. The five floors of each of the added wings provide space for increasing the present collection of 147,000 volumes to some 200,000 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 also includes classrooms and quarters for instruction in library science.

Plans are underway to add within the next few years a second building addition to double the present capacity.

Supplemental to the general library, but currently housed separately, are the Audio-Visual Center which maintains and operates a collection of instructional materials and equipment available to all departments, and an 8,000 volume collection of juvenile books housed in the Campus School.

## 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 addi-





tion to annual grants for science made by the National Science Foundation, research funds have been made available by a wide range of institutions and agencies, including the U. S. Department of Health, Education and Welfare, the Atomic Energy Commission, the Office of Economic Opportunity, the Canadian Social Science Research Council, the Ford Foundation, the Rockefeller Foundation, the ESSO Foundation, the licensed beverage industries, and the City of Bellingham. The Bureau for Faculty Research has been established to encourage and coordinate faculty research in the various departments. The Dean of 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 publications; some assistance is available for publication and reprint costs.

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 shall soon be added.

# THE STUDENT

## ADMISSION

The College makes every effort to provide an opportunity for higher education to all qualified applicants. On the basis of the experience of students in recent years, certain criteria have been adopted for the selection of those most likely to succeed in an academic program. Details of the requirements for admission are outlined below for freshmen and for transfers, both resident and non-resident.

### *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. If 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 arrived in the Fall).

*Non-high school graduates* may be considered for admission if they are over twenty-one years of age. Such persons may establish eligibility by filing the appropriate application for admission and by demonstrating ability to profit from college work on appropriate achievement and aptitude tests. Such students should consult the Director of Admissions for details.

*Application procedure* — obtain from high school principal or counselor the 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 Admission Office. (If 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 Catalogue in order to plan carefully for appropriate course selection. Guides to course equivalents 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 (above) and have attained a cumulative grade average of 2.00 (C) in college level study; or (b) do not satisfy freshman admission requirements but have achieved a cumulative grade average of 2.00 (C) 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* — obtain an application from the Admissions Office. (Some 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 institu-



tion attended. Students transferring fewer than 40 credits (quarter hours) must also submit a high school transcript.

### *Graduates*

For admission to graduate standing as a candidate for a master's degree, see the *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 his 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 the student has violated this agreement.

## REGISTRATION

### *Registration Day*

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



*Preregistration During The College Year*

During the fall, winter, and spring quarters, students in attendance are given the opportunity for advisement, preparation of class schedules, and reservation of classes for each succeeding quarter. This customarily occurs during the ninth and tenth weeks 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, page 31 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 \$3.00.

FINANCES

*Tuition and Fees*

Checks and money orders for fees or living charges should be made payable to WESTERN WASHINGTON STATE COLLEGE.

**FULL-TIME STUDENTS (7 OR MORE CREDITS)  
QUARTERLY CHARGES**

Resident of the State of Washington, per quarter	\$ 88.00
Tuition	\$18.00
*Other Fees	70.00

Non-Resident of the State of Washington,  
per quarter 157.00

Tuition \$48.00

\*Other fees 109.00

\*These fees are required of all students who register for more than six quarter hours of credit. Funds derived from this source are used to finance certain non-instructional aspects of the College program, including (a) student activities, such as athletics and publications, not to exceed \$13.00 per student; (b) a student health program; (c) bond redemption for student residences and Union Building; (d) the student bookstore building; (e) the purchase of designated supplies and laboratory materials.

#### PART-TIME STUDENTS (MAXIMUM 6 CREDITS) QUARTERLY CHARGES

For each credit 10.00  
(Minimum fee \$20.00)

#### AUDITORS (WITHOUT CREDIT) QUARTERLY CHARGES

One or more courses per quarter 20.00

*Music—Individual Instruction* 40.00  
(See page 103 for special provisions applying to music majors and minors.)

*Extension and Correspondence Fee*  
per credit 10.00

#### *Miscellaneous Service Charges*

*On-Campus Parking*, per quarter (1965-1966) 4.00

(Fee for 1966-67 not determined at date of publication)

*Changes 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 preregister or register at appointed times.

*Test Service.* A fee of \$5.00 is required of those who fail to take the entrance tests at the regularly scheduled time.

*Special Examination Charge* for those who seek college credit in a given course through examination 2.00

*Teaching Certificate Filing Fee*, payable at the time of issuance 1.00

*Diploma Charge*, payable at graduation 5.00

*Placement Service Charge*, payable at graduation 2.00

#### *Music Instrument or Practice Space Charges*

Pipe Organ or Other Instrumental or Practice  
Space Rental, per quarter 2.00

#### *Transcript Fee*

Each student is entitled to one official transcript of his scholastic record at Western Washington State College without charge. For subsequent transcript requests, there is a charge of \$1. Duplicate copies requested at the same time are issued at a charge of 25¢ each. When additional credits have been earned, a free supplement will be sent upon request to the same addressee as a previous transcript.

#### *Refund of Fees*

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

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



### *Changes in Fees*

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

### *Textbooks, Materials and Lockers*

The Cooperative Bookstore is maintained by the Associated Students to furnish all necessary books and supplies at reasonable prices. The College does not provide textbooks for the personal use of students.

For the convenience of those in certain courses requiring the extensive use of materials or articles retained by the student, materials are charged at cost. The Department issues an invoice for such materials and the student pays the charge at the Cashier's Window in the Business Office.

Metal lockers are available without charge to students in certain buildings. Students must pro-

vide themselves with the standard type combination lock sold only by the Student Cooperative Bookstore.

### *Living Costs*

*Board and room charges are payable by the quarter in advance. The rates are as follows:*

Fall Quarter	\$264.00
Winter Quarter	236.00
Spring Quarter	225.00

While arrangements for smaller payments at the first of each month may be made, the student is obligated for the total quarterly charge.

### *Delinquent Accounts*

Unpaid room and board accounts are assessed a penalty of 25¢ per day effective on registration day. The penalty applies each pay period for those who are delinquent. Registration and payment for room and board are to be made before the student receives meals in the residence halls. Meals may be purchased on a cash basis until the student's board account is paid.

### *Refunds*

Room payments are not refundable. Board refunds or partial refunds are made in case of one week's illness or when a student teaching assignment conflicts with the meal schedule. Refund cards are issued in the Housing Office, Old Main 213.

### *Furnished Rooms Off-Campus*

Prices for furnished rooms without board in private off-campus houses range from \$25 to \$35 a month for each student in a room. Single occupancy rooms are somewhat higher.

### *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	\$1,200.00	\$1,400.00
If housekeeping	1,050.00	1,250.00
If living at home or working for room and board	650.00	750.00

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 are reviewed.

If the applicant is judged qualified, the College will make every effort to offer assistance 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 finan-

cial ability. In assessing need, the College uses the Parents' Confidential Statement prepared by College Scholarship Service.

### *Types of Assistance*

Types of assistance and procedures of application are outlined for entering freshmen, transfers, graduates, and currently enrolled students.

#### *Entering Freshmen*

##### Scholarships

Freshman cash awards will be made from Economic Opportunity Act 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 \$50. 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 section 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 work-study funds provided as part of the Economic Opportunity Act program. 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.

#### Loans

NDEA - See section above on Freshman assistance.

#### USAF Loans

The United Student Aid Fund loan program is a cooperative arrangement between banks and colleges. The student may borrow up to \$300 per quarter 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 there-

after.) Consent of parents is required for students under 21 years of age.

### 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 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. Renewal applications are evaluated in free competition with original applications from other students.

*Study grants* are provided by Economic Opportunity Act 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 applications for Scholarships.

### Graduate Students

*Graduate assistantships* with duties assigned in the various departments of the College at a monthly stipend of \$270. A limited number of such assistantships are available; application should be made to the Dean of Graduate Studies. 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 Financial Aids Officer if he leaves college at an unexpected time.

### Scholarship and Loan Disbursements

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

### Housing

The College considers group living an important phase in the total college experience and is there-



fore 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 are required to live in residence halls or college inspected off-campus housing. Junior and senior women and women 20 years or older may take independent housing; written parental permission is required for those 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 end of the quarter, the student has completed one term of occupancy, has no unpaid accounts, and has caused no damage beyond normal wear.



*Freshmen men* are required and sophomore men are encouraged to live in residence halls or college inspected off-campus housing. All other men students 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 appliances are not permitted in the students' 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 co-educational dining and serve 21 meals a week.

*Reservations* for accommodations in the residence halls are made by sending an application with a \$25 deposit (check or money order) to the Director of Housing, Western Washington State College, Bellingham, Washington, 98225. The check should be made payable to the College.

Space in the residence halls is assigned according to the date of receipt of application and deposit. The room assignment is made when the student moves into the hall. Students are notified with the return of their deposit receipt that they will be assured of a space in the residence hall or that their name has been placed on the waiting

list. Official assignments are made about June 1 for fall quarter and one month before the beginning of other quarters.

Students making a deposit and later deciding they do not want residence hall accommodations must cancel their reservation or have their reservation transferred to a later quarter by notifying the Director of Housing not later than August 1 for fall quarter; for winter or spring quarter reservations, the cancellation must be received one month prior to the end of the preceding quarter. Students may not move from a residence hall during the quarter; the deposit is forfeited if such withdrawal occurs. If a student is found ineligible for admission to the College, his deposit is refunded. The deposit, less any unpaid accounts for damage or for board and room, will be refunded (providing the student completes his term of occupancy) after the end of the quarter when the student checks out of the hall. All residence halls are closed during vacation periods. A prepayment of one quarter's room rent is required when the hall assignment is received.

*Room and Board Rates* for the 1966-67 academic year are:

Fall Quarter	\$264
Winter Quarter	236
Spring Quarter	225
Total	\$725

The rates are subject to change by the College Board of Trustees.

Room and board charges are assessed by the quarter, but may be paid monthly. The first payment is due at the time of official registration or one day after checking into the hall if check-in is after registration. Monthly payments are due the first business day of the month. A late payment fine of 25¢ per business day (to a maximum of \$2) is charged in the case of delinquent payments.



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.

If a student withdraws from the residence hall with the permission of the Dean of Women or Dean of Men but does not withdraw from the College, he must pay all room charges for the entire quarter during which the withdrawal occurs.

### *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 range 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.

### *Other Off-Campus Housing*

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

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 rental 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 school to locate suitable housing. There is a great demand for housing and available rentals move quickly. 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 which is 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.

Students living outside the college community who need the vehicle to commute to regular classes.

Students needing the vehicle for business or employment reasons.

Students with health or disability problems.

Students who are over twenty-one.



## STUDENT PERSONNEL SERVICES

Each student is recognized as a unique individual with his own pattern of abilities, circumstances, and needs. Through a broad spectrum of programmed individual and group guidance the College endeavors to assist students toward better self-understanding and maximum self-realization.

The College does not consider that its responsibility to students ceases with the provision of good instruction and instructional facilities. There is a keen awareness that all aspects of the student's college experience relate to his development as an increasingly effective person.

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

### *Orientation*

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

### *Freshman Counseling*

During his first year each student is teamed with a member of the faculty. These faculty 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* provide students with friendly counsel in meeting any problems which may arise. The Deans also assume responsibility for planning and regulating living conditions conducive to success in college.

*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 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 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. Dispensary and infirmary services are maintained.





### *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 meas-

ure 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.

## *Organizations*

*Living group organizations* provide an important opportunity for personal growth. Students will find that 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 advisors, 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 listing of all student organizations and their purpose 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 organizations* are open to all students through inter-denominational groups not directly a part of the College program. See *The Navigator* for a complete listing of these organizations.

*Athletics* have an important place in the activities program, whether inter-collegiate 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*

Broad opportunities for the development of new interests and skills lie in the activities of various departments. Debate is a field in which the College has won considerable eminence.

With the facilities of a regulation theater-size stage, the students have an excellent opportunity for both acting and production.

## *Music*

An active music department is developed around performance organizations including the band, orchestra, choir, various quartets, string ensembles, and other small groups.

## *Publications*

Various publications, including a news weekly, the WESTERN WASHINGTON COLLEGIAN, a college yearbook, the KLIPSUN, and certain minor publications, exemplify an active interest in journalistic and editorial talents.

## *Recreational Facilities*

Controlled by the College, these 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 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 satisfactory score on a retest offered prior to Fall Quarter and at the close of each quarter. Transfer students may demonstrate mathematical competence by offering a grade of C or better in any college level mathematics course.

While the College does not offer remedial or review courses as part of its curriculum, the Mathematics Department provides opportunities through the Office of Continuing Studies for special instruction under qualified teachers. The cost of this instruction is borne by the student.

## 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 school 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 of the Registrar.

*The standard student load* is sixteen hours, including physical education. During the first quar-



ter 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 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.

*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 prog-

ress toward a degree. (Graduate students should consult the Dean of Graduate Studies 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 (see page 17) 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, and 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 courses.

*Class attendance is required* at all times. Absences are excused only for reasons of illness or injury certified by the College Health Service; in cases of emergency allowed by the Registrar; or at the request of some authorized member of the College staff.

## 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		

A course in which a student has failed must be repeated if credit is desired.

\*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 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 even though the student is not 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".)

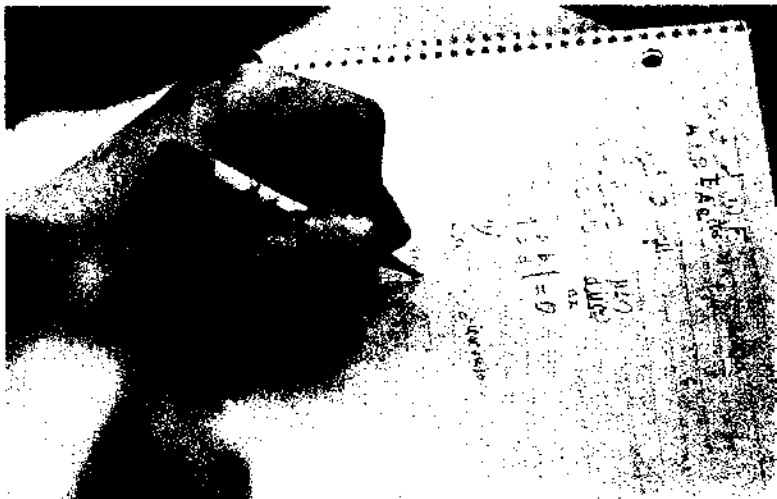
Grade points serve as a means of objectively stating a given level of scholarship. The point value assigned for each grade is as follows: A, 4 points; B, 3; C, 2; D, 1; F and U, 0. The number of grade points earned in each course is computed by multiplying the number of credits by the grade point value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

result of dividing the total number of grade points by the total number of registered hours. A grade average of 2.0 represents a letter standard of C. 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. Credit is allowed but once; however, 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 \$3.00 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.

See page 17 for policy relating to refund of fees.

### 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 at the end of his second quarter. 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; may not hold an elective or appointive office in any student organization nor appear in any performance before the student body or the public; may not represent the College or student body at any conference nor 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.

#### ADVANCED PLACEMENT AND COURSE CHALLENGE

A regularly enrolled student may challenge any course offered by the College (except a physical education activity) for credit upon demonstration of achievement commensurate with the expectations of the given 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.)

*Competency examinations* prepared by the department concerned. Credit in a given course shall, at the option of the department, be given in terms of a standard letter grade together with grade points, or may be designated by a grade of S (satisfactory) and hence not included in the computation of grade average.

*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.



#### *Regulations Pertaining to Course Challenge*

Examinations are made available during the seventh week of each quarter in the academic year. The applicant is required to file with the Registrar a declaration of intent to take the examination one month in advance.

A fee of \$2 is charged for each course challenge examination.

In the event of failure on an examination, the student may not challenge the same course a second time.

Course challenge is not to be considered as a means by which credit may be earned in a course previously failed.

The privilege of establishing credit by examination is extended only to students actually enrolled in the College at the time of the course challenge.

*The waiver of a course requirement* is in certain cases possible on the basis of previous work which is the general equivalent of the course. The student may at his option seek course waiver or course credit as above. Automatic waiver is recorded for students completing designated alternates courses for certain General Education requirements (see page ) or for transfer students with credit in equivalent courses upon evaluation of their transcripts from other colleges. In all other cases, the initiative rests with the student to file with the Registrar a record of a course waiver obtained from a department.

## 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.

### Undergraduate Study

Degrees offered: Bachelor of Arts in 20 major fields.

Bachelor of Arts in Education  
(for teacher certification, both elementary and secondary)

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.

Extension and correspondence study — limited to 48 quarter hours.

Scholarship standard — a cumulative grade point average of 2.0 (C) with no grades of less than "C" acceptable in the major, minor, professional education courses, or in English 100 and 101. (Admission to the teacher education curriculum requires a minimum grade average of 2.2.)

### *General Education Program*

Normally the major part of the General Education program is scheduled in the student's first year. He is expected to complete these requirements (except General Education 321) in his sophomore year. All students entering in the Fall of 1966 and thereafter must complete all 100 level gen-

eral education courses prior to their last 45 quarter hours of work for graduation; transfer students entering as seniors must complete all lower division general education requirements prior to the final quarter in residence.

To effect a proper distribution of students among courses throughout the three quarters, the fresh-

man program is 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.

### GENERAL EDUCATION COURSES

A common core of studies provides the foundation for specialization in any major for either bachelor's degree.

#### *Requirements*

The following constitute the general education program:

#### **HUMANITIES**

Gen Ed 121 (or 131) The Ancient and Medieval World

Gen Ed 122 (or 132) The Early Modern World

Gen Ed 123 (or 133) The Modern World

Gen Ed 321 — Survey of Afro-Asia

#### **COMMUNICATIONS**

English 100, 101 Freshmen 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

#### *Basis for Waiver*

Students planning more extensive study in one or more of the fields covered in the general education sequence will have certain requirements waived upon completion of the courses listed below. They are advised to take these alternate courses if they plan concentrations of which these are a part. See departmental sections of the Catalogue for detailed specifications.

English 100 and 101 waived for students selected for the experimental program—Gen Ed 131, 132, 133 (minimum grade of C required).

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

Gen Ed 200 waived for those taking both Economics 201 and Political Science 250; especially appropriate for majors in either of these fields.

## NATURAL SCIENCES

Biology 101 General Biology

Earth Science — Geography 101 or Geology 101

Earth science waived for students electing Geology 211; this course is required of majors in biology, general science and geology.

### *Physical Science*

Chemistry 101 (for students with no high school chemistry)

or

Physics 101 (for students with no high school physics)

Physical science waived for students with credit in both high school chemistry and high school physics, or for students electing any one of the following: Chemistry 125 or 121, or Physics 131 or 231

Students planning concentrations in the various sciences, or in home economics, mathematics, or psychology, will find one or more of these alternate courses appropriate.

### *Mathematics*

Mathematics 151 Introduction to Mathematics

Math 151 waived for students with four years of high school mathematics or for those taking Math 121, 122, or any 200 level mathematics course. One or more of these courses is appropriate to concentrations in the various sciences, economics, mathematics or 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.



## BACHELOR OF ARTS IN EDUCATION

Listed below are specifications of the Teacher Education program which leads to the Bachelor of Arts in Education degree.

### *Teacher Certification*

The State of Washington provides two regular teaching credentials:

*The Provisional Certificate* issued upon completion of the Bachelor of Arts degree program.

This certificate is valid for three years of teaching in the public schools; the first year its validity is restricted to teaching at the level and/or subject for which the teacher is recommended by virtue of his specific preparation. (Consult the academic departments as to standards required for recommendation for provisional certification.)

The provisional certificate may be renewed for an additional three years upon the basis of successful teaching experience and a substantial beginning on the fifth year of study.

*The Standard Certificate* issued upon completion of two years of successful teaching and a fifth year of approved study.

### *Admission to Teacher Education*

An important responsibility of the teaching profession is the selection of people for entrance into it. The opportunity for careful selection is shared by the colleges preparing teachers and the profession as a whole. To discharge this responsibility, the College has adopted appropriate regulations.

Admission to the College does not automatically admit the student to the teacher education program. All students following a degree program

in teacher education are required to make formal application for admission to the program while they are enrolled in Education 301. Transfer students must make application during their first quarter of residence at Western. Prior to formal admission to teacher education, a student must meet the following requirements:

*Demonstrate English competence.* Pass English 100 and 101 (or equivalent transfer credit), with grades of "B" or better.

Students having grades of less than B will pass a spelling test, a standardized test of English mechanics, and submit evidence of acceptable expository writing while enrolled in Education 301. Transfer students who enter with the equivalent of Education 301 will demonstrate expository writing while enrolled in Education 315 or Education 318. Unsatisfactory performance in these tests may result in referral to a college Writing Laboratory.

*Demonstrate Speech competence.* A test for this purpose is given in Speech 100 (Fundamentals of Speech), and by special arrangement for those who have completed this course requirement elsewhere. Consult the Speech Department for testing dates.

*Maintain satisfactory grade average.* Any student making application for admission to teacher education must maintain a cumulative grade average of 2.2 at this College.

If the student falls below this level, he is automatically dropped from the program and may enroll in no additional professional courses until the level is restored. The student is automatically reinstated in the program if he restores the 2.2 grade average the next quarter he is in residence. If he fails to restore the required minimum cumulative average in two consecutive quarters or is dropped from the teacher education program more than once, he will be disqualified for certifi-

cation or graduation in teacher education from this institution.

*Be in good academic standing.* Students on academic probation are not admissible, and when "dropped for low scholarship" may not be re-admitted to the teacher education program even though readmitted to the College.

*Complete Education 301* (or equivalent transfer credit) with a grade of "C" or better and a recommendation from the discussion leader. Transfer students must obtain a recommendation from their Education 315 or 318 instructor.

While the student's teacher education file will be initiated as part of Education 301, no formal action will be taken on his application for admission to the program until all the prerequisites outlined above have been completed and reported by the student to the Chairman of the Committee on Admission to Teacher Education. Students should expect a one-quarter lapse between the time of filing the completed application to the teacher education program and time of acceptance. Any professional work taken during the interim quarter may be used only as elective credit if the student is not admitted to the program. A maximum of five (5) credits in Education beyond Education 301 may be taken prior to the date of admission stamped in the student's blue book.

In order to prevent delay in taking further course work in the professional education sequence, students are advised to complete requirements for admission no later than the quarter immediately after taking Education 301.

Any student who has not met the admission requirements by the end of the second quarter in residence after taking Education 301 shall be dropped from the program.

## COURSE REQUIREMENTS - B. A. IN ED.

In addition to the General Education requirements, the candidate for the *Bachelor of Arts in Education* degree must complete (1) the following professional education sequence, and (2) a major and one minor concentration appropriate to his choice of teaching level.

Professional Education - 37 credits

Education 301 - American Education and the Teacher (prerequisite to the remainder of this sequence)

Education 315 - Foundations of Education  
or

Education 318 - History of Educational Thought  
Education 385 - Foundations of Teaching Reading

Courses in Educational Psychology:

351 - Principles of Human Learning

352 - Human Development and Personality

371 - Evaluation in the Public School

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

Supervised Teaching - 16 credits

Options are provided in Education 490-498. An appropriate pattern for the individual teacher is to be selected under advisement of the Education Department to meet the 16 credit requirement. Opportunity for an additional supervised teaching experience may be provided on an elective basis.

All candidates for the Bachelor of Arts in Education degree who are applying also for the Provisional Teaching Certificate must complete History 391, History and Government of Washington. The State of Washington requires United States citizenship for the issuance of a teaching certificate.

## MAJOR-MINOR CONCENTRATIONS

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—Recommended Program*

#### *Major Concentration*

45 credits in specified courses in one of the following:

Art	Music
Earth Science	Physical Education
English	(Women)
Foreign Language	Psychology
General Science	Sociology-Anthropology
Geography	Social Studies
History	Speech, general
Library Science	Speech Therapy
Mathematics	

See departmental listings, pages 50-139 for detailed specifications.

#### *Elementary Teaching Minor*

28-30 credits

- Education 485
- Mathematics 251
- Mathematics 481
- Science Education 380
- Social Studies Education 425

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

### *Elementary Teachers—Alternate Program*

#### *Major Concentration*

At least 28 credits in one of the following:

Art	Music
Earth Science	Physical Education
English	(Women)
Foreign Language	Psychology
General Science	Sociology-Anthropology
Geography	Social Studies
History	Speech, general
Library Science	Speech Therapy
Mathematics	

Selection of courses from those specified for the 45 credit major must be planned under advisement of the appropriate department.

#### *Elementary Concentration*

40 credits

- Art 380
- Education 485
- Industrial Arts 350
- Mathematics 251
- Mathematics 481
- Music 350
- Physical Education 306
- Social Studies Education 425

Two of the following:

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

Two courses from:

- Biology 383
- Geology 384
- Physical Science 382

## Secondary Teachers

(See departmental listings, pages 49-139, for detailed specifications.)

### Major Concentrations

45 credits in specified courses in one of the following:

Art	Home Economics
Biology**	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

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

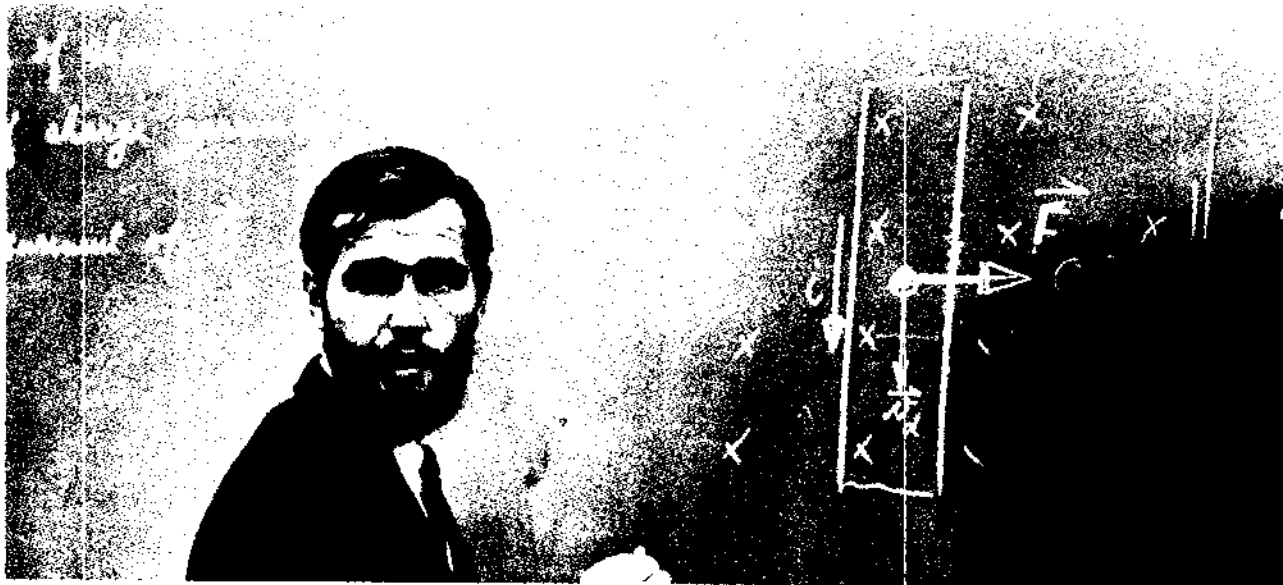
## Minor Concentrations

25 credits

Art	Library Science
Biology	Linguistics
Business Education	Mathematics
Chemistry	Music
Economics	Philosophy
English	Physical Education
Foreign Language	Physical Science (J)
Geology	Physics
Geography	Political Science
Health Science	Psychology
History	Sociology-Anthropology
Home Economics	Speech
Industrial Arts	

\* The Music Specialist program combines a major and minor in one 67-credit concentration.

\*\* Additional supporting courses are required for biology, chemistry and physics majors.



## Combined Junior High—Intermediate Grades

Students wishing to be recommended for teaching at *both* the intermediate and the junior high school levels will complete an approved major for junior high school (from the list above) and substitute the *Elementary Teaching Minor* for the junior high school minor. Competence in student teaching must be established at both levels.

### Electives

In addition to the courses specified in the various degree programs, the student elects sufficient subjects according to his needs and interests to bring his total to the required 192 credit minimum.

## SPECIAL PROGRAM FOR DEGREE HOLDERS

Persons holding a Bachelor of Arts or Bachelor of Science degree from an accredited institution may be admitted to a special program leading to the Provisional Teaching Certificate. This individually prescribed study program replaces the pattern described above for selected degree-holding students. It normally entails three quarters of residence study.

Persons selected for this program must have demonstrated academic ability, a broad liberal arts preparation, a major field acceptable for public school teaching, and realistic career plans.

## BACHELOR OF ARTS

In addition to the General Education requirements listed on page 37, the candidate for a bachelors degree in the *Arts and Sciences* must complete a *major* concentration, usually accompanied by *supporting courses* and one *minor*. In all cases, students are expected to confer early in their college careers with appropriate departmental advisers to plan and secure approval for study programs in the fields selected for specialization. Transfer students will consult these advisers for evaluation of applicable courses completed in other institutions, and will be expected to complete at least a portion of their work in the major and minor fields in this institution as prescribed by the departments concerned.

### Major

Requirements for the major and its supporting courses are prescribed up to a maximum of 85 credits. Specifications are included with each department's course listings on succeeding pages.

Concentrations are offered in:

Art	Industrial Arts
Biology	Mathematics
Chemistry	Music
Economics and Business	Philosophy
Administration	Psychology
English	Physics
Foreign Language	Political Science
Geography	Recreation
Geology	Sociology-Anthropology
History	Speech
Home Economics	



### *Minor*

Requirements for the minor include specified courses totalling 25 credits.

Concentrations are offered in:

Art	Linguistics
Biological Science	Mathematics
Business Education	Music
Chemistry	Philosophy
Economics	Physical Education - The Dance
English	Physics
Foreign Language	Political Science
Geography	Psychology
Geology	Recreation
Health Science	Sociology-Anthropology
History	Speech
Home Economics	
Industrial Arts	

### ELECTIVES

In addition to the general education requirements, the major concentration with supporting courses and a minor, the student will elect courses according to his own interest to complete the necessary 192 credits for the Bachelor of Arts degree.

### THE HONORS PROGRAM

The 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 his 1) 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 department in which the student is majoring 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.

## 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 Graduate Studies.

### *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 English, geography, history, mathematics and psychology. Master of Science programs have been approved in biology, chemistry, geography, and mathematics. Specific announcements will be made when other programs are launched.



## FIFTH YEAR PROGRAMS

The candidate for a *Standard Teaching Certificate* must complete an approved fifth year of study beyond the requirements for the Bachelor of Arts in Education degree. This requirement 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 hours.

Extension and/or correspondence study is limited to 12 quarter hours.

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.

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



Prior to beginning a program of fifth year study, the candidate for the Standard Certificate should consult the Office of Fifth Year Advisement for a more detailed statement of College standards and regulations governing fifth year study.

## PROGRAMS OF CONTINUING STUDY

The College 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.

### *Credit Courses*

Students may earn college extension credit in a wide variety of evening study courses available both on and off the 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 Office of Continuing Studies.





## DEPARTMENTS OF INSTRUCTION

Courses numbered from 100 to 299 are classified as lower division; those numbered 300-499 as upper division. The first digit generally indicates 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

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 (Chairman), Peck • *Assistant Professors:* Applegate, Foss, Hanson, Mayor, Michener, Schlotterback, Tucker, Vike, Wegner • *Lecturer:* Jensen.

### PROGRAM PLANNING

Students planning to major in art are urged to plan carefully early in their college careers with department advisors 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, and 5 credits for a minor.

### TEACHER EDUCATION MAJOR

*Elementary and Secondary* - 46-47 credits

☐ Art 101, 102, 103, 130, 210, 220, 230, 240, 270, 291, 381, 382

☐ One course from: Art 391, 392, 491, 492

☐ Three 300 level courses from one or more of the studio concentrations listed below under Arts and Sciences.

Students electing the alternate program for elementary teachers will complete 28 credits under departmental advisement from the above major.

### TEACHER EDUCATION MINOR

25 credits

☐ Art 101, 102, 130, 291, 381

☐ 10 credits in electives under advisement.

*NOTE:* Art 381 must be taken prior to student teaching in art.

### Teaching Competence

Recommendation for teaching competence normally requires completion of the major with a grade average of 2.5 or better. In some cases, students with strong minors may be considered.

### ARTS AND SCIENCES MAJOR

73 credits, plus Supporting Courses

☐ Art 101, 102, 103, 130, 201, 210, 220, 230, 291, 401

☐ One course from: Art 240, 260, 350

☐ One course from: Art 302, 402, 403 (crafts majors substitute Art 331)

☐ Three courses from: Art 391, 392, 491, 492

☐ Upper division concentration from one of the following areas:

#### Printmaking

☐ Art 311, 312, 313, 411, 412, 413

☐ One course from: Art 302, 402, 403

☐ One course from: Art 321, 325, 328

☐ 5 credits from upper division studio courses outside this area.

#### Painting

☐ Six courses from: Art 321, 325, 328, 421, 422, 423, 425, 426, 427

☐ An additional course from: Art 302, 402, 403

☐ 8 credits from upper division studio courses outside this area.

#### Sculpture

☐ Six courses from: Art 331, 332, 333, 341, 431, 432, 433, 434, 435

☐ 8 credits from 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 from upper division studio courses outside this area.

### Combined Concentration

- ☐ 12 credits from one of the above concentrations
- ☐ 9 credits in a second concentration (commercial art courses may qualify – Art 371, 372, 471 or 472)
- ☐ 8 credits from upper division courses outside the two selected areas.

### SUPPORTING COURSES

- ☐ 12 credits outside the field of art selected under advisement.

### ARTS AND SCIENCES MINOR

25 credits

- ☐ Art 101, 102, 130, 291
- ☐ Electives selected under advisement.

### DEPARTMENTAL HONORS

In addition to the general requirements for all honors students (see page 44) 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.

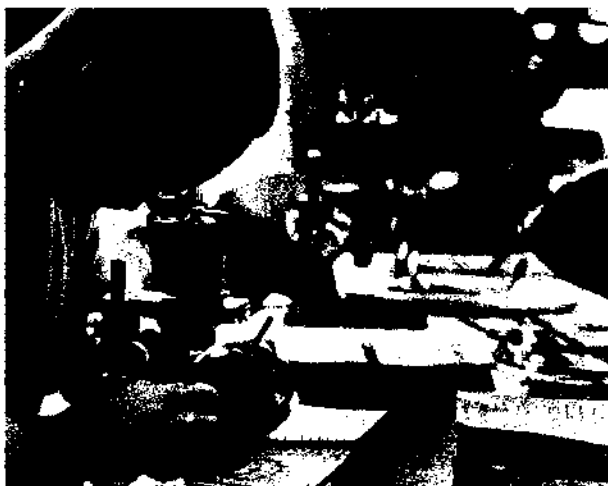
- |     |  |
|-----|--|
| 101 | DRAWING AND DESIGN I (3)<br>Fundamental principles and techniques using a variety of black and white media.  |
| 102 | DRAWING AND DESIGN II (3)<br>Prerequisite: Art 101. Studies of form and structure in a variety of media; emphasis on color, pattern and design concepts.   |
| 103 | DRAWING AND DESIGN III (3)<br>Prerequisite: Art 101. Emphasis on pictorial space, volume, and the figure.  |
| 130 | THREE DIMENSIONAL DESIGN (3)<br>Exploration of sculptural construction in space employing a variety of media.  |
| 190 | ART APPRECIATION (2)<br>Introduction to form and expression in the visual arts for the non-major; the role of line, plane, color, texture, volume, and space.  |
| 201 | LIFE DRAWING I (3)<br>Prerequisite: Art 103.   |
| 210 | PRINTMAKING I (3)<br>Prerequisite: Art 102, 103. Introduction to the major print processes, including relief, planographic, and intaglio.  |
| 220 | PAINTING I (3)<br>Prerequisites: Art 102, 103. Beginning painting; control of form and technique in relation to still-life, life painting, landscape and personal invention. using water-soluble media.                                  |
| 230 | SCULPTURE I (3)<br>Prerequisites: Art 101, 130. Modeling and carving with an emphasis on projection of volume in space.  |
| 240 | CERAMICS I (3)<br>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)<br>Prerequisites: Art 102, 103. Problems using dyes, yarns and textiles in various introductory techniques.   |
| 270 | LETTERING I (2)<br>Prerequisites: Art 101 or permission. The anatomy of letter forms, alphabets and calligraphy; problems in pen and brush lettering.  |
| 291 | MODERN ART (3)<br>Prerequisites: Gen. Ed. 122 and 123 or History 106, or concurrent registration. History of Western art in the 19th and 20th centuries; emphasis on French, German, and American modes of expression.                   |
| 302 | LIFE DRAWING II (3)<br>Prerequisite: Art 201.  |
| 311 | PRINTMAKING—LITHOGRAPHY (3)<br>Prerequisites: Art 210, 291. Planographic processes; emphasis on lithography and woodcut.   |
| 312 | PRINTMAKING—INTAGLIO (3)<br>Prerequisites: Art 210, 291. Intaglio processes; etching, engraving and aquatint.  |
| 313 | PRINTMAKING—SERIGRAPHY (3)<br>Prerequisites: Art 210, 291. Serigraphy, emphasizing stencil techniques.   |
| 321 | OIL PAINTING (3)<br>Prerequisites: Art 220, 291.   |
| 325 | WATER COLOR PAINTING (3)<br>Prerequisites: Art 220, 291. Various water-soluble media.  |
| 328 | LIFE PAINTING (3)<br>Prerequisites: Art 220, 291. Concentration on the human figure.   |

Art

- 331, 332, 333 SCULPTURE II, III, IV (3 each)  
Prerequisites: Art 230, 291. Problems in three-dimensional form and expression employing a variety of media and materials.
- 341 CERAMICS II (3)  
Prerequisites: Art 240, 291. 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, 291. Design and construction of jewelry in various metals, with emphasis on silver; the setting of stones.
- 351 JEWELRY II (3)  
Prerequisites: Art 350 (250), 291. Problems in simple and centrifugal casting.
- 352 ENAMELING (3)  
Prerequisites: Art 350 (250). Techniques of enameling on metals.
- 353 GLASS (3)  
Prerequisites: Art 102, 130, 291. Glass as an art medium, fusing, laminating, slumping, pressing, and casting.
- 361 TEXTILES II (3)  
Prerequisites: Art 260, 291. Problems with repeat pattern using silk screen, block printing, and dyes on textiles.
- 362 TEXTILES III (3)  
Prerequisites: Art 260, 291. 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, 291, 371. Design as communication; the 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 printmaking as they relate to the school.
- 381 ART EDUCATION (3)  
Prerequisites: Art 102 and 103 or Art 380; Gen. Ed. 105. The philosophy, psychology and procedures for art in the elementary and secondary schools.
- 382 ART EDUCATION STUDIO (3)  
Prerequisites: Art 381 or concurrent registration. Problems in design, drawing, painting, and sculpture and their adaptation to the elementary and secondary school.
- 391 ANCIENT AND MEDIEVAL ART (3)  
Prerequisites: Art 291 (or Gen. Ed. 121 or History 105 or concurrent registration). The genesis of Western expression from the paleolithic era through the Middle Ages.
- 392 RENAISSANCE, BAROQUE AND ROCOCO ART (3)  
Prerequisites: Art 291 (or Gen. Ed. 121 or History 105 or concurrent registration). Western art from the 15th through the 18th centuries.
- 400 SPECIAL PROBLEMS (2 to 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. A non-historical art criticism course; the development of criteria for mature artistic judgment.
- 402, 403 INVENTIVE DRAWING (3 each)  
Prerequisite: Art 201. Problems in drawing as a major medium.
- 411, 412, 413 PRINT WORKSHOP (3 each)  
Prerequisite: Art 313. Advanced printmaking, open media; use of color in intaglio or lithography.
- 421, 422, 423 ADVANCED OIL PAINTING (3 each)  
Prerequisite: 9 credits in painting, or permission. Individual search for form and expression.
- 424 MURAL PAINTING (3-5)  
Prerequisite: 12 credits in painting, or permission. Design, planning and group execution of murals for specific environments and sites.
- 425, 426, 427 ADVANCED PAINTING (3 each)  
Prerequisite: 9 credits in painting, or permission. Painting workshop, using aqueous media.
- 431 CERAMIC SCULPTURE (3)  
Prerequisites: Art 331, 341. Use of ceramic materials as a sculptural medium.
- 432 DIRECT METAL SCULPTURE (3)  
Prerequisite: Art 331. Direct metal sculpture; emphasis on the welding processes.
- 433 BRONZE CASTING (3)  
Prerequisite: Art 331. Bronze casting by the lost wax process; modeling in clay, wax and plaster; mold-making and other techniques for making cast metal sculpture.
- 434, 435 ADVANCED SCULPTURE (3 each)  
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 291, 2 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.
- 491 **AMERICAN ART TO 1913 (3)**  
Prerequisites: Art 291, 391, 392, or permission. Art in the United States from the Colonial period to the Armory Show.
- 492 **MODERN AMERICAN ART (3)**  
Prerequisites: Art 291, 391, 392. Art in the United States from 1913 to the present.

- 496 **HONORS TUTORIAL (2-5)**
- 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.



## BIOLOGY

*Professors:* Broad (Chairman), Flora, Martin, Senger, Slesnick • *Associate Professors:* Barron, Erickson, Kirkpatrick, Kraft, Parakh, Riffey, Schwemmin • *Assistant Professors:* Dube, Heath, Kohn, Mason, Nickelson, Schneider, Taylor.

### PROGRAM PLANNING

Students desiring a major or minor in biology are urged to plan carefully early in their college careers with department advisers in order to assure proper

sequence of courses selected. Biology 101 should be included as a part of the General Education program in the first quarter in college, as it is prerequisite to most other biology courses. Transfer students are required to complete at least 11 credits of the major or 5 credits of the minor in residence in this College.

### TEACHER EDUCATION AND ARTS AND SCIENCES MAJOR

**NOTE** For students planning to teach in the elementary or junior high school, the general science major is recommended. (See page 135) That concentration includes courses in biology.

40 credits, plus Supporting Courses for B.A. in Ed.; additional 10 credits for B.A. (Arts and Sciences.)

- Biology 301, 371, 477 (or Chemistry 471, 472)
- Botany 251, 252
- General Science 405
- Zoology 261, 262
- Upper division electives in biology under advisement to bring total to 40 credits for B.A. in Ed. or 50 credits for B.A.

### SUPPORTING COURSES

(May also be applied to a minor)

- Chemistry 121, 122, 131, 233 (or 461, 462, 463), 251 (or 351, 354)
- Physics—one college year under advisement
- Mathematics 100 (if needed), 220 (or 121, 122), 240
- Geology 211 or 212.

### TEACHER EDUCATION AND ARTS AND SCIENCES MINOR

25 credits

- Botany 252 and Zoology 261
- Botany 251 or Zoology 262
- 10 additional credits selected from Botany 251, Zoology 262, or upper division biology courses.

### DEPARTMENTAL HONORS

In addition to the general requirements for all honors students (see page 44), 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 *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, and evolution.
- 204 **GENERAL BIOLOGY (4)**  
Prerequisite: Biology 101 or 104. Problems dealing with variety, classification, development, adaptation, distribution, evolution and interrelationship of organic forms in the plant and animal kingdoms.
- 240 **MARINE BIOLOGY (3)**  
Prerequisite: Biology 101 or 104. 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: Biology 101 or 104. A basis for intelligent guidance in the formation of health habits and attitudes with stress on bodily functions.
- 300 **SPECIAL PROJECTS IN BIOLOGY (1 or 2)**  
Prerequisites: 15 credits in biological science and permission of instructor.
- 301 **ECOLOGY (5)**  
Prerequisites: Botany 252 and Zoology 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: Chemistry 121 and 122, or 125 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: Biology 101 or 104. Basic theories, principles and laws of heredity; laboratory experiments with *Drosophila*.

\*It is recommended that students planning to take Biology 345 and 477 take Biology 345 first.



383 BIOLOGICAL SCIENCE FOR THE ELEMENTARY SCHOOL (3)

Prerequisite: Biology 101 or 104. Philosophy, concepts, learning experiences, and materials for the biological sciences suitable to the elementary school.

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

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 to 5)

Prerequisite: permission of the instructor.

402 LIMNOLOGY (5)

Prerequisite: Biology 301. Physical and chemical characteristics of fresh water in relation to biotic communities; field trips.

403 PHYSIOLOGICAL ECOLOGY (4)

Prerequisites: Biology 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.

447 COMMUNITY HEALTH AND HYGIENE (3)

Prerequisite: 10 credits in biology. Practical application of the principles of hygiene in a study of community, national, and international health problems.

453 MONTANE BIOLOGY (3 or 5)

Prerequisite: Biology 301. Flora and fauna of the Cascade Mountains; a study of their variety, distribution and interactions with the environment. Summer only.

471 PHYSIOLOGICAL GENETICS (5)

Prerequisites: 10 credits in chemistry and Biology 371. Structure and chemical composition of genetic material; genetic systems of bacteria, viruses, yeasts and molds; aspects of the biochemical genetics of man which apply 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 each)

Prerequisites: 20 credits in biological sciences, Chemistry 121-122 and 251 or 351-352, or permission of instructor; Biology 477 prerequisite to Biology 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 each)

500 SPECIAL PROJECTS IN BIOLOGY (2 to 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: Biology 301 and permission of instructor. Analysis of current literature on fundamental properties of ecosystems, communities, populations, species, and characteristic environments.

568 TOPICS IN DEVELOPMENTAL AND COMPARATIVE MORPHOLOGY (4)

Prerequisites: one course from Botany 472, 475, Zoology 366, 368, and permission of instructor. The structural changes, cellular interactions, and control mechanisms operating during growth and development or evolution of selected organisms.

571 ADVANCED TOPICS IN GENETICS (4)

Prerequisites: Biology 371 and permission of instructor. Inheritance and gene action in plant, animal, and microbial systems; illustrative experiments with *Drosophila*, *Aspergillus* or other organisms.

577 ADVANCED TOPICS IN PHYSIOLOGY (4)

Prerequisites: Biology 477 or Chemistry 471 and permission of instructor. Selected topics in general, microbial, or comparative physiology; laboratory work to illustrate selected processes or experimental techniques.

583 ADVANCED TOPICS IN BIOSYSTEMATICS (4)

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

599 SEMINAR IN BIOLOGY (2)

Prerequisite: 40 credits in biology. Selected problems in biology, with emphasis on current literature.

## COURSES IN BOTANY

251 GENERAL BOTANY (5)

Prerequisite: Biology 101 or 104. 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: Biology 101 or 104; Botany 252 may be taken without Botany 251 as a prerequisite. Comparative study of the major divisions of the plant kingdom with a view to interpreting present structure in terms of ecological adaptation and past evolutionary heritage.

\*It is recommended that students planning to take Biology 345 and 477 take Biology 345 first.

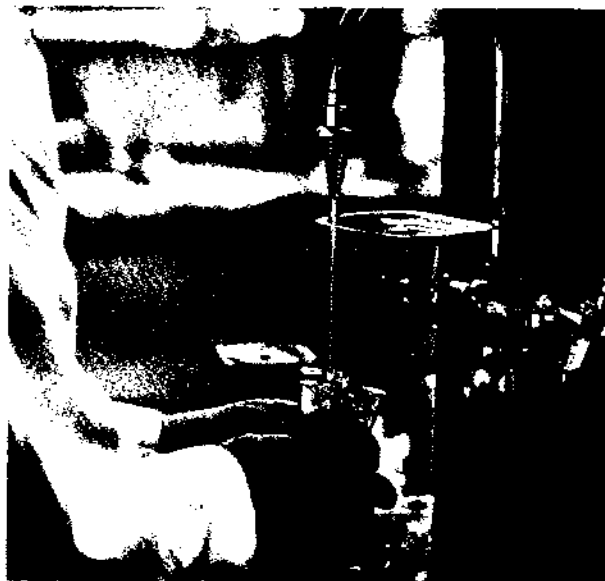
## Biology

- 253 PLANTS OF THE NORTHWEST (3)  
The identification and field recognition of plants of the local region, and an understanding of their reproduction and adaptation to environment. Summers only.
- 352 SYSTEMATIC BOTANY (5)  
Prerequisite: Botany 252. Historical survey of classification systems; use of taxonomic keys, and evolutionary development of flowering plants; recognition of common plants.
- 404 PLANT COMMUNITIES (3)  
Prerequisite: Biology 301. Ecology of plant communities with special emphasis on analysis, description, succession, and distribution. Week-end field trips included.
- 456 ALGAE (5)  
Prerequisite: Botany 252. Collection, culture, identification, classification, distribution, and economic importance of marine and fresh water algae.
- 458 BRYOPHYTES (5)  
Prerequisite: 10 credits in biology. Collection, identification, distribution and evolution of mosses and liverworts.
- 472 PLANT ANATOMY (4)  
Prerequisite: Botany 251. Development and structure of cells, tissues, and organs of vascular plants.
- 475 DEVELOPMENTAL MORPHOLOGY (3)  
Prerequisites: Botany 251 and 252. The experimental approach to the study of plant morphology.
- 479 PLANT PHYSIOLOGY (4)  
Prerequisites: Botany 251 and two quarters of college chemistry. Mineral nutrition, water economy, soils, auxins, and other items of special importance to plant growth.

## COURSES IN ZOOLOGY

- 241 HUMAN ANATOMY (5)  
Prerequisite: Biology 101 or 104 recommended; not open to students taking the combined anatomy-physiology courses, Zoology 248-249.
- 243 HUMAN PHYSIOLOGY (5)  
Prerequisite: Biology 101 or 104 recommended. Normal functions of the human body and bodily processes; not open to students taking the combined anatomy-physiology courses, Zoology 248-249.
- 248-249 HUMAN ANATOMY AND PHYSIOLOGY (5 each)  
Prerequisites: Biology 101 or 104, or permission of instructor, Zoology 248 prerequisite to Zoology 249. Structure and function of the human body. Not open to students who have had Zoology 241 or 243.
- 261 GENERAL ZOOLOGY (5)  
Prerequisite: Biology 101 or 104. Survey of the invertebrate phyla, protozoa through the annelids, and molluscs.
- 262 GENERAL ZOOLOGY (5)  
Prerequisite: Zoology 261. Survey of 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: Zoology 262. Insects, their morphology, physiology, metamorphoses, classification, and economic importance.
- 325 GENERAL ENTOMOLOGY LABORATORY (2)  
Prerequisite or concurrent: Zoology 324. Anatomy, physiology, and identification of insects.
- 361 ORNITHOLOGY (3)  
Prerequisite: Biology 101 or 104. Morphological adaptations of birds, their evolution, classification, distribution, and economic importance; field trips.
- 362 ORNITHOLOGY (3)  
Prerequisite: Biology 101 or 104, Zoology 361 recommended. Migration, foods, nesting behavior; types of bird protection.
- 363 MAMMALOLOGY (5)  
Prerequisite: Zoology 262. Habits; identification, distribution, and classification of mammals of the Northwest; methods of collection, preparation of skins, and the use of taxonomic keys.
- 366 COMPARATIVE VERTEBRATE ANATOMY (5)  
Prerequisite: Zoology 262. The morphology and evolution of the organic systems of major vertebrate groups.
- 368 GENERAL VERTEBRATE EMBRYOLOGY (5)  
Prerequisite: Zoology 262. The development of the vertebrates; laboratory study of the embryos of the chick and pig with application to human development.
- 425 FIELD ENTOMOLOGY (3)  
Prerequisite: Zoology 262. Collection, preservation, and identification of insects. Not open to those having had Zoology 324 and 325 or equivalent. Summers only.
- 426 PRINCIPLES OF INSECT CONTROL (3)  
Prerequisite: Zoology 262, or permission of instructor; Zoology 324 recommended. The principles of legal, physical, cultural, chemical, and biological regulation of insect populations; life cycles and control of major pest species.
- 450 PARASITOLOGY (4)  
Prerequisites: Zoology 261 and 262; two quarters of college chemistry. Representative animal parasites with emphasis on the structural and physiological adaptations of both parasite and host.
- 461 MARINE INVERTEBRATE ZOOLOGY (5)  
Prerequisite: Biology 301. Laboratory and field study of local marine invertebrates.

# CHEMISTRY



*Professors:* Frank (Chairman), Knapman, Neuzil  
• *Associate Professors:* Besserman, Eddy • *Assistant Professors:* Chang, King, Lampman, Miller, Whitmer.

## PROGRAM PLANNING

Students planning to major in chemistry or to begin pre-professional 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, 131, 233, 351, 352, 353, 354, 461, 462, 463
- ☐ Physical Science 492.

## SUPPORTING COURSES

- ☐ One year of college physics and Mathematics 121, 122, 222.

## TEACHER EDUCATION MINOR

25 credits

- ☐ Chemistry 121, 122, 131, 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 minimum grade average of 2.5 for senior high or 2.3 for junior high.

## ARTS AND SCIENCES MAJOR

56 credits, plus Supporting Courses

- ☐ Chemistry 121, 122, 131, 233, 351, 352, 353, 354, 355, 435, 436, 461, 462, 463, 464, 465.

## SUPPORTING COURSES

- ☐ One year of college physics and Mathematics 121, 122, 222.

A reading knowledge of German or Russian is recommended.

## ARTS AND SCIENCES MINOR

25 credits

- ☐ Chemistry 121, 122, 131, 251 (or 351 and 354), and 233 or 461.

*NOTE* Western Washington State College is approved by the American Chemical Society for certification of students who voluntarily complete a program which satisfies the minimum requirements of the Society. These requirements may be met by adding to the Arts and Sciences Concentration Chemistry 441, 454 or 455; 6 credits in Chemistry 400 or 498; 6 credits under advisement in advanced chemistry, mathematics or physics, and by demonstrating a reading knowledge of German or Russian.

## Chemistry

### DEPARTMENTAL HONORS

In addition to the general requirements for all honors students (see page 44), a chemistry major who wishes to graduate "with honors" must complete:

□ Honors 361 and 461

□ 30 credits (Arts and Sciences) or 25 credits (Teacher Education) in upper division chemistry courses

□ Chemistry 498

□ At least four credits in Chemistry 396a,b,c, and/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

- 100 INTRODUCTION CHEMISTRY (2)  
The structure of matter and chemical reactions with emphasis on nomenclature, equations, and weight relations. Restricted to students who have had no high school 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 who have had no high school chemistry.
- 121, 122 GENERAL CHEMISTRY (5 each)  
Prerequisite: high school chemistry, satisfactory completion of Chemistry 100 or 101, or permission of department. Principles and laws of chemistry developed from the properties, structure, and reactions of matter.
- 125 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.
- 131 QUALITATIVE ANALYSIS (5)  
Prerequisite: Chemistry 122 or equivalent. The theory of electrolytic solutions and its applications to systematic separations.
- 208 INDUSTRIAL CHEMISTRY (3)  
Prerequisite: Chemistry 125. Industrial chemistry and chemical technology in the contemporary world.
- 209 INDUSTRIAL CHEMISTRY LABORATORY (2)  
Prerequisite: Chemistry 208. Small scale experiments of industrial processes; field trips to local chemical industries.

- 233 QUANTITATIVE ANALYSIS (5)  
Prerequisite: Chemistry 131. Theory and practice of gravimetric, volumetric, colorimetric, and electrolytic analysis.
- 251 ELEMENTARY ORGANIC CHEMISTRY (5)  
Prerequisite: Chemistry 121 or 125. Reactivity, 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 to 2)  
Prerequisites: 20 credits in chemistry and permission of instructor. Projects under supervision.
- 305 GLASS WORKING (1)  
Prerequisite: permission of instructor. Basic techniques of glass working and construction of simple glass apparatus.
- 344 INORGANIC PREPARATIONS (2-3)  
Prerequisite: Chemistry 233. Preparations of selected inorganic compounds of high purity by diverse methods.
- 351, 352, 353 ORGANIC CHEMISTRY (3 each)  
Prerequisite: Chemistry 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: Chemistry 351. Reactions, separations and syntheses of organic compounds.
- 355 ELEMENTARY QUALITATIVE ORGANIC ANALYSIS (2)  
Prerequisites: Chemistry 131, 354 and 353, or concurrent. Identification and characterization of organic compounds.
- 396a,b,c HONORS TUTORIAL (2 to 5 each)
- 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 to 3)  
Prerequisite: permission of instructor. Individual projects under supervision.
- 435 INSTRUMENTAL ANALYSIS (3)  
Prerequisite: Chemistry 463, or permission of instructor. Theory of optical, electrical, and other physical measurements applied to chemical analysis.
- 436 INSTRUMENTAL ANALYSIS LABORATORY (2)  
Prerequisite: Chemistry 435. Experimental techniques of instrumental analysis and analytical separation.
- 441 INORGANIC CHEMISTRY (3)  
Prerequisite: Chemistry 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: Chemistry 353 and 354. The use of preparative organic reactions involving advanced techniques of synthesis.
- 455 **ADVANCED QUALITATIVE ORGANIC ANALYSIS (3)**  
Prerequisites: Chemistry 355 and 436. 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 each)**  
Prerequisites: Chemistry 461, 462, 463; Chemistry 464 and 465 may be taken concurrently with Chemistry 462 and 463, respectively. Experiments designed to illustrate some concepts and techniques of physical chemistry; also formal report writing.
- 471 **INTRODUCTORY BIOCHEMISTRY (3)**  
Prerequisites: Chemistry 353 and Biology 101. The chemistry of some fundamental life processes.
- 472 **BIOCHEMICAL LABORATORY (2)**  
Prerequisites: Chemistry 233, 354, and Chemistry 471, or concurrent. Laboratory techniques for the study of chemical life processes.
- 482 **NUCLEAR CHEMISTRY (3)**  
Prerequisites: Chemistry 131 and Physics 233, or permission of instructor. Theoretical and applied nuclear and radio-chemistry.
- 483 **NUCLEONICS LABORATORY (2)**  
Prerequisite: Chemistry 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 to 5 each)**
- 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: Chemistry 463. Specialized laboratory on a conference basis for a particular area of interest.
- 531 **SPECIAL TOPICS IN ANALYTICAL CHEMISTRY (3)**  
Prerequisites: Chemistry 435 and 463. Special methods of separation; acid-base relationships in non-aqueous solvents; chromatography, coulometric and potentiometric methods; determination of organic functional groups, micro-analytical operations and methods.
- 541 **SPECIAL TOPICS IN INORGANIC CHEMISTRY (3)**  
Prerequisite: Chemistry 463. Complex ions and coordination compounds, inorganic substances in non-aqueous media; mechanisms of inorganic reactions.
- 551 **PHYSICAL ORGANIC CHEMISTRY (3)**  
Prerequisites: Chemistry 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.
- 561, 562 **ADVANCED PHYSICAL CHEMISTRY I, II (3 each)**  
Prerequisites: Chemistry 463 and Mathematics 224, or concurrent with Chemistry 561. Emphasis on thermodynamics, solid state and chemical kinetics.
- 563 **MOLECULAR SPECTROSCOPY AND QUANTUM MECHANICS-THEORETICAL CHEMISTRY (3)**  
Prerequisites: Chemistry 463, Mathematics 301 and 331. Modern aspects of theoretical chemistry and allied fields such as quantum and statistical mechanics.
- 571 **GENERAL BIOLOGICAL CHEMISTRY (3)**  
Prerequisites: Biology 101 and Chemistry 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: Chemistry 571. Biosynthesis and chemical pathways of metabolism of amino acids, proteins, nucleic acids, lipids, vitamins, and porphyrins; mechanism of biochemical reactions.
- 581 **ADVANCED NUCLEONICS (3)**  
Prerequisites: Chemistry 463 and 483 and Mathematics 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: Chemistry 463. Presentation of contemporary subjects in chemistry.
- 598 **RESEARCH (3)**  
Prerequisite: Chemistry 463. Research in chemistry under faculty direction terminating in a master's degree thesis.

# ECONOMICS AND BUSINESS



*Professors:* Bunke, Mayer (Chairman), Palmer • *Associate Professors:* Haglund, Mischaikow, Mitchell, Spratlen • *Assistant Professors:* Chari, Faulkner, Lieberman, McAllister, Walter • *Instructors:* Sidwell, Weiss, Zoet • *Lecturers:* Tebrich, Thomas.

## TEACHER EDUCATION MINOR— ECONOMICS

*Secondary*—other than Business Education majors

24-25 credits

☐ Economics 101, 201 and 202; or Economics 201, 202 and 251

☐ 10 credits in upper division courses under prior advisement by the department.

## ARTS AND SCIENCES MAJOR— ECONOMICS

60-80 credits, plus Supporting Courses

All students taking this major will take Mathematics 220 to satisfy the General Education requirement of Mathematics 151.

☐ Economics 201, 202, 251, 252, 253

☐ Mathematics 240

☐ Economics 310, 302, 311, 375

☐ One of the following concentrations:

### *Economics*

☐ Economics 385 (or History 341), 403, and 15 credits selected under advisement from:

☐ Economics 325, 400, 410, 412, 426, 442, 461, 482, 485, 486, 491.

Supporting Courses: Geography 207, History 360, Mathematics 241 or 270.

Also recommended: Sociology-Anthropology 201 and Philosophy 113.

### *General Business*

☐ Economics 271, 353 (or 352), 408, 412

☐ Three courses from Economics 322, 333, 335, 411.

Supporting Courses: Geography 207, History 360, Mathematics 270.

### *Accounting\**

☐ Economics 271, 333, 335, 352, 354, 411, 455, 457.

Supporting Courses: Mathematics 270; History 360 is strongly recommended.

\*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.

## ARTS AND SCIENCES HONORS MAJOR ECONOMICS-MATHEMATICS

A combined Economics-Mathematics major for students wishing to get some considerable depth in both of these areas is available. For additional information students should consult both departments. In any case, they should begin to take the regular mathematics sequence (Mathematics 121, 122, 222, etc.) early in their freshman year. A 3.0 grade average in all courses is required for admission to and continued participation in this program. This program satisfies the major and the minor requirements for the B.A. degree.

## TEACHER EDUCATION MINOR— ECONOMICS

25 credits

☐ Economics 201, 202.

Additional courses, at least ten hours of which must be at upper division level, under prior advisement of the department.

## DEPARTMENTAL HONORS

In addition to the general requirements for all honors students (see page 44 ), a major in Economics who wishes to graduate "with honors" must complete:

☐ Economics 491H

☐ A reading knowledge of a foreign language or the equivalent of two years of mathematics

☐ A grade average of 3.5 in upper division economics courses

☐ Satisfactory performance on a comprehensive examination in economics.

## TEACHER EDUCATION MAJOR— BUSINESS EDUCATION

*Secondary* —45 credits. Must be accompanied by minor listed below.

☐ 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 who have had previous instruction in typing and/or shorthand are placed as high in the sequence as their backgrounds permit.)

## *Minor in Economics*

25 credits. Must accompany above major.

☐ Economics 202, 251, 252, 271, 408

☐ 5 credits from Economics 253, 311, 322, 325, 335, 341.

## TEACHER EDUCATION MINOR— BUSINESS EDUCATION

*Secondary* —25 credits

☐ Business Education 319, 322 or 323

☐ 19 credits in typing, shorthand and secretarial practice selected under departmental advisement.

## ARTS AND SCIENCES MINOR

25 credits

☐ 25 credits in typing, shorthand, secretarial accounting, and secretarial practice selected under departmental advisement.

## GRADUATE STUDY

For a concentration leading to the Master of Education degree in Business Education, see *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.

### 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.

Economics and Business

- 202 **PRINCIPLES OF ECONOMICS (5)**  
Prerequisites: Economics 201 and Mathematics 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 each)**  
Organization and operation of the American economy; particularly recommended for social studies teachers; offered by extension only.
- 250 **INCOME TAX FOR THE EMPLOYEE AND SMALL PROPRIETOR (3)**  
For wage earners, small businessmen, and students who do not plan to major in economics. Fundamental principles of the federal income tax law; completion of simple returns. Extension only.
- 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: Economics 251. Emphasis on depreciation, the voucher system, partnership and corporation accounting.
- 253 **ADMINISTRATIVE ACCOUNTING (4)**  
Prerequisite: Economics 252. Manufacturing accounting, financial analysis, and 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)**  
The various outlets for savings, such as savings accounts, stocks, bonds, and insurance; the major institutions in the investment market. Summer only.
- 301 **NATIONAL INCOME ANALYSIS (3)**  
Prerequisites: Economics 201, 202 and 311. Determinants of the level of income, employment and output in the economic system.
- 302 **INTERMEDIATE ECONOMIC THEORY (4)**  
Prerequisites: Economics 201 and 202. The theory of price under conditions of competition and monopolistic competition; relation of prices and costs, and the functional distribution of income.
- 311 **MONEY AND BANKING (5)**  
Prerequisite: Economics 201. Nature and functions of money, credit, banking, and the relationship of money and bank deposits to the economy.
- 322 **PERSONNEL MANAGEMENT (5)**  
Prerequisite: Economics 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: Economics 201. The economics of the labor market; development and functioning of labor unions and collective bargaining.
- 333 **PRINCIPLES OF PRODUCTION (5)**  
Prerequisites: Economics 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: Economics 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: Mathematics 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: Economics 201. Economic principles and problems relative to the transportation and communication system of the United States.
- 350 **INCOME TAX ACCOUNTING I (3)**  
Prerequisite: Economics 251, or permission of instructor. General income tax requirements; special problems relating to individual tax returns.
- 351 **INCOME TAX ACCOUNTING II (3)**  
Prerequisite: Economics 252 and 350. Special problems of partnerships, corporations, and trusts; introduction to tax research.
- 352 **COST ACCOUNTING (5)**  
Prerequisite: Economics 253; available to students who have taken Economics 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 the accounting records.
- 353 **MANAGEMENT CONTROLS (3)**  
Prerequisite: Economics 253; not open to students who have taken Economics 352. Cost systems, fixed and flexible budgeting, and other controls over business operations available from the accounting records.
- 354 **INTERMEDIATE ACCOUNTING (5)**  
Prerequisite: Economics 253. Accounting theory and its application to financial statements, inventories, depreciation, and funds.
- 371 **BUSINESS LAW II (5)**  
Prerequisite: Economics 271. Sales, conditional sales, personal property, partnership, and corporation law.
- 375 **STATISTICAL METHODS (3)**  
Prerequisite: Mathematics 240, or equivalent. The concepts of sampling, statistical inference and statistical decision-making as they apply to problems in economics and business.



- 385 EUROPEAN ECONOMIC DEVELOPMENT (4)  
Prerequisite: Economics 202. Brief survey of European economic development 800-1815; origin, rise and evolution of modern capitalism.
- 396a,b,c HONORS TUTORIAL (2-5 each)
- 397a AMERICAN ECONOMIC DEVELOPMENT (3)  
Prerequisite: Economics 202. The continuity of American economic institutions up to modern times in terms of the developments of the past.
- 400 SPECIAL PROBLEMS IN ECONOMICS (1-5)  
Prerequisites: 20 credits in economics and prior consultation with the instructor.
- 401 ADMINISTRATIVE ORGANIZATION AND BEHAVIOR (5)  
Prerequisite: Economics 253, or permission of instructor. Analysis of the processes of management; functions, decision-making, standards of performance; interdisciplinary contributions to organizational behavior.
- 403 THE HISTORY OF ECONOMIC THOUGHT (5)  
Prerequisites: Economics 201 and 202, or senior standing and permission of instructor. Development of economic thought with major emphasis upon the period following Adam Smith.
- 408 THE ROLE OF BUSINESS IN AMERICAN SOCIETY (3)  
Development of American capitalism and its legal, philosophical, and ethical foundations.
- 409 CONTEMPORARY ISSUES OF ECONOMIC POLICY (3)  
Prerequisite: a minimum of 20 credits in one field of the social sciences, or permission of instructor. An examination of such crucial policy issues as inflation, economic growth, automation, business concentration. Summer only.
- 410 PUBLIC FINANCE AND TAXATION (5)  
Prerequisite: Economics 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: Economics 101 or 201 and Economics 253, or permission of instructor. Major forms of business organization and problems dealing with the sources, uses, and control of funds in business enterprises.
- 412 BUSINESS FLUCTUATIONS AND FORECASTING (4)  
Prerequisites: Economics 301 and Mathematics 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, employee rating, and employee selection; summer only.
- 426 LABOR RELATIONS AND THE LAW (3)  
Prerequisite: Economics 325, or permission of instructor. A non-technical course in the elements of labor law.
- 442 GOVERNMENT AND BUSINESS (5)  
Prerequisites: Economics 202, or permission of instructor. Public policy and business enterprise.
- 455 ADVANCED ACCOUNTING (5)  
Prerequisite: Economics 354. The application of accounting theory to partnerships, branch accounting, installment sales, and other problems.
- 456 CONSOLIDATIONS, GOVERNMENTAL AND FIDUCIARY ACCOUNTING (5)  
Prerequisite: Economics 455. Special problems of consolidated corporations, municipal units, and fiduciaries.
- 457 AUDITING (5)  
Prerequisites: Economics 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: Economics 352. Critical examination of controls available to management from cost and other accounting records.
- 461 INTERNATIONAL ECONOMICS (5)  
Prerequisite: Economics 202. International trade theories; foreign economic policies; the relationship between international trade and domestic activity.
- 482 REGIONAL ECONOMICS (4)  
Prerequisites: Economics 201 and Geography 207, or permission of instructor. The problems, resource endowment, and principal policy issues related to the economic growth of a region.
- 485 COMPARATIVE ECONOMIC SYSTEMS (4)  
Prerequisite: Economics 201, or permission of instructor. Economic systems of the leading nations of the world.
- 486 ECONOMIC DEVELOPMENT (4)  
Prerequisites: Economics 201 and 202, or permission of instructor. Conditions necessary for and the progress of economic development in underdeveloped countries.
- 491,h HONORS SEMINAR (3)
- 496a,b,c HONORS TUTORIAL (2-5 each)
- 499 SENIOR SEMINAR (3)  
Prerequisites: senior standing and permission of instructor.

## Economics and Business

- 500 READINGS IN ECONOMICS (2-4)  
Prerequisite: permission of instructor.
- 501 SEMINAR IN MACRO-ECONOMIC THEORY (4)  
Prerequisite: Economics 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: Economics 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: Economics 403, or permission of instructor. Critical method in the study of economic doctrines; classical political economy; the orthodox tradition in the nineteenth century; its principal critics.
- 505 SEMINAR IN ECONOMIC HISTORY (4)  
Prerequisite: permission of instructor. A critical historical study of major economic institutions; their interdependence and contribution to modern society.
- 511 SEMINAR IN FINANCIAL INSTITUTIONS AND MONEY (4)  
Prerequisites: Economics 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: Economics 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: Economics 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: Economics 461. The pure theory of international trade and its relevance to the modern world.
- 575 SEMINAR IN QUANTITATIVE ANALYSIS (4)  
Prerequisites: Economics 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: Economics 482, or permission of instructor. Case studies in regional social accounting, growth and stability, intra- and interregional relations; concepts and criteria of regional planning with emphasis on the Pacific Northwest.
- 599 THESIS (4-9)

## COURSES IN BUSINESS EDUCATION

- 115 BEGINNING TYPEWRITING (2)  
For those with no previous instruction in typewriting; offered by extension only.
- 116 INTERMEDIATE TYPEWRITING (2)  
Prerequisite: Business Education 115 or equivalent or one year of high school typewriting.
- 117 ADVANCED TYPEWRITING (2)  
Prerequisite: Business Education 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 Simplified, including development of skill in reading and writing from printed shorthand.
- 121 INTERMEDIATE SHORTHAND (3)  
Prerequisite: Business Education 120 or equivalent. Continued development of skill in reading and writing more advanced forms of shorthand.
- 122 ADVANCED SHORTHAND I (1-3)  
Prerequisite: Business Education 121 or equivalent. Principles of Gregg Shorthand, with intensive dictation on new matter, dictation and longhand 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: Business Education 117 or equivalent. An advanced course for the development of proficiency in speed and control; business forms.
- 222 ADVANCED SHORTHAND II (3)  
Prerequisite: Business Education 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: Business 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)  
Prerequisite: Business Education 223 or equivalent. Further development of transcription skills, office techniques, and duties and problems of the secretary.

- 241 **OFFICE MACHINES (3)**  
Prerequisite: Business Education 115 or equivalent. Operation of rotary and keydriven calculators, adding machines, transcribing and recording machines, and electric typewriters.
- 242 **SPECIALIZED OFFICE MACHINES (3)**  
Prerequisite: Business Education 241 or equivalent. Advanced training on selected office machines.
- 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)**  
Analysis of objectives, materials, and methods of presentation.
- 322 **METHODS OF TEACHING TYPEWRITING (3)**  
The use of the newest instructional aids and equipment for the development of skill in typewriting.
- 323 **METHODS OF TEACHING SHORTHAND AND TRANSCRIPTION (3)**  
Lesson planning, grading, demonstrations, and dictation techniques.
- 400 **DIRECTED STUDY IN BUSINESS EDUCATION (1 to 3)**  
Prerequisites: senior standing and permission of instructor. Individual instruction.
- 471 **CURRENT TRENDS IN THE TEACHING OF TYPEWRITING (3)**  
Student motivation, electric typewriting techniques, the 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. A critical evaluation of content materials, methods, and practices used in teaching bookkeeping. Summer only.
- 473 **ECONOMIC AND CONSUMER EDUCATION IN THE SCHOOLS (3)**  
The organization and integration of economic and consumer education courses in school programs.
- 481 **PROBLEMS AND ISSUES IN BUSINESS EDUCATION (3)**  
Trends in the business programs of secondary schools. Summer only.
- 497a **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. Summer, 1966.
- 501 **SPECIAL PROJECTS IN BUSINESS EDUCATION (2 to 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, Ellis, Higbee, Ross, Skeen, Thompson (Chairman), Watrous • *Associate Professors:* Beldin, Billings, Brown, Carroll, Casanova, Ferris, Johnson, Karason, Lamb, Lawson, Lee, McCracken, McInnes, Margaritis, Nicol, Punches, Starbird, Van Wingerden • *Assistant Professors:* Anderson, Bieler, Bishop, Gadzella, Hodges, Jones, Kelly, Mullen, Nickelson, Riddles • *Instructors:* Mansfield, Mork, Murphy, Shular, Taylor. • *Lecturers:* Andrus, Bruland, Meredith, O'Brien.

## SUPERVISED TEACHING

### *Requirement*

Practice in the classroom under supervision is an integral part of the student's professional preparation. The requirement for student teaching is 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.

### *Prerequisites*

- Acceptance for the teacher education program by the Selection Committee (see page 39)
- Completion of all General Education requirements
- Completion of Education 301, 385, and Psychology 351, and Psychology 352 or 371
- Completion of a minimum of 128 credits, including, for secondary teachers, at least 30 credits of the academic major
- Attainment of a cumulative grade average (at Western Washington State College) of at least 2.20
- A chest X-ray in compliance with State Law.

### *Application*

A Declaration of Student Teaching Plan must be filed with the Office of Student Teaching during the spring quarter of the junior year.

Upon completion of the above prerequisites, the student will apply to the Office of Student Teaching for an authorization to register for supervised teaching.

### *Time Involvement*

- 16 credit courses – Education 491, 492 – seven clock hours daily, plus seminar
- 8 credit courses – Education 493-498 – 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 in 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.

## DEPARTMENTAL HONORS

In addition to the general requirements for all honors students (see page 44), a student who wishes to graduate with departmental honors must complete Education 336e,f,g – Honors Tutorial (2-5), Education 336h – Summer Readings (2-5), Education 337h – Seminar in Research (2), Education 436e,f,g – Honors Tutorial (2-5); a total of 20 credits of honors work in Education; 3 or 4 credits of honors work in student teaching; satisfactory performance on a comprehensive examination in Education.

## GRADUATE STUDY

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

## COURSES IN EDUCATION

(See also pages 124-126 for courses in Educational Psychology.)

### 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: Education 301. Sociological and anthropological concepts and their relation to the field of education; cultural changes and social organization as they apply to the teacher's role in school and community; value conflicts in curriculum and methods; the impact of social stratification on school purposes and organization.
- 318 **HISTORY OF EDUCATIONAL THOUGHT (3)**  
Prerequisite: Education 301. Significant works in the history of educational thought as an analytical framework for evaluating statements of school purposes and curriculum; the derivation of education objectives from basic philosophic premises.
- 326 **INTRODUCTION TO EXCEPTIONAL CHILDREN (3)**  
Prerequisite: Education 301, or permission of department. Problems and methods of identifying and teaching children who are handicapped or gifted.
- 336e,f,g **HONORS TUTORIAL (2-5)**
- 336h **SUMMER READINGS (2-5)**
- 337h **SEMINAR IN RESEARCH (2)**
- 373 **ELEMENTARY STATISTICAL INFERENCE (3)**  
Prerequisite: Mathematics 240, or permission of instructor. Statistical procedures and informed reading for original research. Also offered as Psychology 373.
- 385 **FOUNDATIONS OF READING INSTRUCTION (2)**  
Study-reading in content areas; speed reading; basic principles of teaching reading; standardized and informal reading testing.
- 388 **RECREATIONAL COUNSELING WITH HANDICAPPED CHILDREN (4)**  
An outdoor camp program for handicapped children and adults; responsibility for planning and carrying out a program of hiking, boating, fishing, swimming, and working with craft materials.
- 400 **SPECIAL PROJECTS IN EDUCATION (2-3)**  
Prerequisites: permission of department; 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 (5)**  
Historical development of formal education emphasizing the impact of cultural forces on the evolution of the American system of public education.
- 414 **COMPARATIVE EDUCATION (3)**  
Educational systems in the major countries in terms of backgrounds, aims, types, and present functions; comparison with the American system.
- 416 **PERSISTENT PROBLEMS IN EDUCATION (3)**  
Such issues as merit pay, federal aid, ability grouping, teachers' organizations, school reorganization, and the place of religious observance in the public schools.
- 418 **HIGHER EDUCATION IN THE UNITED STATES (3)**  
The college and university in past and contemporary society: historical-philosophical backgrounds, value orientations, organizational patterns and functions; relations with other educational institutions and with society.
- 422 **THE ELEMENTARY CURRICULUM (3)**  
Historical and analytical study of the curriculum of the elementary school.
- 423 **THE JUNIOR-COMMUNITY COLLEGE (3)**  
Prerequisite: senior or graduate status. The history, objectives, organization, and role of the public community college, with 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 the language arts in the curriculum.
- 425 **THE SECONDARY CURRICULUM (3)**  
Historical and analytical study of the curriculum of the secondary school with application of theory to instructional practices.
- 426a,b,c,d **SOCIAL STUDIES IN THE CURRICULUM (3)**  
Prerequisite: student teaching, teaching experience, or permission of department. Functions, programs, and materials in the social studies.
- 428 **KINDERGARTEN EDUCATION (3)**  
Prerequisites: senior status and student teaching or teaching experience. Historical background; recent trends; organization of facilities and materials for the kindergarten program.
- 436e,f,g **HONORS TUTORIAL (2-5)**
- 441 **SCHOOL LAW (3)**  
Prerequisite: senior status or teaching experience. Legal principles underlying statutes and court decisions related to the schools, with emphasis on the status of the teacher and the administration. Summer only.
- 450 **ADULT EDUCATION: PRINCIPLES AND METHODS (3)**  
Social, educational, and administrative implications of continuing education. Summer only.
- 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.

## Education

- 459e THE DISADVANTAGED: PSYCHOLOGICAL IMPLICATIONS (3)  
Effects of cultural-economic deprivation on the development of personality and intelligence in children and youth.
- 459f THE DISADVANTAGED: SOCIOLOGICAL IMPLICATIONS (3)  
Sociological effects of cultural-economic deprivation on youth and children; methods successful in alleviating economic and cultural deprivation in both rural and urban areas.
- 459g THE DISADVANTAGED: SEMINAR (2)  
Psychological, sociological and educational implications of the problem of disadvantaged youth; analysis of efforts at planning for disadvantaged children and youth.
- 462 METHODS, CURRICULUM, AND MATERIALS FOR EXCEPTIONAL CHILDREN (3)  
Prerequisite: senior or graduate status. Objectives, organization, facilities, and materials needed for teaching exceptional children.
- 473 ADVANCED STATISTICAL INFERENCE (3)  
Prerequisite: Education or Psychology 373 or equivalent. More advanced methods for the analysis of research data. Also offered as Psychology 473.
- 480 WORKSHOP IN INSTRUCTION (2-5)  
Offered in conjunction with a summer conference, the workshop emphasizes an aspect of instruction. Topics vary from summer to summer.
- 481 OBSERVATION AND PARTICIPATION (2)  
Prerequisite: permission of department. Guided observation of experienced teachers and limited participation in teaching situations.
- 482 THE CONSTRUCTION OF AUDIO-VISUAL MATERIALS FOR THE CLASSROOM (3)  
Education 489 recommended as preparatory. Skills and techniques involved in planning and making motion pictures, filmstrips, slides, still photographs, models, charts, and posters as aids in teaching.
- 483 SEMINAR IN OUTDOOR AND CONSERVATION EDUCATION (3)  
Natural history with emphasis on conservation, biology, ecology, geography, geology and mineralogy, and forestry.
- 484 PRACTICUM IN CONSERVATION EDUCATION (2)  
Methods and techniques of working with children in the natural environment; supervised teaching of intermediate grade children.
- 485 BASAL READING INSTRUCTION (3)  
Prerequisite: Education 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.

## 487a,b,c,d IMPROVEMENT OF INSTRUCTION IN READING (3)

Prerequisite: graduate status. Methods, materials, and theory of teaching developmental reading. (a-primary, b-intermediate, c-junior high, d-senior high levels.)

- 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.

- 489 AUDIO-VISUAL INSTRUCTION (3)  
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.

## *Supervised Teaching*

(See page 66 for prerequisites, applications, procedures, and amount of time required in all supervised teaching courses - Education 491-496 and 498.)

- 491 SUPERVISED TEACHING—ELEMENTARY (16)  
Prerequisites: Mathematics 251 and three of the following: Social Studies Education 425, Mathematics 481, Education 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 each)  
Prerequisites: Mathematics 251 and three of the following: Social Studies Education 425, Mathematics 481, Education 485, and a course in science education. Education 491 or 493 prerequisite to Education 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 each)  
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.

## 497 SPECIAL COURSES

The number 497 with a letter designation is used for workshops and special courses offered one time only. Those offered in 1965-67 are:

497a—Observation and Practicum in Teaching Reading in the Junior High School. 4 credits. Summer 1966.

497g—Using Reading Skills in Teaching Social Studies. 3 credits. Extension, 1965.

497h—Principles of Automation in School Administration. 6 credits. Summer 1966.

497j—Analysis of Deprivation and Implications for Education. 2 credits. Summer 1966.

497k—School-Community Interaction and Resources for Head Start. 2 credits. Summer 1966.

497l—The Educational Program for Children in Head Start Programs. 5 credits. Summer 1966.

497m—Programs of Action for Child Development Centers. 4 credits. Summer 1966.

497n—Dynamics of Interpersonal Relationships. 1 credit. Summer 1966.

497p—Seminar in Demonstration Teaching and Supervision. 5 credits. Summer 1966.

497q—The Parent-Teacher Association in School-Community Relationships. 1 credit. Summer 1966.

497r—Nursery Education. 3 credits. Extension, 1966.

497s—Special Problems in Reading Improvement. 1 credit. Extension, 1966.

## 498 SUPERVISED TEACHING—EXCEPTIONAL CHILDREN (8)

Prerequisites: Education 326 and 462, and teaching experience. Supervised teaching experience providing opportunities to develop and demonstrate teaching competence for exceptional children.

## 499 THE DISADVANTAGED: EDUCATIONAL IMPLICATIONS AND PRACTICUM (5)

Formation of plans for work with children.

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

Prerequisites: permission of department; a one-page description of project or research proposal must be presented. Special 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)

Major problems in American culture as they relate to education; social stratification, individual-group interaction, the family, social attitudes and prejudices, public health and welfare.

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

Prerequisite: Education 501. Differing concepts of the nature of man and his education; the 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: Education 501 and Education 512. Differing concepts of the nature of the individual and society; the psychological and sociological development of these concepts; basic premises and implicit assumptions.

## 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 Philosophy 515.

## 516 SEMINARS IN PHILOSOPHY OF EDUCATION (3 each)

Prerequisite: Education 318 or equivalent. Studies of the works of one man, of a problem, or of a movement and the implications for schooling.

## 521a,b,c,d SEMINARS IN CURRICULUM (4 each)

Prerequisites: teaching experience and Education 422 or 425, or permission of department. The planning and development of curriculum, including advanced study of curriculum design and materials; independent research. (a-primary, b-intermediate, c-junior high, d-senior high.)

## 541 PUBLIC SCHOOL ORGANIZATION AND ADMINISTRATION (3)

Practical problems related to administration of school personnel, plant, and program; the structure and organization of the school system.

## 542 WORKING WITH STUDENT TEACHERS (3)

Techniques for the orientation of student teachers, major problems which confront student teachers, and evaluation of their achievement.

## 543 SUPERVISION IN THE PUBLIC SCHOOLS (3)

Supervision as educational leadership in the development and periodic revision of plans for the continuous evaluation and improvement of school practice.

## 544 ORGANIZATION AND ADMINISTRATION OF AUDIO-VISUAL MATERIALS (3)

Prerequisite: Education 489, or permission of department. Basic problems and principles in establishing and directing an audio-visual center; coordinating, staffing, financing, housing, and evaluating the service.

## 545 PUBLIC SCHOOL FINANCE (3)

Prerequisite: Education 541. Problems involved in school finance, including budgetary and accounting procedures.

## 546 PUBLIC SCHOOL BUILDINGS AND FACILITIES (3)

Prerequisite: Education 541. Planning school building programs through analysis of population trends in the community; the relationship of school plant to the educational program; problems in utilization of school facilities.

## 548 FIELD EXPERIENCE IN ADMINISTRATION FOR THE PRINCIPAL (1-5)

For applicants for the principals' credential who have been admitted to candidacy for the master's degree. See *Graduate Bulletin* for details.

## Education

### 549 SEMINAR IN SCHOOL PERSONNEL ADMINISTRATION (3)

Professional relationships among certified employees, and other school personnel; the development and implementation of policies. Summer only.

### 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. Summer 1966: Education of Neurologically Impaired Children. 2 credits.

### 561s 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 or 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 department. Development and execution of a research design in reading.

### 594e.f.g PRACTICUM IN READING DIAGNOSIS AND REMEDIATION (4 each)

Prerequisites or concurrent: Education 487 or its equivalent, and permission of department; e, f, and 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 (Chairman), Cederstrom, Clapp, Hicks, Van Aver • *Associate Professors:* Hovde, Larsen, Lawyer, Lee, Muldrow, O'Brien, Odom, Peters, Ryan • *Assistant Professors:* Bowman, Huff, Hunt, Inness, Keep, Lewis • *Instructors:* Allan, Bridge, Bunnell, Cary, Farley, Fredeman, Haynes, Hitchcock, Johnson, LaBelle, McNeil, Merritt, Tipton • *Lecturers:* McLeod, Skinner.

### PROGRAM PLANNING

A comprehensive examination is required of all English majors declared after January 1, 1966; majors declared before that date but scheduled to graduate after March, 1967, are strongly advised to take the examination.



## TEACHER EDUCATION MAJOR

45 credits

- English 261, 262, 263, 343
- Three courses from English 321-326
- Two courses from English 331, 332, 333
- English 488
- Electives under departmental advisement to include at least one 400 level course.

Secondary majors not electing Linguistics or Rhetorical minors below will include English 390 and 496 and electives in composition. Elementary majors will include English 390, 495, and electives in composition.

Students electing the alternate program for elementary teachers will complete 28 credits of the above including English 261, 262, 263, 343; one course from 321-326, and one course from English 331, 332, 333.

**NOTE** English majors (secondary) may elect minors below, or minors in other departments.

## TEACHER EDUCATION MINORS

*Secondary* – 24-25 credits

### LINGUISTIC EMPHASIS

- Linguistics 200, 303 (see page 136)
  - English 390, 403c, 403d, 490, 491, 496
- Linguistics 301 or 302 are recommended for the Fifth Year Program.

### RHETORICAL EMPHASIS

- Linguistics 200 (see page 136)
  - English 302, 303a, 390, 403c, 403d, 496
- (Students may substitute six credits in electives for either 303a or 403c.)

### CREATIVE WRITING

- English 303a, 303b, 403a or 403b, 488 (for non-English majors)
- 4 credits under advisement in an area other than English
- 8-11 credits under departmental advisement in upper division electives.

### ENGLISH MINOR

(Not open to English majors)

- English 261, 262, 263, 343, 390, 496
- Electives under advisement – 5 credits.

## Teaching Competence

Recommendation for teaching competence normally requires completion of the major with a grade average 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, 322, 323, 324, 325, 326, at least two of which are from English 321, 322, 323
- Two courses from English 331, 332, 333
- At least one course from each of the English 349 and 359 series
- Electives under departmental advisement, including at least one 400 level course.

### SUPPORTING COURSES

- 24 credits or the equivalent in one foreign language.

## ARTS AND SCIENCES MINORS

25 credits

### ENGLISH

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

### LINGUISTIC

- Linguistics 200, 201, 301, 302, 303 (see page 136)
- English 390, 490, 491.

### RHETORICAL EMPHASIS

- Linguistics 200
- English 302, 303a, 403c, 403d, 460c; (Students may substitute three credits in electives for 303a or 403c)
- 6 credits in electives selected under advisement.

### CREATIVE WRITING

- English 303a, 303b, 403a or 403b, 488
- 4 credits under advisement in an area other than English
- 11 credits in upper division electives selected under departmental advisement.

## JOURNALISM

A limited number of courses in journalism are offered by the English Department. See English 210, 211, 212, 213, 311, 312, 313.

## DEPARTMENTAL HONORS

In addition to the general requirements for all honors students (see page 44), 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 or in literature read in a foreign language.

## GRADUATE STUDY

For concentrations leading to the Master of Education or the 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 the writing of 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.

### 210 NEWS WRITING (3)

Writing for newspapers; news elements and values, gathering news, structure and style of news stories; covering speeches and meetings, interviewing; laws affecting the press; history and role of the press in society.

### 211, 212, 213 NEWSPAPER STAFF\* (1 each)

Prerequisite: English 210 or permission of instructor. Practice in writing or editing copy for the college newspaper.

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

Prerequisite: English 100 or equivalent; intended for majors and minors. 261—form and function, meaning and value in fiction, 262—drama, 263—poetry; the writing of a number of critical essays.

### 281, 282, 283 WESTERN WORLD LITERATURE (3 each)

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 looking toward publication.

### 303 CREATIVE WRITING (3)

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

### 311, 312, 313 ADVANCED NEWSPAPER STAFF\* (2 each)

Prerequisite: English 211, 212, 213 or permission of instructor. Practice in advanced assignments in writing or editing copy for the college newspaper.

**NOTE** For all subsequent courses, English 261, 262 and 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 unless the courses are waived. For non-majors and non-minors, English 263 is prerequisite to the subsequent courses. For all 400 level literature courses, the prerequisite is 15 credits in literature, or permission of instructor.

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

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 each)

Historical and 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 (2 each)

Different writers of eminence will be treated from year to year in this series. In 1966-67: 349c Milton, 349d Arnold, 349g Shelley 349j Lawrence, 349k Yeats.

### 359 MAJOR AMERICAN WRITERS (2 each)

Different writers of eminence will be treated from year to year in this series. In 1966-67: 359a Twain, 359c Hemingway, 359f Faulkner.

\*Not applicable to the English major or minor.

- 390 AMERICAN ENGLISH AND ITS BACKGROUND (3)  
The nature of language, lexicography, American dialects, usage, history of English and English grammar, and descriptions of English grammar (traditional, structural, transformational).
- 399a,b,c HONORS TUTORIAL (2-5 each)
- 403 SENIOR WRITING WORKSHOP (1-5)  
Prerequisite: English 302 or 303 or permission of instructor. Individual projects in various types of writing. 403a Creative Writing—Poetry, 403b Creative Writing—Fiction, 403c Introduction to Rhetoric, 403d Rhetorical Analysis.
- 440 PERIOD STUDIES (2-5)  
Different literary periods and movements will be treated from year to year in this series. In 1966-67: 440b Emerson and Thoreau; 440c The "New" Poetry; Imagists to Hart Crane; 440d Three Victorian Poets: Arnold, Meredith, Hopkins.
- 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. In 1966-67: 460b The Classical Epic, 460c The Whittman Tradition in Modern Poetry, 460d The Satiric Temper.
- 461, 462, 463 DEVELOPMENT OF ENGLISH DRAMA (3 each)  
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; late nineteenth and early twentieth centuries. Also offered as Speech 421, 422, 423.
- 464, 465, 466 DEVELOPMENT OF THE ENGLISH NOVEL (3 each)  
The English novel and its traditions: 464 The eighteenth century, 465 Romantic and Victorian, 466 late nineteenth and early twentieth centuries.
- 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)  
The American theater from O'Neill to World War II. Also offered as Speech 424.
- 474, 475 DEVELOPMENT OF THE AMERICAN NOVEL (3 each)  
The American novel and its traditions with emphasis on the greater writers: 474 the nineteenth century; 475 the late nineteenth and early twentieth centuries.
- 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 (2)  
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)  
Prerequisite: 15 credits in literature or permission of instructor. The theory of literature; analysis of critical principles and problems from ancient to modern times.
- 488 MODERN LITERARY CRITICISM (3)  
Prerequisite: English 487. Tendencies in recent and contemporary criticism with emphasis upon distinguished English and American critics; wide reading in critical theory and practice; writing of critical studies.
- 490 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.
- 498 WORKSHOP IN THE TEACHING OF ENGLISH (5)
- 499a,b,c HONORS TUTORIAL (2-5 each)

## GRADUATE COURSES

NOTE 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.

English

- 501 **BIBLIOGRAPHY AND METHODS OF GRADUATE STUDY IN ENGLISH (3)**  
Required of all candidates for the M.A. and of all candidates for the M. Ed. electing the thesis option. To be taken as soon as possible after the student's admission to graduate degree status.
- 503 **WRITING SEMINAR (1-3)**  
Prerequisite: English 302 or 303 or equivalent. English 503a Poetry (3); English 503b Fiction (3).
- 520 **SEMINAR IN ANGLO-SAXON LITERATURE (3)**  
Prerequisite: English 591a or equivalent. 520a Beowulf.
- 521 **SEMINAR IN MEDIEVAL LITERATURE (3)**  
Prerequisite: English 321 or 341 or equivalent. 521a Chancer, 521b The Pearl Poet.
- 522 **SEMINAR IN SIXTEENTH-SEVENTEENTH CENTURY LITERATURE (3)**  
Prerequisite: English 322 or 343 or equivalent. 522a Milton; 522b Spenser; 522c Non-Shakespearean Drama; 522d Donne, Jonson, and the Metaphysicals.
- 523 **SEMINAR IN EIGHTEENTH CENTURY LITERATURE (3)**  
Prerequisite: English 323 or equivalent.
- 524 **SEMINAR IN ROMANTIC LITERATURE (3)**  
Prerequisite: English 324 or equivalent.
- 525 **SEMINAR IN VICTORIAN LITERATURE (3)**  
Prerequisite: English 325 or equivalent. 525b Hardy, 525c Conrad.
- 526 **SEMINAR IN CONTEMPORARY LITERATURE (3)**  
Prerequisite: English 326 or 333 or equivalent. 526a Auden, Spender, McNeice, Lewis; 526b The Ironic Novel.
- 531 **SEMINAR IN AMERICAN LITERATURE: 1800-1860 (3)**  
531a The Transcendental Movement, 531b The Rise of Realism.
- 532 **SEMINAR IN AMERICAN LITERATURE: 1860-1920 (3)**  
Prerequisite: English 332 or equivalent. 532a The American Sociological Novel.
- 543 **SEMINAR IN SHAKESPEARE (3)**  
Prerequisite: English 343 or equivalent.
- 560 **SEMINAR IN LITERARY FORM (3)**  
560a The Modern Lyric, 560b Modern English Prose Style.
- 5B7 **SEMINAR IN LITERARY CRITICISM (3)**  
5B7b The 19th Century Critics, 5B7c Theories of Comedy, 5B7d Theories of Tragedy.
- 589 **DIRECTED INDIVIDUAL STUDY (1-3)**  
Research on topics not included in formal courses.

- 590 **LINGUISTICS (3)**  
Prerequisite: English 490 or equivalent.
- 591 **HISTORICAL LINGUISTICS (3)**  
Prerequisite: English 491 or equivalent. 591a Old English, 591b Middle English.
- 598 **RESEARCH IN THE TEACHING OF ENGLISH (1-3)**  
Prerequisite: teaching experience. For Master of Education candidates only.
- 599 **THESIS (5-9)**  
Prerequisite: English 501. Credit varies according to the individual project.



## FOREIGN LANGUAGES

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

**NOTE** Students majoring in one foreign language may elect a minor in a second language. At least 9 credits in any concentration must be taken in residence.

## TEACHER EDUCATION MAJORS

*Elementary* – 45 credits.

Offered in French, German, Russian, or Spanish

☐ 201, 202, 203, 210, 211, 310, 311, 312, 410 or 411 in the selected language, except in the case of Russian in which either 370 or 470 is taken instead of 410 and 411

☐ Foreign Language Education 431

☐ Electives under departmental advisement to total 45 credits.

Students electing the alternate program for elementary teachers will complete 28 credits selected under advisement from the above major.

*Secondary* – 45 credits

### A MODERN FOREIGN LANGUAGE

☐ 45 credits in courses numbered 201 and above in French, German, Russian or Spanish, including 310, 311, 312 and Foreign Language Education 432.

### LATIN

☐ 45 credits selected under advisement.

## TEACHER EDUCATION MINORS

19-21 credits

### A MODERN FOREIGN LANGUAGE

☐ 19 credits in courses numbered 201 and above in French, German, Russian or Spanish, including six credits in courses numbered 290 and above.

### LATIN OR GREEK

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

### LINGUISTICS

☐ 21 credits – Linguistics 200, 201, 301, 302, 303 (see page 136)

☐ At least 6 credits selected under departmental advisement in a single foreign language other than the major language.

## ARTS AND SCIENCES MAJORS

45 credits, plus Supporting Courses

### A MODERN FOREIGN LANGUAGE

☐ 45 credits in courses numbered 201 and above in French, German, Russian or Spanish, including 310, 311 and 312.

### LATIN

☐ 45 credits in courses selected under departmental advisement.

### SUPPORTING COURSES

☐ A program of 21 credits for either major planned under departmental advisement in other languages, history, geography, English or linguistics.

## ARTS AND SCIENCES MINORS

19 credits

### A MODERN FOREIGN LANGUAGE

☐ 19 credits in courses numbered 201 and above in French, German, Russian or Spanish, including six credits in courses numbered 290 and above.

### LATIN OR GREEK

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

### LINGUISTICS

21 credits

☐ Linguistics 200, 201, 301, 302, 303 (see page 136)

☐ At least 6 credits selected under departmental advisement in a single foreign language other than the major language.

## DEPARTMENTAL HONORS

In addition to the general requirements for all honors students (see page 44), a foreign language major who wishes to graduate “with honors” must complete:

### ARTS AND SCIENCES

☐ 20 credits in upper division honors work in one foreign language;

### TEACHER EDUCATION

☐ 17 credits in upper division honors work in one foreign language.

## COURSES IN FOREIGN LANGUAGES

**NOTE** 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.

## FRENCH

- 100S FUNDAMENTALS OF THE FRENCH LANGUAGE (3-5)  
Prerequisite: some background experience in French; not open to students with the equivalent of more than two years of high school French. A refresher course in pronunciation, grammar, aural comprehension, reading and speaking. Not applicable to a major or minor. Summer only.
- 101, 102, 103 FIRST YEAR FRENCH (5 each)  
Fundamentals of the French language; pronunciation, grammar, aural comprehension, reading, and speaking.
- 201, 202 SECOND YEAR FRENCH (5 each)  
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.
- 204 READINGS IN THE SCIENCES (3)  
Prerequisite: French 202 or permission of instructor. For students anticipating graduate reading examinations rather than for those planning to continue a third year of the language.
- 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 INTRODUCTION TO NINETEENTH CENTURY FRENCH LITERATURE (3)  
Prerequisite: French 290 or permission of instructor. Major works and movements.
- 302 INTRODUCTION TO EIGHTEENTH CENTURY FRENCH LITERATURE (3)  
Prerequisite: French 290 or permission of instructor. The Age of Enlightenment represented in various genres.
- 303 INTRODUCTION TO SEVENTEENTH CENTURY FRENCH LITERATURE (3)  
Prerequisite: French 290 or permission of instructor. The classical period represented in various genres.

- 310, 311, 312 THIRD YEAR COMPOSITION AND GRAMMAR (2 each)  
Prerequisite: French 203 or equivalent; each course prerequisite to the next. 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.
- 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 and discussion of selected readings.
- 342 FRENCH POETRY (3)  
Prerequisite: French 290 or permission of instructor. Interpretation and discussion of selected readings.
- 367 FRENCH LITERATURE IN TRANSLATION (3)  
Selected major works in French literature read and discussed in English. Not applicable to a major or minor in French. When topics vary, the course may be repeated.
- 396a,b,c HONORS TUTORIAL (2 to 5)
- 401 SURVEY OF MEDIEVAL FRENCH LITERATURE (3)  
Prerequisite: 9 credits in upper division French. Masterpieces of the Middle Ages.
- 402 SURVEY OF FRENCH RENAISSANCE LITERATURE (3)  
Prerequisite: 9 credits in upper division French. Masterpieces of the sixteenth century.
- 403 SURVEY OF CONTEMPORARY FRENCH LITERATURE (3)  
Prerequisite: 9 credits in upper division French. Masterpieces of the twentieth century.
- 410 PHONETICS (2)  
Prerequisites: French 310, 311. Phonetic transcription and intensive oral practice to attain a mastery of good pronunciation.
- 411 COURS DE STYLE (3)  
Prerequisite: French 312 or permission of instructor. Advanced composition and grammar.
- 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 to 5 each)

## GERMAN

- 100s FUNDAMENTALS OF THE GERMAN LANGUAGE (3 to 5)  
Prerequisite: some background experience in German; not open to students with the equivalent of more than two years of high school German. A refresher course in pronunciation, grammar, aural comprehension, reading and speaking. Not applicable to a major or minor. Summer only.
- 101, 102, 103 FIRST YEAR GERMAN (5 each)  
Fundamentals of the language: Pronunciation, grammar, aural comprehension, reading and speaking.
- 201, 202, 203 SECOND YEAR GERMAN (3 each)  
Prerequisite: German 103, or two years of high school German, or the equivalent. Review of fundamentals, reading, aural comprehension, and speaking.
- 204 READINGS IN THE SCIENCES (3)  
Prerequisite: German 202 or permission of instructor. For students anticipating graduate reading examinations rather than for those planning a third year of the language.
- 210, 211 SECOND YEAR CONVERSATION AND COMPOSITION (2 each)  
Prerequisite: German 103, or two years of high school German; German 210 prerequisite to 211. Speaking, understanding, and writing German. German 210 should be taken concurrently with German 201, 211 with 202.
- 290 INTRODUCTION TO GERMAN LITERATURE (3)  
Prerequisite: 9 credits of second year German or the 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 and naturalism.
- 303 EIGHTEENTH CENTURY GERMAN LITERATURE (3)  
Prerequisite: German 290 or permission of department. The classical period of German literature as reflected in a major work of Lessing, Goethe, and Schiller.
- 310, 311, 312 THIRD YEAR COMPOSITION AND GRAMMAR (2 each)  
Prerequisite: German 211 or equivalent; each course prerequisite to the next. 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 and discussion of selected readings.
- 342 GERMAN POETRY (3)  
Prerequisite: German 290 or permission of instructor. Interpretation and discussion of selected readings.
- 343 THE GERMAN NOVELLA OF THE NINETEENTH CENTURY (3)  
Prerequisite: German 290 or permission of instructor. Interpretation and discussion of selected readings.
- 344 THE GERMAN NOVELLA 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 to 5 each)
- 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 GERMAN LITERATURE FROM THE 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.
- 411 ADVANCED COMPOSITION AND GRAMMAR (3)  
Prerequisite: German 312 or permission of instructor.
- 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 to 5 each)

## Foreign Languages

### GREEK

- 101, 102, 103 FIRST YEAR GREEK (5 each)  
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 each)  
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

- 100s FUNDAMENTALS OF THE LATIN LANGUAGE (3)  
Prerequisite: some background experience in Latin, not open to students with the equivalent of more than two years of high school Latin. Rapid survey of grammar with readings in classical and medieval Latin. Not applicable to a major or minor.
- 101, 102, 103 FIRST YEAR LATIN (5 each)  
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 each)  
Prerequisite: Latin 103 or two years of high school Latin. 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 the 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 to 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 to 5 each)

### RUSSIAN

- 101, 102, 103 FIRST YEAR RUSSIAN (5 each)  
Fundamentals of the language; pronunciation, grammar, aural comprehension, reading, and speaking.
- 201, 202, 203 SECOND YEAR RUSSIAN (3 each)  
Prerequisite: Russian 103 or two years of high school Russian, or equivalent. Review of fundamentals, reading, aural comprehension, and speaking.
- 204 READINGS IN THE SCIENCES (3)  
Prerequisite: Russian 202 or permission of instructor. For students anticipating graduate reading examinations rather than for those planning a third year of the language.
- 210, 211 SECOND YEAR CONVERSATION AND COMPOSITION (2 each)  
Prerequisite: Russian 103 or two years of high school Russian, or equivalent; Russian 210 prerequisite to 211. Speaking, understanding and writing Russian. Russian 210 should be taken concurrently with 201, 211 with 202.
- 290 INTRODUCTION TO RUSSIAN LITERATURE (3)  
Prerequisite: 9 credits of second year Russian or equivalent. Selected works of major Russian authors, with emphasis on reading improvement and methods of textual interpretation.
- 301 NINETEENTH CENTURY LITERATURE I (3)  
Prerequisite: Russian 290 or permission of instructor. An introduction to Pushkin, Lermontov, Gogol, and Turgenev.
- 302 NINETEENTH CENTURY LITERATURE II (3)  
Prerequisite: Russian 290 or permission of instructor. An introduction to Dostoevsky, Tolstoy, and Chekhov.



- 303 TWENTIETH CENTURY LITERATURE (3)  
Prerequisite: Russian 290 or permission of instructor. The Symbolists, Acmeists, and Futurists; Russian formalism; Soviet Russian literature; versification.
- 310, 311, 312 THIRD YEAR COMPOSITION AND CONVERSATION (2 each)  
Prerequisite: Russian 211 or equivalent; each course prerequisite to the next. Written and oral composition and vocabulary building.
- 330 CIVILIZATION OF RUSSIA (3)  
Prerequisite: 9 credits of second year Russian or 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.
- 370 INTRODUCTION TO SLAVIC LINGUISTICS (3)  
Prerequisite: 3 credits of third year Russian or permission of instructor. Principles of general synchronic and diachronic linguistics as applied to the Slavic languages.
- 396a,b,c HONORS TUTORIAL (2 to 5)
- 450 STUDIES IN RUSSIAN LITERATURE (3)  
Prerequisite: 9 credits in upper division Russian or equivalent, and permission of department. Major authors and movements; since topics vary, the course may be repeated.
- 470 STRUCTURE OF RUSSIAN I (2)  
Prerequisite: three years of college Russian or permission of instructor. Principles of phonology and their application; phonetics as the basis of phonology.
- 471 STRUCTURE OF RUSSIAN II (2)  
Prerequisite: Russian 470 or permission of the instructor. Morphology of the verb.
- 472 STRUCTURE OF RUSSIAN III (2)  
Prerequisite: Russian 470 or permission of instructor. Morphology of the noun.
- 496a,b,c HONORS TUTORIAL (2 to 5 each)
- SPANISH
- 100s FUNDAMENTALS OF THE SPANISH LANGUAGE (3 5)  
Prerequisite: some background experience in Spanish; not open to students with the equivalent of more than two years of high school Spanish. Refresher course in pronunciation, grammar, aural comprehension, reading and speaking. Not applicable to a major or minor. Summer only.
- 101, 102, 103 FIRST YEAR SPANISH (5 each)  
Fundamentals of the language, pronunciation, grammar, aural comprehension, reading and speaking.
- 201, 202, 203 SECOND YEAR SPANISH (3 each)  
Prerequisite: Spanish 103 or two years of high school Spanish or the equivalent. Review of fundamentals, reading, aural comprehension, and speaking.
- 204 READINGS IN THE SCIENCES (3)  
Prerequisite: Spanish 202 or permission of instructor. For students anticipating graduate reading examinations rather than for those planning a third year of the language.
- 210, 211 SECOND YEAR CONVERSATION AND COMPOSITION (2 each)  
Prerequisite: Spanish 103 or two years of high school Spanish, or equivalent; Spanish 210 prerequisite to 211. Speaking, understanding, writing Spanish. Spanish 210 should be taken concurrently with 201, 211 with 202.
- 301 INTRODUCTION TO SPANISH LITERATURE (3)  
Prerequisite: 9 credits of second year Spanish or equivalent. Masterpieces of Spanish prose and poetry.
- 302 NINETEENTH CENTURY SPANISH LITERATURE (3)  
Prerequisite: Spanish 301, 330A, or permission of department. Prose and poetry of the nineteenth century, with emphasis on the novel of realism.
- 303 THE GENERATION OF '98 (3)  
Prerequisite: Spanish 301, 330A, or permission of department. Novels, drama, essays of Baroja, Valle-Inclan, Azorin, Unamuno, Ortega y Gasset, and Benavente.
- 304 INTRODUCTION TO SPANISH-AMERICAN LITERATURE (3)  
Prerequisite: 9 credits of second year Spanish. Prose and poetry from the colonial period to the present studied in an historical and sociological framework.
- 305 THE SPANISH-AMERICAN NOVEL (3)  
Prerequisite: Spanish 301, 330B, or permission of department. The novel in the late nineteenth and twentieth centuries in Mexico and South America, with emphasis on its regional character and the political and social atmosphere in which it developed.
- 306 THE MODERNISTA MOVEMENT IN SPANISH-AMERICAN LITERATURE (3)  
Prerequisite: Spanish 301, 330B, or permission of department. Prose and poetry of the late nineteenth century writers comprising the school of modernism.
- 310, 311, 312 THIRD YEAR CONVERSATION AND GRAMMAR (2 each)  
Prerequisite: Spanish 211 or equivalent; each course is prerequisite to the next. Written and oral composition and vocabulary building.
- 330A CIVILIZATION OF SPAIN (3)  
Prerequisite: 9 credits of second year Spanish or equivalent. Significant elements of Spanish civilization presented through Spanish texts.
- 330B CIVILIZATION OF SPANISH AMERICA (3)  
Prerequisite: 9 credits of 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. Interpretations and discussion of selected readings.
- 342 SPANISH POETRY (3)  
Prerequisite: Spanish 203 or equivalent. Interpretations and discussion of selected readings.
- 387 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 to 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.
- 411 ADVANCED COMPOSITION AND GRAMMAR (3)  
Prerequisite: Spanish 312 or permission.
- 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.

## FOREIGN LANGUAGE EDUCATION

- 431 METHODS AND MATERIALS FOR TEACHING MODERN FOREIGN LANGUAGES IN THE ELEMENTARY SCHOOL (3)  
Prerequisite: 9 credits of one modern foreign language beyond the second year.
- 432 METHODS AND MATERIALS FOR TEACHING OF MODERN FOREIGN LANGUAGES IN THE SECONDARY SCHOOL (3)  
Prerequisite: 9 credits of one modern foreign language beyond the second year.

# GEOGRAPHY

*Professor: Critchfield (Chairman) • Associate Professors: Miller, Monahan • Assistant Professors: Mookherjee, Scott, Teshera • Instructors: Modry, Vollbracht*

## TEACHER EDUCATION MAJORS

*Elementary—45 credits*

- Geography 101, 201, 251, 401, 421, 460
- 5 credits from: Geography 311, 313, 314, 315, 316, 318, 319, 320, 415
- One course from: Geography 331, 333, 351, 353, 453
- One course from: Geography 207, 341, 422, 423, 430, 435, 440, 470, 480, 481
- Electives—All selections are to be made under departmental advisement

Students electing the alternate program for elementary teachers will complete 28 credits selected under advisement from the above major.

*Secondary—45 credits*

- Geography 101, 201, 207, 311, 331, 460, 470
  - 5 credits from Geography 313, 314, 315, 316, 318, 319, 320, 401, 415
  - One course from Geography 251, 333, 351, 353, 453
  - Two courses from Geography 341, 421, 422, 423, 430, 435, 440, 454, 480, 481, 490; Social Studies Education 426
- All selections are to be made under departmental advisement.



## TEACHER EDUCATION MINOR

20 credits

- Geography 201, 207, 470
- Electives under advisement

## ARTS AND SCIENCES

### PROGRAM PLANNING

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.

## *Geography Major*

50 credits

- Geography 101, 201, 207, 331, 351
  - Three courses selected under advisement from: Geography 311, 313, 314, 315, 316, 318, 319, 320, 401, 415
  - One course from: Geography 333, 353, 421, 422, 423, 452, 453, 454; Geology 310; Biology 301.
  - One course from: Geography 341, 430, 435, 440, 470
  - One course from: Geography 480, 481, 490
  - Electives
- All selections are to be made under departmental advisement.

## *Geography Minor*

25 credits

- Geography 100 or 201
- Electives under advisement

## *Rural and Urban Planning Major*

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, and 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: Biology 447, Economics 202, 408, 410, 415, Geography 353, 452, 453, Industrial Arts 240, Mathematics 270, Sociology 431, 441 (or Political Science 450)

## *Rural and Urban Planning Minor*

25 credits

- Geography 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 (see page 44) a geography major who wishes to graduate "with honors" must complete:

- 5 credits from Geography 480, 481, 490
- 15 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)  
For students who have not had a high school course in geography. Major world regions treated with special attention to population, land, and resources.
- 101 PHYSICAL GEOGRAPHY (4)  
Principles and techniques in the analysis of areal distributions in the natural environment; landforms, hydrography, climate, soils, and vegetation.
- 201 HUMAN GEOGRAPHY (3)  
Interrelations of man and his natural environment, emphasizing cultural influences on world geographic patterns.
- 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 GEOGRAPHY OF ANGLO-AMERICA (5)  
Prerequisite: 3 credits in geography. Physical environments, resources, settlement and economies of Canada and the United States.
- 313 GEOGRAPHY OF CARIBBEAN AMERICA (3)  
Prerequisite: 3 credits in geography. Land forms, climate, vegetation, and soils of Mexico, Central America, and the West Indies and their relationship to history, settlement patterns, and current economic conditions.
- 314 GEOGRAPHY OF SOUTH AMERICA (5)  
Prerequisite: 3 credits in geography. South American nations, emphasizing culture, natural environment, economic activities and regional differences.
- 315 GEOGRAPHY OF ASIA (5)  
Prerequisite: 3 credits in geography. Asia's settlement, population, economic resources and activities, and associated problems.
- 316 GEOGRAPHY OF EUROPE (5)  
Prerequisite: 3 credits in geography. Economic, political, and cultural problems of Europe.
- 318 GEOGRAPHY OF THE PACIFIC (3)  
Prerequisite: 3 credits in geography. Physical environment, resources, and settlement of the Pacific Islands, Australia, and New Zealand.
- 319 GEOGRAPHY OF AFRICA (3)  
Prerequisite: 3 credits in geography. Resources, settlement, peoples, and development of Africa.
- 320 GEOGRAPHY OF 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: Geography 101 or equivalent. Elements of climate, climatic regions, and climate as an environmental factor.
- 333 BIOGEOGRAPHY (3)  
Prerequisite: Geography 101 or equivalent. Origin, distribution, and adaptation of plant and animal association; examination of representative plant and animal forms in relation to their physical environment and to man.
- 341 URBAN GEOGRAPHY (3)  
Prerequisite: Geography 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 to 5 each)
- 400 SPECIAL PROBLEMS IN GEOGRAPHY (2 to 5)  
Prerequisite: permission of instructor. Individual projects under supervision.
- 401 GEOGRAPHY OF THE PACIFIC NORTHWEST (3)  
Prerequisite: 3 credits in geography. Pacific Northwest resources and industries and problems in resource development.

- 415 **GEOGRAPHY OF INDIA AND PAKISTAN (3)**  
Prerequisite: Geography 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: Geography 101 or equivalent. Properties, formation, classification, distribution and management of the world's soils.
- 430 **RURAL AND URBAN PLANNING (5)**  
Prerequisite: Geography 341. Principles, problems, and techniques of planning urban, suburban, and rural land use; theoretical and legal bases for functions of planning agencies.
- 435 **HISTORICAL GEOGRAPHY OF THE UNITED STATES (3)**  
Prerequisite: Geography 311 or American History. The relation of settlement of the United States to geographic factors; correlation of history and geography.
- 440 **GEOGRAPHY OF POPULATION (3)**  
Prerequisite: Geography 201. Distribution of population density and composition; patterns of migration and settlement in selected world areas.
- 452 **ADVANCED CARTOGRAPHY (3 to 5)**  
Geography 351 and permission of instructor. Advanced problems and laboratory projects in map and chart construction.
- 453 **FIELD METHODS IN GEOGRAPHY (3)**  
Prerequisite: Geography 351, or permission of instructor. Recording, mapping, and analysis of physical and cultural features.
- 454 **ANALYSIS OF AREAL DATA (4)**  
Prerequisite: Mathematics 240. Statistical and cartographic techniques in the solution of geographic problems.
- 460 **THE TEACHING OF GEOGRAPHY (3)**  
Prerequisite: 10 credits in geography. Source materials and methods of geographic instruction in the public schools.
- 470 **POLITICAL GEOGRAPHY (3)**  
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 of the world.
- 480 **THEORETICAL AND APPLIED GEOGRAPHY (2 to 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 to 5 each)**
- 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: Geography 460 or concurrent. Current trends in geographic instruction at all educational levels.
- 580 **PROBLEMS IN SYSTEMATIC GEOGRAPHY (5)**  
Prerequisites: Geography 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:* Christman, Easterbrook (Chairman), Ellis, Ross, Swincford • *Assistant Professor:* Brown

## PROGRAM PLANNING

The student interested in a geology major should consult early in his college career with departmental advisers in order to plan for 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 advisement from Geology 316, 317, 399, 400, 407, 410, 412, 413, 414, 430, 440; Geography 353, 421 or 422, 423; Physics 321

Students electing the alternate program for elementary teachers will complete 28 credits selected under advisement from the above major.

*Secondary*—45 credits, plus Supporting Courses

- Geology 211, 212, 305, 306, 310
- Geography 331; Physics 105, 131
- Electives from: Geology 316, 317, 319, 399, 400, 407, 410, 412, 413, 414, 426, 430, 440; Geography 353, 421 or 422, 423; Physics 312

## SUPPORTING COURSES

- Chemistry 121, Mathematics 121. A minor in one of the sciences or in mathematics is strongly recommended.

## TEACHER EDUCATION MINOR— GEOLOGY

*Secondary*—25 credits

- Geology 211, 212
- 16 credits under advisement of the department

## ARTS AND SCIENCES MAJOR

50 credits, plus Supporting Courses

- Geology 211, 212, 305, 306, 310, 316, 317
  - One course from Geology 407, 423, 424, 425
  - 14 credits under advisement from: Geology 300, 319, 399, 400, 410, 416, 418, 423, 424, 425, 426, 430, 440
  - Not more than 6 credits from Geology 412, 413, 414
- Substitutions in biology may be made for paleontology emphasis

## SUPPORTING COURSES

- Chemistry 121, 122; Physics 131 or 231; Mathematics 121 in meeting general education requirements
  - 20 additional credits under advisement in biology, mathematics, physics or chemistry
- A minor in one of these fields is strongly recommended

## ARTS AND SCIENCES MINOR

25 credits

- Geology 211, 212
- 16 credits selected under advisement of the department

## DEPARTMENTAL HONORS

In addition to the general requirements for all honors students (see page 44 ), a geology major who wishes to graduate "with honors" must include:

- Geology 399
- A comprehensive examination in geology.

## 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: Geology 211, or permission of department. History of the earth as interpreted from the rocks and the story of the development of its inhabitants; the 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: Chemistry 121. Crystallography, crystal chemistry, and crystal structure fundamental to the study of minerals.

## 306 DESCRIPTIVE MINERALOGY (5)

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

## 310 GEOMORPHOLOGY (5)

Prerequisite: Geology 211, or permission of department. Origin and evolution of topographic features by surface processes; analysis of glaciers, streams, wind, waves, ground water, and other agents in development of landforms.

## 311 COMMON ROCKS AND MINERALS (4)

Prerequisites: Geology 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.

## 314 ANCIENT LIFE

Prerequisite: Geology 101 or 211. Environment, distribution and characteristics of prehistoric life. Summer 1966.

## 316 PRINCIPLES OF PALEONTOLOGY (5)

Prerequisite: Geology 212, or permission of department. Life on the earth as revealed by its inhabitants, past and present.

## 317 STRUCTURAL GEOLOGY (5)

Prerequisites: Geology 211, 212. Description, classification, and interpretation of earth structures; laboratory solution of structural problems by use of geologic maps.

## 319 ECONOMIC GEOLOGY (4)

Prerequisite: Geology 306 or 311. Economic minerals and ore deposits, their genesis and occurrence.

## 384 EARTH SCIENCE FOR THE ELEMENTARY SCHOOL (3)

Prerequisite: Geology 101 or Geography 101. Concepts, experiences, and materials from the earth sciences adaptable to the elementary and junior high school classroom.

## 396a,b,c HONOR TUTORIAL (2 to 5 each)

## 399 SEMINAR IN GEOLOGY (1)

Prerequisite: permission of department. Geological reports, papers, and discussion.

## 400 SPECIAL PROJECTS IN GEOLOGY (2 to 5)

Prerequisite: permission of department. Special projects under supervision.

## Geology

- 407 **PETROLOGY (3)**  
Prerequisite: Geology 306; not open to those with credit in Geology 423, 424, or 425. Comprehensive course for geology majors and minors; origin, occurrence, and classification of igneous, sedimentary, and metamorphic rocks, and hand specimen identification.
- 410 **FIELD GEOLOGY (3 or 5)**  
Prerequisite: Geology 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: Geology 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: Geology 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: Geology 311, or permission of department. The significant geologic features of Washington State; field studies.
- 416 **STRATIGRAPHY (5)**  
Prerequisite: Geology 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: Geology 306. Optical phenomena as related to mineralogy and identification of minerals from optical properties with the use of the polarizing microscope.
- 423 **IGNEOUS PETROGRAPHY AND PETROLOGY (5)**  
Prerequisite: Geology 418. 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: Geology 418. 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: Geology 418 and preferably 423. Origin, occurrence, and classification of metamorphic rocks and minerals, and use of thin sections in identifying metamorphic minerals.
- 426 **MICROPALAEONTOLOGY (4)**  
Prerequisite: Geology 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: Geology 310. Identification and interpretation of geologic features using topographic maps and aerial photographs.
- 440 **GLACIAL GEOLOGY (3)**  
Prerequisite: Geology 310. Processes and phenomena related to modern and ancient glaciers; effects of Pleistocene glaciations.
- 496a,b,c **HONORS TUTORIAL (2 to 5 each)**
- 500 **SPECIAL PROJECTS IN EARTH SCIENCE (2 to 5)**  
Prerequisite: permission of instructor. Special projects under supervision.
- 510 **FIELD PROBLEM (2-5)**  
Prerequisite: Geology 410 or recognized summer field camp. Field mapping problem and report in geology.
- 511 **ADVANCED STUDIES IN PHYSICAL GEOLOGY (3)**  
Prerequisite: Geology 407, or permission of instructor. Independent or class study of recent advances in physical geology.
- 512 **ADVANCED STUDIES IN HISTORICAL GEOLOGY (3)**  
Prerequisite: Geology 316, or permission of instructor. Independent or class study of recent advances in historical geology.
- 514 **ADVANCED STUDIES IN GEOMORPHOLOGY (3)**  
Prerequisite: Geology 310. Advanced work in fluvial morphology and other areas.
- 516 **ADVANCED STUDIES IN PALEONTOLOGY (3)**  
Prerequisite: Geology 316. Advanced work in invertebrate or vertebrate paleontology, micropaleontology or paleobotany.
- 523 **ADVANCED STUDIES IN PETROGRAPHY AND PETROLOGY (3)**  
Prerequisites: Geology 418, 423, 424, 425. Advanced work in igneous, sedimentary, or metamorphic petrography and petrology.
- 570 **THESIS (6-9)**  
Independent research.



# HISTORY



*Professors:* Bultmann, Murray (Chairman), Radke  
• *Associate Professors:* Boylan, Hiller, McAree, Roe, Schuler • *Assistant Professors:* DeLorme, Horn, Thomas • *Instructors:* Davis, Moore • *Lecturer:* Knibbs

## TEACHER EDUCATION MAJOR

*All Levels* – 45 credits

- History 203, 204
- Select two: History 426, 427, 428, 429, 431, 432, 435, 436, 437, 438, 439
- Select one: History 410, 411, 412, 415, 416, 420
- History 499 (for senior high school teachers only)
- Additional courses under advisement

Students electing the alternate program for elementary teachers will complete 28 credits selected under advisement from the above major.

## TEACHER EDUCATION MINOR

25 credits

- History 203, 204
- Additional courses, 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
- Select two: History 426, 427, 428, 429, 431, 432, 435, 436, 437, 438, 439
- Select one: History 410, 411, 412, 415, 416, 420

Additional courses under advisement. History 499 strongly recommended for students intending to pursue graduate study in history.

## SUPPORTING COURSES

- Political Science 250 and one or more basic courses in other fields of the social sciences; 24 credits or the equivalent in one appropriate foreign language.

## History

### ARTS AND SCIENCES MINOR

25 credits

History 203, 204

Additional courses in history under advisement.

### DEPARTMENTAL HONORS

A history major who wishes to graduate "with honors" must meet the general requirements for all honors students (see page 44). He should consult the department chairman regarding special requirements.

### GRADUATE STUDY

For concentrations in history leading to a 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, 497a, 499, 500, 501, 502, 503, 504, 505

Ancient and Medieval—410, 411, 412, 415, 416, 420, 510

Modern Europe—336, 341, 347, 388, 425, 426, 427, 428, 429, 431, 432, 433, 434, 435, 436, 437, 438, 439, 530, 540

United States—203, 204, 360, 367, 391, 450, 451, 452, 453, 454, 455, 457, 459, 461, 463, 465, 467, 550

Western Hemisphere—270, 471, 473, 570

Afro-Asia—280, 385, 481, 482, 483, 484, 485, 487, 580

105, 106 HISTORY OF CIVILIZATION (5 each)

Not open to entering freshmen. 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, 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)

European 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 the later periods.

367 AMERICAN INTELLECTUAL HISTORY (5)

The development of the American mind from colonial times to the present.

385 AFRICA (5)

African history from the sixteenth century to the present.

388 THE BRITISH EMPIRE (5)

Development of the overseas empire of Great Britain from Elizabethan times 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. This course meets the requirement for Washington state teacher certification.

400 SPECIAL PROBLEMS (1 to 5)

Prerequisite: permission of department.

408 WORLD WARS OF THE TWENTIETH CENTURY (5)

Military analysis of the Great Wars of this century, with emphasis on the strategic and tactical considerations which governed their course.

- 410 ANCIENT NEAR EAST (4)  
Prerequisite: History 105 or General Education  
121. Genesis of Western civilization: our cultural debt to the ancient Mesopotamians, Egyptians, Hittites, Phoenicians, Aramaeans, Hebrews, Assyrians, and Persians.
- 411 GREECE (5)  
Prerequisite: History 105 or General Education  
121; open to sophomores with permission of instructor. The Greek World from the Minoan-Mycenaean period to about 220 B.C.
- 412 ROME (5)  
Prerequisite: History 105 or General Education  
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: History 105 or General Education  
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: History 105 or General Education  
121; open to sophomores with permission of instructor. From the dedication of Constantinople to its fall (330-1453).
- 420 THE RENAISSANCE AND THE REFORMATION (5)  
Prerequisite: History 105 or General Education  
121; open to sophomores with permission of instructor. The 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 the 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 the 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 the 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 the 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)
- 435 FRANCE SINCE 1815 (5)  
Political, social, and economic development of France since Napoleon.
- 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 the end of the 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; the 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.
- 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.
- 455 THE PROGRESSIVE MOVEMENT (5)  
Economic, social, and political protest in America from the Civil War to 1920; growth and decline of the Progressive Party between 1900 and 1916.

## History

- 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: History 203 or equivalent. Constitutional development from the Revolutionary era to the present.
- 465 THE AMERICAN WEST (5)  
Westward Movement from the Allegheny Mountains to the Pacific Ocean, with special emphasis upon the Far West.
- 467 THE SOUTH (5)  
From the development of a distinctive Southern culture in late eighteenth century America 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.
- 497a SPECIAL PROBLEMS IN THE STUDY OF HISTORY (3)  
Prerequisites: Social Studies Education 425 or 426, teaching experience. Designed to improve the understandings of the basic field of analysis used to describe a given country or area. Extension, 1965.
- 499 HISTORICAL RESEARCH (3)  
Introduction to historical research methods; analysis of a particular historical field; an assigned special project.
- 500 CONFERENCE (1)  
Methodology and related problems.
- 501 HISTORIOGRAPHY (5)  
Analysis of historians and historical literature to the 19th century.
- 502 HISTORIOGRAPHY (5)  
Continuation of History 501. Analysis of historians and historical literature of the 19th and 20th centuries.
- 503 WRITING SEMINAR (5)  
Prerequisites: 36 credits in history, or permission of department. Materials and methodology of historical research.
- 504 WRITING SEMINAR (5)  
Prerequisite: History 503. Continuation of research begun in History 503. Not offered in summers.
- 505 WRITING SEMINAR—THESIS (5)  
Prerequisite: History 504. Not offered in summers.
- 510 FIELD COURSE—ANCIENT HISTORY (10)  
Prerequisites: 36 credits in history, or permission of department; Greece—special prerequisite: an upper division course in Greek history; Rome—special prerequisite: an upper division course in Roman history.
- 530 FIELD COURSE—ENGLISH HISTORY (10)  
Prerequisites: 36 credits in history, or permission of department. Historical literature from English history.
- 540 FIELD COURSE—MODERN EUROPEAN HISTORY (10)  
Prerequisites: 36 credits in history, or permission of department. Historical literature from modern European history.
- 550 FIELD COURSE—AMERICAN HISTORY (10)  
Prerequisites: 36 credits in history, or permission of department. Historical literature from American history.
- 570 FIELD COURSE—WESTERN HEMISPHERE HISTORY (10)  
Prerequisites: 36 credits in history, including corresponding undergraduate course, or permission of department. The corresponding undergraduate course may be taken concurrently with first quarter of field course. Historical literature from Canadian or Latin American history.
- 580 FIELD COURSE—AFRO-ASIAN HISTORY (10)  
Prerequisites: 36 credits in history, or permission of department. Historical literature from African or Asian history.

# HOME ECONOMICS



*Associate Professor:* Ramsland (Chairman) • *Assistant Professors:* Bieker, Larrabee, Roberts • *Instructor:* Leno

## PROGRAM PLANNING

A major in home economics qualifies the student to teach home economics at junior high and non-vocational senior high school level. Students wishing to qualify for home economics vocational certification should consult the chairman of the Home Economics Department.

## TEACHER EDUCATION MAJOR

*Secondary* -- 45 credits

□ Home Economics 100, 120, 150, 164, 253, 260, 272, 334, 338, 341, 353, 375, 410, 420, 424, 430  
□ Chemistry 125 is recommended in meeting the general education requirement in physical science.

### SUPPORTING COURSES

□ Art 102, 190, Economics 201

Students anticipating vocational certification should include Chemistry 125, 251, and Home Economics 432

## TEACHER EDUCATION MINOR

□ 20 credits selected under departmental advisement. Preliminary consultation with an adviser is essential before undertaking a minor.

### *Teaching Competence*

Recommendation for teaching competence 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 Economics 100, 120, 150, 164, 253, 260, 272, 334, 338, 353, 370, 375, 410, 420, 424, 430, and one course from 362, 363, 460 or 475.

### SUPPORTING COURSES

□ Art 102, 190; Economics 201; Sociology 201, 351

## ARTS AND SCIENCES MINOR

25 credits

□ Home Economics 100, 120, 150 or 250, 253, 260, 334, 375, and either 420 or 424.

A one- or two-year program is planned for students who may wish to transfer or who have special needs for a shorter program. See department for details.

## 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, and 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.

## Home Economics

- 150 HUMAN NUTRITION (3)  
Basic nutrition principles and nutritive needs of people, cultural aspects of foods and food habits, nutrition education.
- 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 Economics 164 recommended; not open to home economics majors. Selection of clothing from aesthetic and consumer aspects.
- 250 NUTRITION (2)  
Not open to home economics majors. Fundamental principles of human nutrition and the study of modern dietary standards as applied to normal conditions of everyday living; nutrition education.
- 252 FOOD AND MEAL MANAGEMENT (men) (2)  
Basic principles related to food, its preparation and service.
- 253 FOODS (3)  
Prerequisites: for majors, Home Economics 150; for non-majors, Home Economics 150 or 250. Basic principles of food preparation and selection, including laboratory experience, and demonstration.
- 260 CLOTHING SELECTION AND CONSTRUCTION (5)  
Prerequisites: Home Economics 164, Art 102, sophomore status; 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 Economics 164 (or concurrent), or permission of instructor; not open to home economics majors. Pattern adaptation, principles of fitting, advanced construction techniques, and 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 to 5)  
(See Home Economics 400)
- 334 FAMILY FINANCE (3)  
Prerequisites: General Education 105 and Economics 201. Management of family income and expenditures in the changing family cycle.
- 338 CONSUMER ECONOMICS (2)  
Prerequisites: General Education 105 and Economics 201. The consumer in the current economic world; his responsibilities and protections.
- 341 HOME ECONOMICS EDUCATION (3)  
Prerequisites: junior status and 20 credits in prescribed home economics. The philosophy and curriculum emphasizing current concepts in the home economics programs of the junior and senior high school.
- 350 PROBLEMS IN NUTRITION (3)  
Prerequisite: Home Economics 150 or 250. Significant problems in human nutrition.
- 353 FAMILY MEAL MANAGEMENT (3)  
Prerequisites: Home Economics 150 (or 250 for non-majors) and 253. Concepts of management applied to meal service for the family.
- 362 FAMILY CLOTHING (2)  
Prerequisite: Home Economics 260 or 261, or permission of instructor. Selection and construction of clothing for the family.
- 363 FLAT PATTERN AND DRAPING (3)  
Prerequisite: Home Economics 260 or 261. Basic theory and principles of pattern and draping techniques.
- 365 NEW FABRICS AND FINISHES (2)  
Prerequisite: Home Economics 164 recommended. New developments in fabrics and finishes. Summer only.
- 368 HISTORY OF COSTUME (3)  
Historical costumes from the Egyptian period to the present day.
- 370 THE HOUSE: ITS PLANNING AND ARCHITECTURE (5)  
Prerequisite: Art 102. Housing for the family; historical, social, and cultural implications.
- 375 HOME FURNISHINGS (5)  
Prerequisites: Art 102, 190; Home Economics 164 recommended but not required. Principles of design in relation to the selection and arrangement of home furnishings.
- 397a CLOTHING AND TEXTILES (3)  
Sociological and psychological aspects of clothing and textiles; Winter, 1967.
- 397b HOUSING (3)  
Community and governmental programs for new development; Spring, 1967.
- 400 SPECIAL PROBLEMS IN HOME ECONOMICS (1 to 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 to 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 Economics 120, Psychology 352, and (for non-majors) Home Economics 120 and permission of instructor. Observation of children and participation in nursery school; administration and evaluation of the child development program in the home economics curriculum.

- 424 **FAMILY RELATIONSHIP (3)**  
Prerequisites: Home Economics 120, 420; Sociology 351 recommended. Concepts of the family; current issues of the family; family life education.
- 430 **HOME MANAGEMENT (2)**  
Prerequisites: senior standing, General Education 105 or equivalent. Philosophy and theory of management and decision-making in the family.
- 432 **HOME MANAGEMENT RESIDENCE (3)**  
Prerequisites: General Education 105, Home Economics 353, 430; permission of department. Application of the concepts and principles of home management to group and home living.
- 441 **HOME ECONOMICS EDUCATION (2)**  
Prerequisite: Home Economics 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 Economics 341 or equivalent, supervised teaching in home economics, or graduate status. Application of current concepts in evaluation to the fields of home economics.
- 455 **EXPERIMENTAL FOODS (3)**  
Prerequisites: Home Economics 253, Chemistry 125 or 251. Application of scientific principles and experimental procedure to the food processes.
- 460 **TAILORING (3)**  
Prerequisite: Home Economics 260 or 261, or permission of instructor. Modern tailoring techniques.

- 469 **SPECIAL PROBLEMS IN CLOTHING CONSTRUCTION (3)**  
Prerequisite: Home Economics 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 Economics 164 and 375. Traditional and contemporary design in home furnishings; advanced planning problems.
- 476 **CONTEMPORARY DESIGN IN HOME FURNISHINGS (2)**  
Prerequisite: Home Economics 375. American and international influences on contemporary design.
- 497c **HOUSING FOR THE FAMILY (2)**  
Prerequisites: Home Economics 370 or equivalent; teaching experience. Historical, social, and cultural implications emphasizing current concepts for teaching housing in home economics programs. Summer 1966.
- 497d **HOME MANAGEMENT; FAMILY DECISION-MAKING (2)**  
Prerequisites: Home Economics 430 or equivalent; teaching experience. Management as a means of realizing family values and goals; emphasis on the teaching of management in the home economics program. Summer 1966.
- 500 **SPECIAL PROBLEMS IN HOME ECONOMICS (1 to 5)**  
(See Home Economics 400.)

## INDUSTRIAL ARTS

*Professors:* Schwalm • *Associate Professors:* Chaner, Olsen, Porter (Acting Chairman) • *Assistant Professors:* Cary, Fowler, Moon, Shaw, Wood.

### TEACHER EDUCATION MAJOR

*Secondary* – 45 credits

- Industrial Arts 101, 491, 493
- 36 credits apportioned as below in the three technologies: a. graphics, b. mechanical and electrical, c. materials and processes.
- 24 credits in one and 12 in a second, or
- 18 credits in each of two, or
- 12 credits in each technology



## Industrial Arts

### TEACHER EDUCATION MINOR

25 credits

- Industrial Arts 101, 491 or 493
- 19 credits selected under departmental advisement

### ARTS AND SCIENCES MAJOR

65 credits

- Industrial Arts 210, 223 or 231, 240, 270, 280, 310, 360

Choice of one of the following plans:

- 40 credits in one area (see below)
- 25 credits in one area and 15 in a second area
- 13 credits in each of three areas
- 10 credits in each of the four areas: graphics technology, mechanical and electrical technology, materials and processes technology, industrial design.

### ARTS AND SCIENCES MINOR

25 credits

Courses selected under departmental advisement.

### GRADUATE STUDY

For a concentration in Industrial Arts leading to a Master of Education degree, 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 Industrial Arts 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 Industrial Arts 211. Theory and problems with practical application and the projection of points, lines, surfaces, and solids.
- 215    **INDUSTRIAL DESIGN (3)**  
Survey of design theory; design procedure and evaluation.
- 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 to 5)**  
Prerequisite: permission of instructor. Special problems under supervision.
- 301    **CRAFTS (3)**  
Design and construction in crafts, including experiences in weaving, carving, puppetry, bookbinding, and the use of wood and clay.
- 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: Industrial Arts 210. Translation of orthographic drawing into three-dimensional drawings through the use of isometric, dimetric, trimetric, perspective, and schematic drafting techniques.
- 312 ADVANCED DRAFTING (3)  
Prerequisite: Industrial Arts 211. Problems in machine drawing, pattern drafting, and boat lofting.
- 313 ARCHITECTURAL DRAWING AND HOUSE PLANNING (3)  
Historical development; considerations of design; analysis of needs; utilization of sites; preparation of plans.
- 314 GRAPHIC GEOMETRY (3)  
Prerequisite: Industrial Arts 211. Problem solving in drafting technical solutions through the use of descriptive geometry techniques.
- 315 INDUSTRIAL DESIGN (3)  
Prerequisite: Industrial Arts 215. Application of design theory and procedure in preparing a portfolio of research sketches, working drawings, renderings, and creation of a mock-up or model of a new or modified product.
- 320 ADVANCED METALS (3)  
Prerequisite: Industrial Arts 223. Continuation of general metals with emphasis on the machine tool industry.
- 331 ADVANCED WOODS (3)  
Prerequisite: Industrial Arts 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)  
Prerequisites: Industrial Arts 240 and concurrent enrollment in Art 371. Graphic arts technology as related to reproduction of graphic design techniques.
- 341 GENERAL GRAPHIC ARTS II (5)  
Prerequisites: Industrial Arts 340 and 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: Industrial Arts 360, or permission of instructor. Application of theory and techniques to advanced projects providing a basic knowledge of commercial and industrial photography.
- 370 ELECTRON TUBES AND SEMI-CONDUCTORS (4)  
Prerequisites: Industrial Arts 270, Physics 155, or permission of instructor. Theory and application; circuitry using these components.
- 371 BASIC ELECTRONIC CIRCUITS (4)  
Prerequisite: Industrial Arts 370, or permission of instructor.
- 372 INDUSTRIAL ELECTRONICS (4)  
Prerequisite: Industrial Arts 371, or permission of instructor. Industrial uses of electronics; electron tubes, control devices, relays, and closed loop systems.
- 375 MOTORS AND GENERATORS (3)  
Prerequisite: Industrial Arts 270, or permission of instructor. Theory and practical uses of motors and generators.
- 379 VISUAL COMMUNICATIONS ELECTRONICS (3)  
Prerequisite: Industrial Arts 341. Principles and applications of instrumentation, electronic systems and computer graphics technology in the communication industry.
- 381 ADVANCED POWER MECHANICS (5)  
Prerequisite: Industrial Arts 280, or permission of instructor. Function and operating principles of hydraulic, pneumatic, refrigeration machines and heat engines.
- 382 AUTOMOTIVE ELECTRICITY (2)  
Prerequisite: Industrial Arts 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-bending, pure bending, plane stress, and engine design of members.
390. (397a) 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. Students completing the course satisfactorily receive a certificate of proficiency from the American Automobile Association.
- 392 PROBLEMS IN DRIVER EDUCATION (3)  
Prerequisite: Industrial Arts 391. Problems associated with engineering, school transportation, traffic laws and enforcement, teaching methods, and administration.

## Industrial Arts

- 393 ADVANCED UNITS IN DRIVER EDUCATION (3)  
Prerequisite: Industrial Arts 392. Individual research problems in traffic safety.
- 397a SAFETY EDUCATION (3)  
See INDUSTRIAL ARTS 390.
- 400 SPECIAL PROBLEMS (1 to 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.
- 406 PRINCIPLES OF OCCUPATIONAL ANALYSIS (3)  
Analysis, selection and organization of occupational content for instruction in industrial education classes.
- 411 PRACTICAL LETTERING TECHNIQUES (3)  
Development of skill in hand lettering.
- 413 ARCHITECTURAL PROBLEMS (3)  
Prerequisite: Industrial Arts 313. Advanced residential planning, cost estimating; FHA standards; building codes; individual research.
- 419 ADVANCED UNITS IN DRAFTING (1 to 3)  
Prerequisite: Industrial Arts 211. Sheet metal drafting, architectural drafting, furniture design, machine and other drafting units.
- 429 ADVANCED UNITS IN METALS (1 to 3)  
Prerequisites: Industrial Arts 223 and 320. Selection, development, and work under supervision within one of the areas of general metalworking.
- 439 ADVANCED UNITS IN WOODS (1 to 3)  
Prerequisites: Industrial Arts 231 and 331. Selection, development, and work under supervision in one of the areas of general woodworking.
- 440 GRAPHIC DESIGN (5)  
Prerequisites: Industrial Arts 341 and 361, or permission of instructor. Principles and application of effective visual communication, design, and reproduction.
- 441 GRAPHIC ARTS MANAGEMENT (5)  
Prerequisite: Industrial Arts 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 Industrial Arts 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: Industrial Arts 341, 361, Art 291, Psychology 320, Economics 338, Sociology 341, Speech 310, and concurrent enrollment in Industrial Arts 447. 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 to 3)  
Prerequisite: Industrial Arts 340, or permission of instructor. Selected problems in the graphic arts.
- 459 ADVANCED UNITS IN INDUSTRIAL ARTS FOR THE ELEMENTARY SCHOOL (1 to 3)  
Developing industrial arts units with emphasis on the relationship between industrial arts and the social studies, language, literature, and other activities of the elementary grades; experience with new materials and techniques.
- 469 ADVANCED UNITS IN PHOTOGRAPHY (3-5)  
Prerequisite: Industrial Arts 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: Industrial Arts 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: Industrial Arts 371, or permission of instructor. Theory of radio and television transmitters and receivers.
- 479 ADVANCED UNITS IN ELECTRICITY (1 to 3)  
Prerequisite: Industrial Arts 371, or permission of instructor. Advanced study of problems in electricity involving motors, generators, and electronics.
- 489 ADVANCED UNITS IN POWER MECHANICS (1 to 3)  
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 to 5)  
Visitation to selected plants in the Pacific Northwest to acquire first-hand understanding of regional industry, thorough analysis of processes, product design, and materials. Summer only.

- 495 **PRODUCT DESIGN AND SELECTION (5)**  
Prerequisite: Industrial Arts 213, or permission of instructor. Tectonic principles applied to industrial products; consumer protection laws; product motivation research.
- 496 **ORGANIZATION AND ADMINISTRATION OF INDUSTRIAL EDUCATION (3)**  
Interrelationships of industrial arts, industrial-vocational education, adult education, technical education, and apprentice training.
- 498 **INDUSTRIAL DESIGN (3-5)**  
Prerequisite: Industrial Arts 215, or permission of instructor. Three-dimensional form in modern technology; utilizing contemporary art expression in everyday objects; seeking an integration of industry with our culture.
- 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 of color and quality.
- 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 OF INDUSTRIAL EDUCATION (3)**  
Problems involved in teaching industrial arts in the elementary and secondary schools.
- 591 **INDUSTRIAL TECHNOLOGY (3)**  
Development of trade, technical, and industrial technology; motivating forces, philosophical 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

*Professor: McGaw (Chairman) • Associate Professors: Hearsey, Herrick, Mathes • Assistant Professors: Frazier, Jahns, Rahmes, Scott, Stokkeland • Instructors: Johnson, McInnis, Paeglis, Remsberg.*

### TEACHER EDUCATION MAJOR

*Elementary – 42 credits*

- Library Science 305, 306 or 309, 307, 401, 402, 403, 404
- Education 422, 489
- 15 credits to be elected under advisement from among courses in art, education, English, language, and speech.

Students electing the alternate program for elementary teachers will complete 28 credits in the above major under departmental advisement.

### TEACHER EDUCATION MINOR

24 credits

- Library Science 305 (for junior high, or 308 for senior high), 307, 401, 402, 403, 404
- Education 425, 489

### *Teaching Competence*

Recommendation for teaching competence normally requires completion of the major or minor in Library Science with a minimum grade average of 2.5 or better.

### *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 489. A library school degree is required in larger schools.

## 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 the relation of books to the curriculum and the 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 the 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.

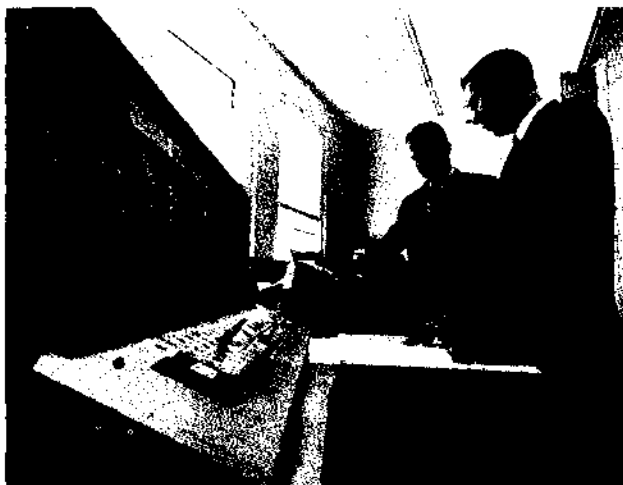
309 STORYTELLING (2)  
Prerequisite: Library 305. Selection, adaptation, and presentation of stories for elementary school children.

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 catalogue.

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:* Hashisaki (Chairman) • *Associate Professors:* Abel, Chaney, Craswell, Gelder, Hildebrand, Lister, McFarland, Reay, Rygg, Sanderson, Witter • *Assistant Professor:* Gray • *Lecturers:* McCauley, Purtill.

### PROGRAM PLANNING

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, the real number system, equations, inequalities, and function 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 121.

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, 122, 222, 241, 305, 310, 321
- One course from the 400 level
- Electives as advised to total 45 credits

Students electing the alternate program for elementary teachers will complete 28 credits of the above selected under departmental advisement.

### *Secondary* – 45 credits

- Mathematics 121, 122, 222, 483
- One of the following sequences:  
Mathematics 223, 224, 301, 310, 321; 241 or 305, 401 or 410  
Mathematics 223, 301, 310, 321, 322; 241 or 305, 401 or 410  
Mathematics 301, 310, 321, 322; 302 or 311; 241 or 305; 401 or 410
- Electives from Mathematics 270 and upper division courses as advised.

## TEACHER EDUCATION MINOR

25 credits

- Mathematics 121, 122, 222; 301 or 321; 481 or 483
- Electives as advised from Mathematics 223, 224, 241, 270, 302, 305, 310, 322

## *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 2.2 an augmented minor which includes one of the following sequences:

- Mathematics 122, 222, 223, 224, 310, 321; 241 or 305; 483
- Mathematics 122, 222, 223, 310, 321; 301 or 322; 241 or 305; 483
- Mathematics 122, 222, 310, 321, 322; 301 or 311; 241 or 305; 483.

## ARTS AND SCIENCES MAJOR

60 credits, plus Supporting Courses

- Mathematics 121, 122, 222, 223, 224 and not less than 18 credits of approved courses numbered 400 or above.

The upper division courses must include either the one year sequence in Advanced Calculus (325, 425, 426) and 8 credits from Modern Algebra (401, 402, 403) or 8 credits from the Advanced Calculus sequence and the one year sequence of Modern Algebra.

The remaining courses are to be selected from Mathematics 270, 305, 331, 332, 361, 371 and approved courses numbered 400 or above.

### *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 is required.

## ARTS AND SCIENCES MINOR

25 credits

- Mathematics 121, 122, 222, 223, and selections from Mathematics 224, 241, 270 and upper division courses as advised.

## DEPARTMENTAL HONORS

### *Arts and Sciences*

In order to graduate with "honors in mathematics" a student must: a. complete Mathematics 325, 331, 401, 402, 403, 425, 426; b. complete 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; c. attain a 3.5 grade average in the courses taken for a. and b. and a 3.0 grade average in all college courses; d. complete an Arts and Sciences major in mathematics together with supporting courses; e. complete two non-departmental Honors colloquia; f. 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: a. complete Mathematics 301, 325, 401, 425, and two quarters of geometry; b. complete additional upper division credits in mathematics, as advised by the Honors Committee, to a total under a. and b. of 30 credits; c. attain a 3.5 grade average in the courses taken for a. and b., and a 3.0 grade average in all college courses; d. complete the requirements for a teacher education concentration in mathematics; e. complete two non-departmental Honors colloquia; f. 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.

## SPECIAL HONORS PROGRAMS

### *Physics-Mathematics Major*

A combined major in mathematics and physics is available to superior students. Application for admission to the program should be made jointly to the departments of Mathematics and Physics during the second year of college work in lower division calculus and general physics based on calculus. A 3.0 grade average in all courses is required for admis-

sion to and continued participation in this program. This program substitutes for the major and the minor for the Arts and Sciences degree.

□ Mathematics 121, 122, 222, 223, 224, 301, 325, 331, 332, 425, 426

□ 8 credits selected from Mathematics 361, 371 and approved courses numbered 400 and above. (At least 12 credits of the above must be 400 or higher.)

□ Physics 231, 232, 233, 341, 342, 343, 371, 381, 471, 472

□ 11 credits in upper division courses, including Physics 481, 482, 483, or Physics 485, 486, 487.

### SUPPORTING COURSES

□ Mathematics 270 and 10 additional credits under advisement.

### *Economics-Mathematics Major*

A combined Economics-Mathematics major is available for students wishing to get some considerable depth in both of these areas. For additional information students should consult both departments. In any case, they should begin to take the regular mathematics sequence (Mathematics 121, 122, 222, etc.) early in their freshman year. A 3.0 grade average in all courses is required for admission to and continued participation in this program. This program satisfies the major and the minor requirements for the B.A. degree.

## 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 ANALYTIC GEOMETRY AND CALCULUS (5)  
Prerequisite: Mathematics 121 or equivalent (see introductory statement, page . . .). 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 Mathematics 121.
- 220 INTRODUCTION TO CALCULUS (5)  
Prerequisite: Mathematics 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 Mathematics 122.
- 222, 223, 224 ANALYTIC GEOMETRY AND CALCULUS (5, 4, 4)  
Prerequisite: Mathematics 122. Elementary treatment of coordinate geometry of the plane and solid spaces. Mathematics 222—the integral and integration, the differentiation of transcendental function, 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: Mathematics 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: Mathematics 100 or 121. Introduction to probability with applications.
- 251 THEORY OF ARITHMETIC (4)  
Prerequisite: one course from Mathematics 100, 105, 121, 151; not open to students with credit in Mathematics 301 or 321. Systems of numeration, sets, relations and number systems, and integration of these concepts.
- 270 DIGITAL COMPUTER PROGRAMMING (3)  
Prerequisites: Mathematics 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: Mathematics 224, or permission of instructor. Linear spaces, subspaces, dimensions, linear transformations, matrices of transformation, and determinants.
- 302 VECTORS AND MATRIX ALGEBRA (4)  
Prerequisite: Mathematics 301. Problems and application of linear algebra, inner products, orthogonality, special linear transformation, application to infinite dimensional spaces.
- 305 NUMBER THEORY (3)  
Prerequisite: Mathematics 222; not open to students who have had Mathematics 401. The properties of integers, Euclid's algorithm, Diophantine equations, congruences, continued fractions and residues.
- 306 LINEAR PROGRAMMING (3)  
Prerequisites: Mathematics 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 COORDINATE AFFINE GEOMETRY (3)  
Prerequisite: Mathematics 223. Analytic geometry of two and three dimensions; curves, surfaces, coordinate transformations, point transformations, invariants and canonical forms.
- 311 INTRODUCTION TO PROJECTIVE AND AFFINE GEOMETRY (3)  
Prerequisite: Mathematics 310. Projective geometry; the postulates of incidence, models, duality, perspectivities, projectivities, figures, quadrangular and harmonic sets, coordinate systems, transformations, lines, and conics.
- 321 THE ALGEBRAIC FOUNDATION OF MATHEMATICS (4)  
Prerequisite: Mathematics 222. Algebraic systems; the concept of order and completeness; the natural numbers and construction of rational and real numbers.
- 322 INTERMEDIATE ANALYSIS (3)  
Prerequisite: Mathematics 321, or permission. Properties of real numbers, with emphasis on order and completeness; the theory of limits.
- 325 ADVANCED CALCULUS (4)  
Prerequisite: Mathematics 224. Real number system; infinite sequences; infinite series; metric spaces, continuity.
- 331 DIFFERENTIAL EQUATIONS (4)  
Prerequisite: Mathematics 224. 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: Mathematics 331. Partial differential equations and boundary value problems; Fourier Series and orthogonality; Dirichlet-Fourier theorem and Sturm Liouville theorem.

Mathematics

- 341, 342 STATISTICAL METHODS (4 each)  
Prerequisites: Mathematics 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: Mathematics 224. 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.
- 371 NUMERICAL METHODS (3)  
Prerequisites: Mathematics 224 and 270. Solution of equations, polynomial approximations, interpolation, numerical integration, error analysis.
- 381 INFORMAL GEOMETRY (4)  
Prerequisite: Mathematics 251; for elementary teachers. Experimental geometry as models of physical space and geometry as a deductive system.
- 396a,b,c HONORS TUTORIAL (2 each)  
Prerequisite: permission of department.
- 397d MODERN MATHEMATICS FOR TEACHERS (3)  
(See Mathematics 491)
- 397e MODERN MATHEMATICS FOR TEACHERS (3)  
(See Mathematics 492)
- 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 each)  
Prerequisites: Mathematics 224 and permission, or Mathematics 321; 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 (3 each)  
Prerequisite: Mathematics 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: Mathematics 301, or permission. 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 extremal structure.
- 425, 426 ADVANCED CALCULUS (4 each)  
Prerequisite: Mathematics 325. Basic concepts in metric spaces; the Riemann integral; derivations; the elementary functions; Taylor series; partial differentiation; implicit function theorem; multiple integrals, Green's theorem.
- 427 INTRODUCTION TO TOPOLOGY AND ANALYSIS (4)  
Prerequisite: Mathematics 426. Metric spaces, topological space and concepts.
- 441, 442, 443 MATHEMATICAL STATISTICS (4 each)  
Prerequisites: Mathematics 301, 325, 425 (or concurrent). Probability theory; development of distributions; generating functions; averages, moments, regression, correlation, variance, and statistical inference.
- 471 NUMERICAL METHODS (3)  
Prerequisites: Mathematics 301 or equivalent, and 371. Systems of equations, matrices, eigenvalues.
- 472 NUMERICAL METHODS (3)  
Prerequisites: Mathematics 331 and 471. Ordinary differential equations, boundary value problems, eigenvalue problems, partial differential equations.
- 481 MATHEMATICS IN GRADES 1 THROUGH 8 (4)  
Prerequisite: Mathematics 251, or permission. The teaching of mathematics in terms of objectives and methods of presentation.
- 483 MATHEMATICS IN THE SECONDARY SCHOOL (3)  
Prerequisite: Mathematics 304 or 301 or 310. Mathematics content of advanced high school courses from the point of view of the teacher; the major experimental programs.
- 491 (397d) MODERN MATHEMATICS FOR TEACHERS (3)  
Sets, set operations and relations, systems of numeration, rational numbers.
- 492 (397e) 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: Mathematics 251. Experimental elementary school mathematics projects with emphasis on the mathematical context of such programs.
- 496a,b,c HONORS TUTORIAL (2 each)  
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 each)  
Prerequisite: Mathematics 403, or permission. 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 each)**

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

**521, 522 ANALYSIS (3 each)**

Prerequisite: Mathematics 427 or equivalent. Measure theory, Lebesgue integration, Fourier series, function spaces.

**525, 526, 527 THEORY OF FUNCTIONS OF A REAL VARIABLE (3 each)**

Prerequisite: Mathematics 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 each)**

Prerequisite: Mathematics 426. Complex numbers as a field; function theory including analytic functions; exponential and logarithmic functions; derivatives; linear and bilinear transformations; the complex integral calculus; Cauchy-Goursat Theorem, Cauchy Integral Formula; power series, residues and poles; conformal mappings.

**550 MATHEMATICAL LOGIC AND SETS (5)**

Prerequisite: graduate status in mathematics. Introduction to formal symbolic logic and to set theory with an emphasis on mathematical examples.

**590 MATHEMATICS CURRICULUM SEMINAR (1)**

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

**597 THEORY OF ALGORITHMS (3)**

Prerequisite: Mathematics 401. Numerical algorithms; algorithms for games; an algorithm for finding paths in a labyrinth; computing machines with automatic control; the Turing machine and Turing machine algorithms; the basic hypothesis of the theory of algorithms.

**597a ANALYSIS (4)**

Prerequisite: Mathematics 426. Topology of the real line; introduction to metric and topological spaces.

**597b AFFINE PLANES AND RELATED ALGEBRAIC PROBLEMS (4)**

Prerequisite: Mathematics 401, or permission of instructor. Properties of synthetic affine planes and the study of algebraic systems associated with such planes.

**597c HISTORY OF MATHEMATICS (5)**

Prerequisite: permission of the director of the summer institute. Emphasis on evolution of branches of mathematics of current importance and on those mathematicians prominent in this development.

**598 RESEARCH variable credit****599 MATHEMATICS SEMINAR (1-3)**

## MUSIC

*Professor:* North (Chairman), Regier • *Associate Professors:* Glass, Schaub, Stoner, Walter, Whitcomb • *Assistant Professors:* Ager, Hinds, Osborn, Sackrison • *Instructor:* Dimond • *Affiliated:* Burrier, Bussard, Cloud, Salter, Stonehouse, Thal, Wicks.

### MUSIC PERFORMANCE

All music majors are required to register for and participate in a major choral or instrumental organization each quarter. Exceptions will be allowed by the department chairman only.

### MUSIC AWARDS

Music majors or minors are provided individual lessons free of additional fees to the extent of requirements. Other students may receive a music award which provides a full year of individual lessons on their major instrument or voice free of cost. Such an award may be extended to a second, third, and fourth year. To maintain the music award the stu-

## Music

dent must achieve a grade point average of 2.5 in general academic work and an average of 3.0 in music studies. A student accepting the award obligates himself to participate in major performing organizations of the Music Department. He further obligates himself to accept and continue the award for a minimum of one year. A student discontinuing his musical study before the close of any year forfeits his award.

### PIANO COMPETENCY

All music majors will be required to pass a piano proficiency examination. Students who enter as freshmen must pass the examination by the end of the sophomore 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 in the examination is available in the Music Department office.

### TEACHER EDUCATION MAJORS

#### *Elementary and Secondary*

67 credits (vocal and instrumental)

Satisfies both major and minor.

Structure and Musicianship:

☐ Music 131, 132, 133, 231, 232, 233

History:

☐ Music 241, 242, 243

Music Education:

☐ Music 351, 462, 463, 464

Performance:

☐ Music 105, 204, 205, and 206 or 301

☐ Music 310, 311, 312

☐ Major instrument or voice – 6 credits

☐ Piano competency

#### *Elementary*

45 credits (vocal and or instrumental)

Structure and Musicianship:

☐ Music 131, 132, 133

History:

☐ Music 241, 242, 243

Music Education:

☐ Music 301, 351, 451 or 452

Performance:

☐ Music 105, 106, 107, 204, 205, 310: class or applied piano—6 credits

☐ 8 hours of student teaching in elementary music

Students electing the alternate program for elementary teachers will complete 28 credits of the above under departmental advisement.

### TEACHER EDUCATION MINOR—STRINGS

25 credits

☐ Music 131, 132, 133, 301, 302, 303, 310

☐ Applied strings, 4 credits

☐ Class piano, 3 credits

### TEACHER EDUCATION MINOR—GENERAL

25 credits

☐ Music 105, 131, 132, 133, 241, 242, 243

#### *Teaching Competence*

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

### ARTS AND SCIENCES MAJOR

72 credits

☐ Music 131, 132, 133, 231, 232, 233, 241, 242, 243, 310, 311, 312, 331, 332, 333

☐ Major instrument or voice, 12 credits

☐ Secondary instrument or voice, 6 credits

### ARTS AND SCIENCES MINOR

25 credits

☐ Music 105, 131, 132, 133, 241, 242, 243

### DEPARTMENTAL HONORS

In addition to the general honors requirements (see page ) a student planning to graduate "with honors" must complete Music 396a,b,c, Music 401, Music 496a,b,c, and a comprehensive examination in music.

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 musical performance.

## GRADUATE STUDY

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

## COURSES IN MUSIC

## 101, 102, 103 CLASS PIANO (1 each)

Prerequisite: each course (or permission of instructor) prerequisite to the next. Fundamental techniques with stress upon sight-reading, accompanying, and literature.

## 105, 106, 107 CLASS VOICE (1 each)

Prerequisite: each course, or permission of instructor, prerequisite to the next. Tone production, song repertoire and interpretation for those students who have had little or no previous vocal instruction.

## 121 COLLEGE SINGERS (1)

Open to all students; no audition.

## 131 ELEMENTARY HARMONIC PRACTICE (4)

Music notation; scales, key signatures, intervallic two-part counterpoint; analysis; coordinated singing, listening and keyboard experiences with emphasis upon 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.

## 140 THE ART OF LISTENING TO MUSIC (3)

A 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 each)

Prerequisite: Music 103; each course (or permission of instructor) prerequisite to the next. Intermediate techniques; sonata literature.

## 204, 205, 206 INSTRUMENTAL TECHNIQUES (1 each)

Basic principles and playing techniques of brass, woodwind and percussion instruments.

## 211-215 INDIVIDUAL INSTRUCTION

Music majors and minors are provided individual lessons free of additional fees to the extent of requirements. Others pay a fee of \$40.00 in addition to regular enrollment fees. (See Music Awards, page 103)

## 211 ORGAN (1)

Prerequisite: permission of instructor.

## 212 PIANO (1)

## 213 STRINGS (1)

## 214 BAND INSTRUMENTS (1)

## 215 VOICE (1)

## 223 SYMPHONIC BAND (1)

Open to students with previous band experience.

## 231 ADVANCED HARMONIC PRACTICE (4)

Prerequisite: Music 133. Seventh chords; irregular resolution; sequence; introduction to accented dissonances; analysis.

## 232 ADVANCED HARMONIC PRACTICE (4)

Prerequisite: Music 231. Modulation; secondary dominants; introduction to chromatic harmony; the period form; analysis.

## 233 ADVANCED HARMONIC PRACTICE (4)

Prerequisite: Music 232. Chromatic harmony; modulation; relationship of harmony to larger formal units; analysis.

## 241 HISTORY OF MUSIC TO 1600 (4)

Music styles, forms and composers up to 1600; performance of representative compositions.

## 242 HISTORY OF MUSIC 1600-1800 (4)

Main styles, forms and composers from 1600 to 1800; performance of representative compositions.

## 243 HISTORY OF MUSIC 1800 TO PRESENT (4)

Main styles, forms and composers from 1800 to the present; performance of representative compositions.

## 301, 302, 303 STRING CLASS (1 each)

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.

## 312 CONDUCTING (3)

Prerequisite: Music 311. Application of conducting techniques, score reading ability and interpretative analysis to choral and instrumental music for senior high school 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.

Music

- 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.
- 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)  
Participation in small vocal ensembles such as trios, quartets, and madrigal groups; opportunity to perform at college functions and in the community.
- 331, 332, 333 COUNTERPOINT (3 each)  
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.
- 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 each)  
Prerequisite: approval of department.
- 401 HONORS SEMINAR (3)
- 424 OPERA PRODUCTION (1-3)  
Preparation of a major musical production offered for public performance. Admission by audition.
- 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.
- 434 PHYSICS OF MUSICAL INSTRUMENTS (3)  
Production and transmission of musical tone and the acoustical problems of musical performance.
- 435, 436 COMPOSITION (3 each)  
Prerequisite: Music 233. Writing pieces in part forms variation form, and sonata form for solo instruments, voice, and small ensembles.
- 440 COLLEGIUM MUSICUM (1 or 2)  
Musical literature studied 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 each)  
Prerequisite: Music 243. A detailed study of the development and literature of the important musical media from their origin to the present. 443a Choral Music, 443b Solo Song, 443c Opera, 443d Keyboard Music, 443e Chamber Music, 443f Symphonic Music.
- 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 MUSIC WORKSHOP FOR ELEMENTARY TEACHERS (2)  
Techniques, activities, and materials in a program of music development for grades one through six. Summer only.
- 454 STRING TECHNIQUES AND MATERIALS (2)  
Summer 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 TEACHERS WORKSHOP (2)  
Offered Summer only. *Rpt per Judge Music*
- 467 BIRCH BAY BAND MUSIC WORKSHOP (2)  
Summer only.
- 468 CHORAL MUSIC WORKSHOP (2)  
Summer 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: approval 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)  
Students in the Composition Area of the Master of Arts degree program may meet the thesis requirement by submitting a major original composition; students selecting the Performance Area may meet the thesis requirement by presenting a full length public recital and a paper covering the literature.
- 511-515 INDIVIDUAL INSTRUCTION—GRADUATE LEVEL  
(Fee: \$40.00 per quarter, plus regular enrollment fees.)
- 511 ADVANCED ORGAN (2)  
Prerequisite: permission of instructor.
- 512 ADVANCED PIANO (2)
- 513 ADVANCED STRINGS (2)
- 514 ADVANCED BAND INSTRUMENTS (2)
- 515 ADVANCED VOICE (2)
- 516, 517 PERFORMANCE MASTER CLASS (3 each)  
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-18th Centuries.
- 534 COMPOSITION (4)  
Prerequisite: Music 436. Composition in the classic forms for solo instruments or small ensembles.
- 535 COMPOSITION (4)  
Prerequisite: Music 436. Composition for solo voice accompanied by piano or small ensembles; composition of choral works both a capella and accompanied.
- 536 COMPOSITION (4)  
Prerequisite: Music 436. Composition for large instrumental groups: band, orchestra, or a combination of these with chorus, voice, or solo instrument.
- 541 SEMINAR IN THE HISTORY OF MUSIC (5)  
Prerequisite: permission of instructor. Detailed study of a particular period or phase of the history of music designed to give students a first-hand acquaintance with one special area of musical literature and with musicological method.
- 552 SUPERVISION OF ELEMENTARY SCHOOL MUSIC (3)  
Advanced work in methods, materials, organization, and supervision of the music program. Summer only.
- 553 PSYCHOLOGY OF MUSIC (3)  
Recent advances in the psychological foundations of total organization, perception, and function underlying music education's objectives and procedures. Summer only.
- 554 DIRECTED READINGS AND RESEARCH (3)  
Seminar discussion of areas of needed research in music education. To be taken concurrently with Education 501.
- 555 CURRICULUM FOR PERFORMANCE GROUPS (3)  
Content, literature, sequence, teaching techniques, and demonstration uses to meet the broad aims of music in general education.
- 556 AESTHETICS IN MUSIC (3)  
The aesthetic basis of music, the role of aesthetic principles in the critical evaluation of musical composition, performance, and theories of music education.

# PHILOSOPHY

*Professor:* Daugert (Chairman) • *Associate Professor:* Karason • *Assistant Professors:* Flectwood, Lamb, Montague, Purtil.

## TEACHER EDUCATION MINOR

25 credits

- Philosophy 111, 112, 113, 202, 310
- Additional courses selected under departmental advisement.

## ARTS AND SCIENCES MAJOR

40 credits

- Philosophy 111, 112, 113, 202, 220 or 420, 304, 305, 306, 310, 407
- Additional courses selected under departmental advisement.

## ARTS AND SCIENCES MINOR

25 credits

- Philosophy 111, 112, 113, 202, 310
- Additional courses selected under departmental advisement.

## DEPARTMENTAL HONORS

A philosophy major who wishes to graduate "with honors" must meet the general requirements for all honors students (see page 44). In addition he must take advanced courses selected under departmental advisement 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 PROBLEMS OF PHILOSOPHY (3)  
Recurrent problems concerning existence, knowledge, and morality raised by philosophical skeptics.
- 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.
- 220 INTRODUCTION TO THE PROBLEMS OF ETHICS (3)  
The nature of moral problems and judgments; emphasis upon the 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)  
The definition of religion, the existence and nature of God, free will, immortality, and such problems.
- 301 HISTORICAL INTRODUCTION TO PHILOSOPHY (4)  
Prerequisite: fifth year or graduate status or permission of instructor; for graduate students with limited training in philosophy; not open to those who have taken Philosophy 304, 305, or 306. The types and problems of philosophy.
- 302 ADVANCED LOGIC (4)  
Further development of the tools and techniques of logic, and their 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, with special attention to Plato and Aristotle.
- 305 HISTORY OF PHILOSOPHY: MIDDLE AGES TO RENAISSANCE (4)  
Great philosophical thinkers from the twelfth to the seventeenth 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 other course numbered above 200. Problems and concepts having their focus in the attempt to understand the possibility, nature, origins, and limits of knowledge.
- 350 ORIENTAL PHILOSOPHY AND RELIGION (3)  
Major philosophical and religious traditions of the Orient.
- 400 CONFERENCE IN PHILOSOPHY (2 to 5)  
Prerequisite: permission of instructor. Special problems.
- 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: 7 credits in philosophy or permission of instructor. A critical examination of the idea of history and the 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 Education 515.

# PHYSICAL EDUCATION, HEALTH EDUCATION and RECREATION



## *MEN'S DEPARTMENT*

*Associate Professors:* Lappenbusch, Lounsberry, Tomaras (Chairman) • *Assistant Professors:* Long, Randall, Wiseman • *Lecturer:* Emerson.

## *WOMEN'S DEPARTMENT*

*Associate Professors:* Aitken (Chairman), Kilby, Hansen • *Assistant Professors:* Arnett, Gillespie, Gutchow • *Instructor:* Ames.

The departmental programs encompass activity courses to meet general education requirements; activity courses as electives; professional study in fields of physical education, health education, and recreational leadership; intramural sports and dance; intercollegiate athletics.

## GENERAL EDUCATION REQUIREMENTS

The student has the opportunity to choose 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, 202m, 203m, 207m, 208m, 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

Sports and Dance—1 credit (P.E. 120, 152 and 153 may not be used to satisfy this requirement).

Majors and minors in physical education will take

\*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.



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 MAJOR—MEN

45 credits

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

### TEACHER EDUCATION MAJOR—WOMEN

45 credits, plus General Education requirements. Physical Education.

- Physical Education 102w, 202w, 205, 208w, 209w, 302

One of the following sequences:

#### *Option A—with Health Science Minor*

- Physical Education 201w, 203w, 207w, 305w, 306, 320, 342w, 341w or 343w, 402, 404w, 405
- Recreation 201, 250
- Three additional credits under departmental advisement.

#### *Option B—General*

- Physical Education 201w, 203w, 207w, 305w, 306, 320, 342w, 341w or 343w, 404w, 405
- Health Education 252, 450
- Zoology 243

#### *Option C—Dance*

- Physical Education 226, 228, 229, 305w, 306 or 326, 320, 324, 325, 405, 425
- Zoology 241, 243

Recommended courses: Physical Education 134, an officiating course, and an additional team sport course.

#### *Option D—Elementary*

- Physical Education 201w, 203w, 207w, 311, 312, 326, 402, 403
- Health Education 252
- Zoology 241, 243
- Two credits under departmental advisement

*Also Recommended* Health Education 350, and inclusion of Education 326 in the accompanying elementary minor.

Students electing the alternate program for elementary teachers will complete 28 credits of the above under departmental advisement.

Participation in intramural activities is required in all women's majors and minors during four quarters of the freshman and sophomore years.

### *Teaching Competence*

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

### TEACHER EDUCATION MINORS

#### *Physical Education, Men—25 credits*

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

#### *Physical Education, Women*

- 28 credits, including General Education courses
- Physical Education 102w, 201w, 202w, 203w, 205, 207w, 208w, 209w
  - Health Education 252
  - Physical Education 305w, 320, 404w
  - Physical Education 306 and additional upper division courses selected under advisement.

#### *Dance, Men or Women—25 credits*

- Physical Education 121, 123, 126, 226, 228, 229, 320, 324, 325, 425
- Philosophy 405
- Four additional credits under departmental advisement.

#### *Health Science, Men or Women—24-27 credits*

- Health Education 252, 350, 450
- Biology 447
- Home Economics 250
- Men add: Zoology 243 and two courses under advisement from Biology 247, 371, Zoology 241, 261, 262
- Women add: Zoology 241, 243 and one course from Biology 371, Zoology 262

## ARTS AND SCIENCES MAJORS

### *Recreation, Men*—45 credits

- Recreation 201, 250, 412; four credits in Recreation 450m
- Physical Education 205 and six credits from Physical Education 201m, 202m, 203m, 207m, 208m, 209m
- Health Education 252
- Industrial Arts 301
- Psychology 351
- Sixteen credits from: Industrial Arts 210, 240; Economics 101, 271; Psychology 352; Sociology 201, 366

### *Recreation, Women*

85 credits, including Supporting Courses

- Recreation 201, 250, 412
- Eight credits in Recreation 450, 451, 452
- Physical Education 202w, 207w, 208w, 209w
- Physical Education 205, 305w, 306, 320
- Health Education 252

### *Supporting Courses*

- Industrial Arts 301
- Music 350
- Psychology 351, 352, 440
- Sociology 201
- Speech 330

Twenty-two hours under departmental advisement from one or two concentrations in the following: art, music, dance, drama, outdoor education, sports and aquatics.

## ARTS AND SCIENCES MINORS

25 credits

### *Health Science, Men or Women*

- Biology 447
- Health Education 350
- Home Economics 250
- Zoology 241, 243
- Two courses under departmental advisement from: Health Education 252, 450; Biology 371; Chemistry 125; Zoology 261, 262.

### *Dance, Men or Women*

- Physical Education 121, 123, 126, 226, 228, 229, 320, 324, 325, 425
- Philosophy 405
- Four additional credits under departmental advisement.

### *Recreation, Men*

- Recreation 201, 250, 412, 450 (2 credits)
- Physical Education 306
- Four credits from Physical Education 201m, 202m, 203m, 207m, 208m, 209m
- Industrial Arts 301 or 210
- Health Education 252
- Three credits under departmental advisement.

### *Recreation, Women*

- Six credits from Physical Education 202w, 207w, 208w, 209w
- Physical Education 306
- Recreation 201, 205, 412
- Recreation 450 (3 credits)
- Five additional credits under departmental advisement.

## GRADUATE STUDY

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

## COURSES—P.E. ACTIVITIES (1 each)

Activity courses 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.

### *Developmental (101-109)*

- 102w MOVEMENT FUNDAMENTALS
- 106m BODY CONDITIONING
- 108m WEIGHT TRAINING
- 109m INTERMEDIATE WEIGHT TRAINING

### *Aquatics (110-119)*

- 112 BEGINNING SWIMMING (for non-swimmers)
- 113 INTERMEDIATE SWIMMING  
Prerequisite: P E 112 or ability to swim twenty-five yards and support self in deep water.

- 114 ADVANCED SWIMMING  
Prerequisite: P E 113 or ability to swim 100 yards with one stroke, and to use a variety of other strokes.
- 115 SYNCHRONIZED SWIMMING  
Prerequisite: P E 114 or equivalent.  
(See also P E 216, Lifesaving and Water Safety, and P E 217, Water Safety Instructor's Course.)

*Dance (120-129)*

- 120 BEGINNING SOCIAL DANCE
- 121 INTERMEDIATE SOCIAL DANCE
- 122 BEGINNING FOLK AND SQUARE DANCE
- 123 INTERMEDIATE FOLK AND SQUARE DANCE
- 124 INTERNATIONAL FOLK DANCE
- 125 MODERN DANCE
- 126 INTERMEDIATE MODERN DANCE

*Dual Sports (130-139)*

- 132 BEGINNING BADMINTON
- 133 INTERMEDIATE BADMINTON
- 134 FENCING
- 136 BEGINNING TENNIS  
(The student furnishes equipment)
- 137 INTERMEDIATE TENNIS  
(The student furnishes equipment)
- 138m BEGINNING WRESTLING
- 139m INTERMEDIATE WRESTLING

*Team Sports (140-149)*

- 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

*Individual Sports (150-159)*

- 150 ARCHERY
- 151m APPARATUS, STUNTS & TUMBLING
- 151w GYMNASTICS, TUMBLING & REBOUND TUMBLING
- 152 BEGINNING BOWLING  
(Bowling alley fee \$6.00)
- 153 INTERMEDIATE BOWLING  
(Bowling alley fee \$6.00)
- 154 BEGINNING GOLF
- 155 INTERMEDIATE GOLF
- 156m TRACK & FIELD
- 156w TRACK & FIELD
- \*157 BEGINNING SKIING
- \*15B INTERMEDIATE SKIING
- \*159 ADVANCED SKIING

\*The student enrolling for skiing furnishes equipment, pays cost of transportation and of individual instruction.

*Varsity Sports (180-189)*

- 180m VARSITY FOOTBALL
- 181m VARSITY BASKETBALL
- 182m VARSITY BASEBALL
- 183m VARSITY TRACK
- 184m VARSITY WRESTLING
- 185m VARSITY GOLF
- 186m VARSITY TENNIS
- 187m VARSITY SKIING
- 188m VARSITY SWIMMING

## COURSES—P.E. PROFESSIONAL

201m, 202m, 203m PROFESSIONAL ACTIVITIES (2 ea.)  
Open to freshmen majors or minors in physical education or recreation. 201m team sports; 202m individual sports; 203m aquatics (prerequisite: intermediate level swimmer).

201w, 202w, 203w PROFESSIONAL ACTIVITIES (2 each)

Open to freshmen majors or minors in physical education. Development of knowledge and skill; 201w field hockey, basketball; 202w badminton, gymnastics; 203w volleyball, softball, track and field.

Physical Education, Health Education and Recreation

- 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, essential qualifications, and professional preparation.
- 207m **PROFESSIONAL ACTIVITIES—TRACK AND PHYSICAL CONDITIONING (1)**  
Open to freshmen majors or minors in physical education or recreation.
- 208m **PROFESSIONAL ACTIVITIES—WRESTLING AND WEIGHT TRAINING (2)**  
Open to freshmen majors or minors in physical education or recreation.
- 209m **PROFESSIONAL ACTIVITIES—DANCE IN THE PUBLIC SCHOOLS (1)**  
Open to freshmen majors or minors in physical education or recreation.
- 207w 208w, 209w **PROFESSIONAL ACTIVITIES (2 each)**  
Open to sophomore majors or minors in physical education. Development of knowledge and skill: 207w soccer, speedball, fencing, and bowling; 208w modern dance, aquatics; 209w social, folk and square dance, tennis, archery and golf.
- 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: Physical Education 125. Inherent factors of rhythm; application of rhythmic analysis to all forms of movement including sports, dance, aquatics, and stage techniques.
- 228 **DANCE PRODUCTION (2)**  
Prerequisite: Physical Education 125. Practical experience in formulating, developing, and presenting dance programs.
- 229 **DANCE COMPOSITION (2)**  
Prerequisite: Physical Education 125. Lectures and laboratory in the fundamentals of composition emphasizing theme and development; preclassic dance forms, modern dance forms.
- 300 **SPECIAL PROBLEMS IN THE AREA OF PHYSICAL EDUCATION (2 to 5)**  
Prerequisite: permission of department chairman.
- 302 **KINESIOLOGY (3)**  
Prerequisite: Zoology 241. 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: Zoology 241. Application of physiological facts to the problems of conditioning; relation to physical activities.
- 305w **METHODS AND MATERIALS FOR TEACHING SPORTS (4)**  
Prerequisites: professional activities sequences; P E 302. Preparation for teaching individual and team sports to secondary school girls.
- 306 **METHODS AND MATERIALS FOR ELEMENTARY SCHOOL PHYSICAL EDUCATION (3)**  
Prerequisite: Psychology 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 of instructor. Selection of activities and appropriate methods of instruction for secondary school boys.
- 311 **MOVEMENT EXPLORATION AND GYMNASTICS FOR CHILDREN (3)**  
Prerequisite: professional activities sequence; P E 302 prerequisite or concurrent. Movement as a basis for game and dance skills; selected stunts, tumbling, fitness activities and gymnastics suitable for the elementary school child.
- 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: Physical Education 120, 122, 125, or equivalent. Teaching modern, folk, social, and square dancing.
- 324 **THEORY AND PRACTICE OF CONTEMPORARY DANCE (2)**  
Prerequisites: Physical Education 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 winter dance concert.

- 326 DANCE FOR CHILDREN (3)  
Dance activities for the elementary school-age child; singing games, creative dance, dramatizations and characterizations, ball and rope rhythms, simple square and folk dances.
- 341w, 342w, 343w OFFICIATING IN WOMEN'S SPORTS (1 each)  
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: Physical Education 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)
- 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.
- 397c INTERNATIONAL FOLK DANCE WORKSHOP (2)  
Folk dance as cultural expression; mastery of dance techniques through the use of ethnic materials and participation in group dances. Summer, 1966.
- 400 SPECIAL PROJECTS IN PHYSICAL EDUCATION (2 to 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: Zoology 241, P E 302. Implications of growth patterns, coordinations and postural deviations relating to the physical education program; conditioning techniques, corrective procedures; limitations of teacher responsibility for alleviation of divergencies.
- 403 PHYSICAL EDUCATION PROGRAM FOR THE ELEMENTARY SCHOOL (3)  
Prerequisite: Psychology 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: Physical Education 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: Physical Education 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: Physical Education 205, 306, and 305w or 308m. Scientific and philosophical principles related to physical education, its purposes, scope, and curriculum.
- 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; theory and practice.
- 410w EXTRA-CLASS ACTIVITIES IN PHYSICAL EDUCATION FOR GIRLS (2)  
Intramural programs, tournaments, play day, sports days, and G.A.A. for secondary school girls. 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: Physical Education 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: Psychology 371 and permission of instructor. Application of measurement theory to physical education; selection and administration of appropriate tests, and interpretation of results of fundamental statistical procedure.
- 497b HEALTH ADAPTATIONS OF MUSCULAR ACTIVITY (3)  
Healthful activities in the teaching of physical education. Summer, and Extension 1965.

Physical Education, Health Education and Recreation

- 497e **TEACHERS' WORKSHOP IN CREATIVE MOVEMENT FOR CHILDREN (2)**  
Principles and techniques of guiding children toward self-discovery and self-discipline through movement in dance; design, dynamics, space and rhythms related to music, art, and children's literature. Summer 1966.
- 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. Summers only.
- 500 **PROBLEMS IN PHYSICAL EDUCATION (2 to 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: Zoology 241, Physical Education 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. Summers only.
- 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.

COURSES IN HEALTH EDUCATION

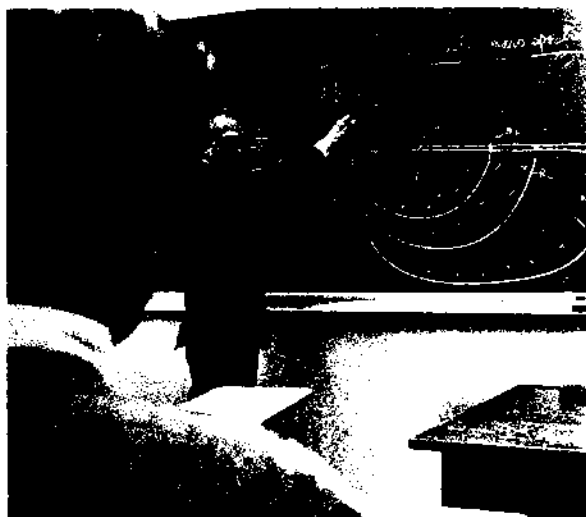
- 252 **FIRST AID (2)**  
First aid for common injuries and illnesses based on the American Red Cross Standard and Advanced First Aid courses. The student qualifies for the American Red Cross Certificate.

- 350 **CURRENT INFORMATION FOR HEALTH INSTRUCTION (2)**  
Recent developments in personal and consumer health, mental and emotional health, and family life education.
- 352 **THE FIRST AID INSTRUCTOR (1)**  
Prerequisites: Health Education 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: Health Education 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; campaign techniques.
- 412 **ORGANIZATION AND ADMINISTRATION OF SCHOOL AND COMMUNITY RECREATION (3)**  
Prerequisites: Recreation 201, 250. Development of programs for school and community recreation including personnel, finance, facilities, and activities.
- 450m **FIELD WORK IN RECREATION (1 to 4)**  
Prerequisites: Physical Education 306, Recreation 201, 412. Practical experience in a community recreation program.
- 450w, 451w, 452w **FIELD WORK IN RECREATION (1 to 4 each)**  
Prerequisites: Physical Education 306, Recreation 201, 412. Practical experience in a community recreation program.
- 500 **PROBLEMS IN RECREATION (2 to 5)**  
For experienced recreation leaders; opportunity for individualized study of problems growing out of professional experience.

# PHYSICS



*Professors:* Bender, Lahti • *Associate Professors:* Brown, Lindsay, McLeod (Chairman) • *Assistant Professors:* Dittrich, Johansen, Rupaal, Sprague, Veit.

## TEACHER EDUCATION MAJOR

45 credits, plus Supporting Courses

- Physics 231 to meet the general education requirement
- Physics 232, 233, 341, 371, 398 (one credit), 401 or 402 or 403
- Physical Science 492
- Physics 407 or 408, or General Science 405
- Additional electives in physics, 12 credits

### SUPPORTING COURSES

- 15 credits in mathematics

## TEACHER EDUCATION MINOR

25 credits, plus Supporting Courses

- Physics 231 (or 131) to meet the general education requirement
- Physics 232, 233, (or 132, 133) and 381
- Physical Science 492
- Additional electives in physics, 3 credits

### SUPPORTING COURSES

- 15 credits in mathematics

## ARTS AND SCIENCES MAJOR

50 credits, plus Supporting Courses

- Physics 231 to meet the general education requirement
- Physics 232, 233, 341, 342, 343, 371, 381, 471, 472, 401 or 402 or 403
- One course from Physics 407, 408, General Science 405
- Upper division electives, 6 credits

### SUPPORTING COURSES

- 32 credits in mathematics, including Mathematics 121, 122, 222, 223, 224, 331, 332
- Also recommended: Reading knowledge of a foreign language and 10 credits in chemistry selected under advisement.

## ARTS AND SCIENCES MINOR

25 credits, plus Supporting Courses

- Physics 231 to meet the general education requirement
- Physics 232, 233
- 10 credits, including at least 2 courses from Physics 341, 371, 381

### SUPPORTING COURSES

- 18 credits in mathematics through Mathematics 222

## SPECIAL HONORS PROGRAM— PHYSICS-MATHEMATICS MAJOR

A combined major in mathematics and physics is available to superior students. Application for admission to the program should be made jointly to the departments of Mathematics and Physics during the second year of college work in lower division calculus and general physics based on calculus. A 3.0 grade average in all courses is required for admission to and continued participation in this program. This program substitutes for the major and minor for the Arts and Sciences degree.

Mathematics 121, 122, 222, 223, 224, 301, 325, 331, 332, 425, 426; 8 upper division credits selected from: Mathematics 361, 371, and approved courses numbered 400 or above. (At least 12 credits of the above must be 400 or higher)

Physics 231, 232, 233, 341, 342, 343, 371, 381, 471, 472; 11 credits in upper division courses, including Physics 481, 482, 483 or Physics 485, 486, 487

### SUPPORTING COURSES

□ Mathematics 270 and 10 additional 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 degree, see *Graduate Bulletin*.

### COURSES IN PHYSICS

#### 101 ELEMENTARY PHYSICS (4)

Not available for credit to students with high school physics or to science majors. Introduction to physical methods through a survey of topics in mechanics, electricity, magnetism, optics, and modern physics; historical and philosophical foundations; laboratory included.

#### 105 INTRODUCTION TO ASTRONOMY (3)

Prerequisite: Mathematics 151, Physics 131. The real and apparent motion of stars; the solar system and its origin.

#### 130 INTRODUCTORY PHYSICS (3)

Prerequisite: Mathematics 100 or 151 or 1½ years of high school mathematics. Introduction to classical topics in physics including mechanics, optics, electricity, magnetism, and atomic structure. Demonstrations; non-laboratory course.

#### 131 PRINCIPLES OF PHYSICS (4)

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

#### 132 PRINCIPLES OF PHYSICS (4)

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

#### 133 PRINCIPLES OF PHYSICS (4)

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

#### 155 ELEMENTARY ELECTRONICS (2)

Prerequisite: 1½ years of 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; laboratory included.

#### 231 GENERAL AND ENGINEERING PHYSICS (5)

Prerequisite or concurrent: Math 222 or permission of instructor. Basic concepts of physics using calculus; particle mechanics; laboratory included.

#### 232 GENERAL AND ENGINEERING PHYSICS (5)

Prerequisite: Physics 231. Rigid body mechanics, kinetic theory and thermodynamics; laboratory included.

#### 233 GENERAL AND ENGINEERING PHYSICS (5)

Prerequisite: Physics 232. Electricity and magnetism; laboratory included.

#### 235 GEOMETRICAL OPTICS (3)

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

#### 255 FUNDAMENTAL 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; laboratory included.

#### 300 PROJECTS IN PHYSICS (1 or 2)

Prerequisite: 15 credits in physics and permission of instructor.

#### 311 RADIATION BIOPHYSICS (3)

Prerequisites: Physics 133 or 233 and Mathematics 121 or permission of instructor. The physical and biological effects of penetrating radiations.



- 312 RADIATION BIOPHYSICS LABORATORY (3)  
Prerequisites: Physics 133 or 233; Physics 311 or permission of instructor; Mathematics 270. Techniques of radiation dosimetry and bioassay.
- 321, 322 ATMOSPHERIC SCIENCE (3 each)  
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)  
Prerequisites: one year of college physics and Mathematics 222. Interference; introduction to interferometry; Fraunhofer and Fresnel diffraction; polarization; laboratory included.
- 341 ANALYTICAL MECHANICS (4)  
Prerequisites: Physics 233 and Mathematics 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 each)  
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 Physics 255 or permission of instructor. R-C and transformer coupled amplifiers, power amplifiers, feed back oscillators, modulation and demodulation; laboratory included.
- 361, 362 THERMODYNAMICS AND STATISTICAL MECHANICS (3 each)  
Prerequisites: Physics 233 and Mathematics 224 or permission; Physics 361 and Mathematics 331 prerequisite to Physics 362. Kinetic theory, the laws of thermodynamics, classical statistical mechanics.
- 371 ELECTRICITY AND MAGNETISM (4)  
Prerequisite: Physics 233 and Math 222. Laws of electrostatics; dielectrics; magnetic fields of steady currents, magnetic induction, induced electromotive forces, magnetic properties of matter; alternating current.
- 381 INTRODUCTION TO ATOMIC AND NUCLEAR PHYSICS (4)  
Prerequisite: Physics 233 (or 133) and Mathematics 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 each quarter; 3 credit maximum)  
Laboratory assistance and instructional practice in Physics 131, 132, 133 and 231, 232, 233 laboratories.
- 399 SEMINAR IN PHYSICS (1)  
Prerequisite: 25 credits in physics and permission of instructor.
- 400 PROJECTS IN PHYSICS (1 to 3)  
Prerequisite: permission of instructor. Special projects 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 381. Experiments in atomic physics, radioactivity and nuclear physics.
- 407 FOUNDATIONS OF PHYSICS (3)  
Prerequisite: one year of college physics. Development of concepts from the Greek period through the 18th 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, Mathematics 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; laboratory projects included.
- 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; laboratory included.
- 471, 472 INTRODUCTION TO ELECTROMAGNETIC THEORY (3 each)  
Prerequisites: Physics 371 and Math 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.

## Physics

### 481, 482, 483 INTRODUCTION TO QUANTUM MECHANICS (3 each)

Prerequisite: Physics 343, 371, 381; Mathematics 331, 332; each course prerequisite to the next in the series. The elementary theory of quantum mechanics including particles and waves, the Schrodinger theory; perturbation theory, multielectron atoms, magnetic movements, 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 each)

Prerequisite: Physics 343, 472; Mathematics 331, 332; each course prerequisite to the next in the series. Basic mathematical tools needed by the theoretical physicist; 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 a member of the physics faculty: Project must extend over a minimum of two quarters.

### 531, 532 SOLID STATE PHYSICS (3 each)

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 each)

Prerequisite: 45 credits in physics including Physics 487; each course prerequisite to the next in the series. 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 each)

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 each)

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 each)

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 each)

Prerequisite: 45 credits in physics including 483 and 437; 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 each)

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.

### 599 RESEARCH (3 to 9)

Prerequisites: 18 credits in 500 level courses in physics, permission of instructor and department chairman. Investigation of an original problem in physics under supervision.



## POLITICAL SCIENCE

*Professors:* Vernon (Chairman), Wuest • *Associate Professors:* Clarke, Hebal, Payne • *Assistant Professor:* Weiner • *Instructor:* Muller • *Lecturer:* Bricker.

## TEACHER EDUCATION MAJOR

*Secondary*—45 credits

□ Political Science 101, 250, 270

Eight or more credits from each of *three* of the following areas:

Comparative Government:

□ Political Science 401, 402, 403, 404, 405, 406, 407, 409, 453

**Political Dynamics and Public Administration:**

Political Science 320 or 340, and *one* from 253, 345, 420, 421, 422, 425, 440, 442, 443, 450, 453

**Political Theory:**

Political Science 360 and *one* from 461, 462, 463

**International Relations:**

Political Science 375, 376, 406, 411, 474

Electives under departmental advisement.

**TEACHER EDUCATION MINOR**

25 credits

Political Science 101, 250, 270

Minimum of five credits selected under departmental advisement in each of two fields.

*Teaching Competence*

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

**ARTS AND SCIENCES MAJOR**

50 credits, plus Supporting Course

Political Science 101, 250, 270

Eight or more credits from each of *four* of the following areas:

**Comparative Government:**

Political Science 401, 402, 403, 404, 405, 406, 407, 409, 453

**Public Law:**

Political Science 310, 315, 410, 411

**Public Administration:**

Political Science 320, and *one* from 253, 420, 421, 422, 425, 453

**Political Dynamics:**

Political Science 340, and *one* from 345, 423, 440, 442, 443, 450, 453

**Political Theory:**

Political Science 360 and *one* from 461, 462, 463

**International Relations:**

Political Science 375, 376, 406, 411, 474

Elective: any three credits

**SUPPORTING COURSES**

Economics 201

**RECOMMENDED ADDITIONAL COURSES**

History 203, 204; Psychology 440, Sociology 341; Geography 311, 320, 341.

**ARTS AND SCIENCES MINOR**

25 credits

Political Science 101, 250, 270

Minimum of 5 credits in each of *two* of the following areas:

**Comparative Government:**

Political Science 401, 402, 403, 404, 405, 406, 407, 409, 453

**Political Dynamics and Public Administration:**

Political Science 320 or 340, and *one* from 253, 345, 420, 421, 422, 423, 425, 440, 442, 443, 450, 453

**Political Theory:**

Political Science 360 and one from 461, 462, 463

**International Relations:**

Political Science 375, 376, 406, 411, 474

**DEPARTMENTAL HONORS**

In addition to the general requirements for all honors students (see page 44) a political science major who wishes to graduate "with honors" must complete Political Science 496 (with the advice of the departmental honors adviser); complete Political Science 499; have taken courses leading to a reading knowledge of a foreign language, or two years of foreign language training; have a grade average of 3.5 in upper division political science courses; and submit a senior thesis.

**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 the national government; its main functions.

**253 STATE AND LOCAL GOVERNMENT (5)**

Prerequisite: Political Science 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: Political Science 250, or permission of instructor. Basic principles and forces in international relations with emphasis on the nation-state, nationalism, and international order.

Political Science

- 310 AMERICAN CONSTITUTIONAL LAW (5)  
Prerequisite: Political Science 250. Significant Supreme Court decisions interpreting major parts of the Constitution in practice.
- 315 LAW AND SOCIETY (3)  
Prerequisite: Political Science 250, or permission of instructor. Jurisprudence, the legal order, sources of law and the judicial process.
- 320 PUBLIC ADMINISTRATION (5)  
Prerequisite: Political Science 250, or one course from: Sociology 201 or 301, Psychology 201 or 440, or permission of instructor. The conduct of public business; emphasis on the executive branch of government; some treatment of other countries.
- 340 POLITICAL PARTIES AND ELECTIONS (5)  
Prerequisite: Political Science 101 and 250, or permission of instructor. Nature and functions of political parties; electoral methods.
- 345 GOVERNMENTAL AND POLITICAL PROBLEMS OF WASHINGTON (3)  
Prerequisite: Political Science 250 and 253, or permission of instructor. Governmental and political issues of the State of Washington.
- 360 INTRODUCTION TO POLITICAL THEORY (5)  
Prerequisite: Political Science 101, General Education 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: Political Science 270, or permission of instructor. The foreign policies of major powers other than the United States.
- 376 AMERICAN FOREIGN POLICY (3)  
Prerequisite: Political Science 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 to 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: Political Science 101 or permission of instructor. Analysis of the British system of government.
- 402 GOVERNMENTS AND POLITICS OF WESTERN EUROPE (3)  
Prerequisite: Political Science 101 or permission of instructor. Political systems of France, West Germany, Switzerland, and/or other countries.
- 403 GOVERNMENT OF THE SOVIET UNION (3)  
Prerequisite: Political Science 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: Political Science 101 or permission of instructor. The governments and political systems of Latin American countries.
- 405 THE MIDDLE EAST (3)  
Prerequisite: Political Science 101 or permission of instructor. Outstanding political, cultural, and governmental problems of the Middle East.
- 406 GOVERNMENT AND POLITICS OF CANADA (3)  
Prerequisite: Political Science 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: Political Science 101, or permission of instructor. The political systems of China and Japan, and other selected countries of the Far East.
- 409 PROBLEMS IN COMPARATIVE GOVERNMENT (5)  
Prerequisite: Political Science 101, at least one course between 401 and 407, or permission of instructor. Similarities and dissimilarities between states with respect to constitutional and legal concepts, institutions and procedures of government, civil and administrative functions, political processes.
- 410 THE SUPREME COURT AND CIVIL RIGHTS (3)  
Prerequisite: Political Science 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 (3)  
Prerequisite: Political Science 270, or permission of instructor. Origin, principles, and problems of international law.
- 420 NATURAL RESOURCES: ADMINISTRATIVE AND POLICY PROBLEMS (3)  
Prerequisite: Political Science 320 or permission of instructor. Problems in forest policy, minerals, water and power, with emphasis on Western United States.
- 421 METROPOLITAN AREA GOVERNMENT (3)  
Prerequisites: Political Science 101 and 250, or Sociology 201, or Geography 341, or 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: Political Science 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: Political Science 250 or permission of instructor. The executive branch, its organization and problems.
- 440 **THE LEGISLATIVE PROCESS (3)**  
Prerequisite: Political Science 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: Political Science 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: Political Science 250 and 340, or permission of instructor. Nature, formation, and role of public opinion; public opinion surveys, pressure groups, and role of government in the forming of public opinion.
- 453 **COMPARATIVE LOCAL GOVERNMENT (3)**  
Prerequisite: Political Science 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.
- 461 **POLITICAL THEORY: RENAISSANCE AND MODERN (3)**  
Prerequisite: General Education 122, or Political Science 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: General Education 123 or History 106 or Political Science 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: History 203, 204, or equivalent, or Political Science 101 and/or 250. Major concepts in American political thought from the Colonial Period to the present.
- 474 **INTERNATIONAL ORGANIZATION (3)**  
Prerequisite: Political Science 270 or permission of instructor. Development, organization, and activities of various types of international institutions, including the United Nations.

496a,b,c **HONORS TUTORIAL (2 to 5 each)**

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.



## PSYCHOLOGY

*Professors:* Adams, Budd, Harwood (Chairman), Nugent, Woodring • *Associate Professors:* Blood, Crow, Diers, Elich, Jones, Mason, Meade, Meyer, Namikas, Straughan • *Assistant Professors:* Carmean, Kintz, Lippman, MacKay, Meredith, Panek, Tyler.

### TEACHER EDUCATION MAJOR

*Elementary*—45 credits

(This is in addition to the psychology courses in the general education and professional requirements.)

Psychology 201, 303, 373, 440, 452

Electives under advisement—25 credits

Students electing the alternate program for elemen-

## Psychology

tary teachers will complete 28 credits in the above major under advisement.

### TEACHER EDUCATION MINOR

*Secondary*—20 credits

Psychology 201 plus 16 credits in psychology other than courses required in the educational-psychology professional requirements. Recommended courses: Psychology 373 and 303.

### ARTS AND SCIENCES MAJOR

40 credits, plus Supporting Courses

Psychology 201, 303, 373

Majors should complete these before electing other upper division courses. A knowledge of descriptive statistics is prerequisite to these courses. This knowledge may be demonstrated by completing Mathematics 240 or by a departmental examination. Those electing the latter may obtain a study program from the department in preparation for the examination. It is recommended that this prerequisite be fulfilled before taking Psychology 201.

Electives under advisement—28 credits.

#### SUPPORTING COURSES

Mathematics 240 or equivalent (see above), Philosophy 113, Sociology 201, and at least one of the following sequences:

(a) Chemistry 121, 122, 251

(b) Chemistry 125, 251, and one course from (c) (d) or (e) below

(c) Physics 131, 132, 133 (or 231, 232, 233)

(d) Mathematics 220, 241, 270

(e) Either Zoology 241-243 or Zoology 261-262, and one course from Biology 301, 371, Zoology 363, 366

Recommended additional elective courses: One year or more of a foreign language, Philosophy 411, Psychology 406, upper division courses in mathematics and the physical, biological, or social sciences.

### ARTS AND SCIENCES MINOR

24 credits

Psychology 201

Twenty credits selected under advisement as follows:

Two courses or more from Psychology 302, 303,

373, 405, 406, 407, 408, 409, 440, 452, 473

Other courses from above or from Psychology 320, 352, 453

It is recommended that biology majors elect Psychology 303, 407, 409, and economics majors Psychology 320.

*NOTE* Students planning to take advanced work in psychology at Western should consult the *Graduate Bulletin* for prerequisite courses.

### DEPARTMENTAL HONORS

In addition to the general requirements for all honors students (see page 44) a psychology major who wishes to graduate "with honors" must complete:

Psychology 401

A comprehensive examination in psychology

24 credits in French, German, or Russian, or a demonstrated reading knowledge of one of these.

### GRADUATE STUDY

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

### COURSES IN PSYCHOLOGY

#### 201 GENERAL PSYCHOLOGY (4)

Prerequisite: General Education 105 or permission of instructor. Experimentally oriented study of the basic psychological concepts.

#### 302 COMPARATIVE PSYCHOLOGY (3)

Prerequisite: Psychology 201. Phylogenetic comparison of animal behavior, learning, motivation, and sensory processes in selected species of animals; lectures and laboratory.

#### 303 ADVANCED GENERAL PSYCHOLOGY (4)

Prerequisite: Psychology 201; prerequisite or concurrent: Psychology 373. The use of quantitative techniques in behavioral analyses. Lectures and laboratory.

#### 320 INDUSTRIAL PSYCHOLOGY (3)

Prerequisite: Psychology 201, 351 or permission. Application of psychological principles to such industrial problems as personnel selection and appraisal, human relations, marketing, training and engineering psychology.

#### \*351 PRINCIPLES OF HUMAN LEARNING (3)

Prerequisite: General Education 105; not open to those with credit in Psychology 408. Application of the psychological principles of learning to classroom teaching.

- \*352 HUMAN DEVELOPMENT AND PERSONALITY (5)  
Prerequisites: Psychology 351 and Biology 101 or 104 or equivalent. Basic principles of development and personality with special attention to the school age child; implications for educational practices. Not open to students who have credit for Psychology 456.
- 361 (397d) 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: Psychology 351. Evaluating pupil achievement; construction of instruments for determining what a student has learned and how much he has developed; the use of standardized tests.
- 373 ELEMENTARY STATISTICAL INFERENCE (3)  
Prerequisite: Mathematics 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 to 5 each)
- 400 SPECIAL PROBLEMS (1 to 3)  
Prerequisite: permission of instructor. Opportunity for advanced students who wish to investigate problems.
- 401 HONORS SEMINAR (3)
- 402 MOTIVATION (3)  
Prerequisite: Psychology 201. Experimental findings, and theoretical interpretations of the biological and psychological aspects of motivation.
- 405 SEMINAR IN RECENT PSYCHOLOGICAL LITERATURE (3)  
Prerequisite: permission of instructor.
- 406 HISTORY AND SYSTEMS OF PSYCHOLOGY (3)  
Prerequisite: 15 credits in psychology. Historical development of the systematic viewpoints of psychology.
- 407 SENSATION AND PERCEPTION (3)  
Prerequisite: Psychology 201. An experimentally oriented course emphasizing sensory processes and stimuli necessary to perception; perceptual theory, classical and contemporary.
- 408 THE PSYCHOLOGY OF LEARNING (5)  
Prerequisite: Psychology 201; students with credit in Psychology 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: Zoology 241 and 243, or 248; Psychology 201 and 10 additional credits in psychology. Biological foundations of behavior; lecture and laboratory.
- \*431 INTRODUCTION TO GUIDANCE SERVICES (3)  
Prerequisite: 15 hours of psychology and senior status. Roles of teacher, principal, psychologist, counselor, and other specialists in an integrated program; guidance and counseling techniques.
- 440 SOCIAL PSYCHOLOGY (3)  
Prerequisites: 10 credits in psychology, or Psychology 201 and 5 credits in sociology. Psychology of human institutions with special reference to impact on individual behavior.
- 452 THEORY OF PERSONALITY (5)  
Prerequisite: 11 credits in psychology. Theoretical approaches to personality; major philosophic assumptions, historical position, and experimental data considered in evaluating personality theories.
- 453 INDIVIDUAL DIFFERENCES (3)  
Behavioral differences among individuals.
- 456 RESEARCH IN DEVELOPMENT AND PERSONALITY (5)  
Prerequisites: Psychology 303, 452. Basic principles and theories underlying development and personality. Not open to students who have had Psychology 352.
- 457 PROGRAMMED LEARNING (3)  
Principles and theories of learning upon which programmed learning is based. Practicum in program design and development.
- 459 SEMINAR IN EDUCATIONAL PSYCHOLOGY (1)  
Prerequisite: successful completion of Independent Study Program.
- 464 ABNORMAL PSYCHOLOGY (3)  
Prerequisite: Psychology 201 or permission of instructor. Psychoses, neuroses, and other forms of behavior deviation; conceptions regarding these conditions.
- \*466 THE BRIGHT AND GIFTED CHILD (3)  
Prerequisite: teaching experience, permission, or 11 hours of psychology. Identification procedures, curriculum, and teaching methods suited to education of children with superior and special abilities.
- \*471 STANDARDIZED TESTS (3)  
Prerequisite: Psychology 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: Psychology 373 or equivalent. Advanced methods for the analysis of research data. Also offered as Education 473.
- 496a,b,c HONORS TUTORIAL (2 to 5 each)
- 497c BEHAVIORAL PROCESSES IN COMMUNICATION (5)  
Prerequisite: teaching experience or permission of instructor. Recent research in behavioral sciences applied to problems of visual communication; perception, small group behavior, mass behavior, motivation and personality, polls; changing patterns of social class conditioning in the U.S. Summer 1966.

\*Education-psychology courses.

Psychology

- 497f CURRENT PSYCHOPHYSICAL AND PSYCHOPHYSIOLOGICAL RESEARCH ON ATTENTION (2)  
Prerequisite: permission of instructor.
- 497e HEREDITY AND ENVIRONMENT (3)  
Prerequisite: permission of instructor.
- 500 SPECIAL PROBLEMS (1 to 3)  
Prerequisite: permission of instructor.
- 501a,b PRO-SEMINAR IN PSYCHOLOGICAL FOUNDATIONS (4 each)  
501a perception, psychological, comparative, learning. 501b developmental, social, personality, abnormal. 501a prerequisite to 501b.
- 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 531 (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: Psychology 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: Psychology 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: Psychology 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: Psychology 352 or equivalent. Research and theory in the field of child development and behavior.
- \*Education-psychology courses.
- 556 PSYCHOLOGY OF ADOLESCENCE (3)  
Prerequisite: Psychology 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: Psychology 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: Psychology 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: Psychology 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: Psychology 577 and permission of instructor. Diagnostic and interpretative work with selected cases under direct supervision.
- 591 PSYCHOLOGY OF OCCUPATIONS (3)  
Prerequisites: Psychology 431 and permission of instructor. Sources of occupational materials, theories of career development; applications to vocational counseling.
- 592, 593 DESIGN AND ANALYSIS OF EXPERIMENTS (2 each)  
Prerequisite: Psychology 473; 592 prerequisite to 593. Multidimensional analysis of variance, trend analysis, and analysis of covariance.
- 594 FOUNDATIONS OF MEASUREMENT (4)  
Prerequisite: Psychology 473. Theory basic to construction and application of psychological tests and scaling techniques.
- 595 CORRELATION THEORY (3)  
Prerequisite: Psychology 473. Rectilinear, curvilinear, multiple and partial correlation; sampling theory applied to correlation.
- 596a,b,c REVIEW OF PSYCHOLOGICAL APPRAISAL AND TREATMENT (2 each)  
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



*Professor:* Taylor • *Associate Professors:* Anastasio, Call (Chairman), Harris, Mazur • *Assistant Professors:* Douglas, Spaulding, Thomas • *Instructors:* Bronsdon, Moser • *Lecturer:* Tweddell.

## TEACHER EDUCATION MAJOR

40 credits

- ☐ Sociology-Anthropology 201; either 200 or 202 as advised; 275.
- ☐ Additional courses under departmental advisement.

*NOTE* Students intending to teach in the secondary schools must receive special permission to major in sociology-anthropology.

## TEACHER EDUCATION MINOR

20 credits

- ☐ Sociology-Anthropology 201. Additional courses under departmental advisement.

## ARTS AND SCIENCES MAJOR

50 credits, plus Supporting Courses

- ☐ Sociology-Anthropology 201; either 200 or 202 as advised; 275, 370
- ☐ 20 credits in upper division courses. Additional courses under advisement.

### SUPPORTING COURSES

- ☐ Psychology 440 and one or more other courses selected under department advisement.

## ARTS AND SCIENCES MINORS

*Sociology-Anthropology* 25 credits

- ☐ Sociology-Anthropology 201; either 200 or 202 as advised. Additional courses under departmental advisement.

*Linguistics* 25 credits

- ☐ Linguistics 200, 201, 301, 302, 303 (see page 136)
- ☐ Sociology-Anthropology 448
- ☐ Electives under advisement, 5 credits

## DEPARTMENTAL HONORS

In addition to the general requirements for all honors students (see page 44), a sociology-anthropology major who wishes to graduate "with honors" must complete:

- Sociology-Anthropology 401h
- Reading knowledge of a foreign language or two years of foreign language training
- Submission of 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: General Education 105 or permission of instructor. The range and variety of cultural and social phenomena including technology, social, political, and economic organization, religion and art.

### 202 CONTEMPORARY SOCIETIES (5)

Prerequisite: Sociology-Anthropology 201 or permission of instructor. Social behavior observable in selected contemporary societies; the concept of "social system," the formulation of general propositions applicable to human behavior.

### 260 PEOPLES OF THE WORLD (5)

A survey of the principal cultures and peoples of the world.

### 275 STATISTICAL METHODS (5)

Prerequisites: Sociology-Anthropology 201 and Mathematics 100 or its equivalent. Measures of central tendency, dispersion association, linear regression, correlation and binomial probability with emphasis on their application to statistical research in sociology and anthropology.

### 301h HONORS SEMINAR (2)

Prerequisite: permission of instructor.

### 311 WORLD DEMOGRAPHY (5)

Prerequisite: Sociology-Anthropology 201; Sociology-Anthropology 275 is recommended. Growth, distribution and composition of human population; social and economic implications of demographic trends in industrialized countries and under-developed areas; elementary demographic techniques essential to understanding the components of population change.

### 320 ECONOMIC ORGANIZATION (5)

Prerequisite: Sociology-Anthropology 201 or 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: Sociology-Anthropology 201 or permission of instructor. The "super-natural" as an institution and its relationship to other social and cultural phenomena.

### 335 SOCIAL STRATIFICATION (5)

Differentiation and evaluation of groups and individuals in society; the consequences for behavior in different spheres of society.

### 340 POLITICAL ORGANIZATION (5)

Prerequisite: Sociology-Anthropology 201 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: Sociology-Anthropology 201 or equivalent. Types of family systems from selected societies, with emphasis upon variation in structure and socio-psychological functions.

### 354 SOCIOLOGY OF DEVIANT BEHAVIOR (5)

Prerequisite: Sociology-Anthropology 201 or equivalent. The collective aspects of non-normative or nonconforming behavior as a product of the social system.

### 361 PEOPLES OF THE AMERICAS (5)

Ethnographic survey of the peoples and cultures.

### 362 PEOPLES OF EURASIA (5)

Ethnographic survey of the peoples and cultures.

### 363 PEOPLES OF AFRICA (5)

Ethnographic survey of the peoples and cultures of Africa south of the Sahara.

### 364 PEOPLES OF THE PACIFIC (5)

Ethnographic survey of the peoples and cultures of the Pacific area.

### 366 COMMUNITY ORGANIZATION (5)

Prerequisite: Sociology-Anthropology 201 or equivalent; Sociology 275 or 370 recommended. The nature of "community" analyzed in terms of changing demographic, institutional, and interpersonal patterns.

- 370 INTRODUCTION TO RESEARCH METHODS (5)  
Prerequisite: Sociology-Anthropology 201. The nature of scientific theory; the development of social research; the basic methods and techniques of data-gathering, processing and analysis.
- 390 HISTORY OF SOCIAL THOUGHT (5)  
Prerequisite: 10 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: 10 credits in sociology-anthropology or permission of instructor; Sociology 390 recommended. Major contemporary theories of society and social organization.
- 396a,b,c HONORS TUTORIAL (2 to 5 each)
- 401 SEMINARS (3)  
Prerequisite: permission of instructor. Selected topics. 401h Honors Seminar 3 credits. Prerequisite: permission of instructor.
- 413 POPULATION OF WASHINGTON STATE (3)  
Prerequisite: permission of instructor. Population growth, distribution and composition; a course for administrators, educators, and sociologists.
- 425 CULTURE AND PERSONALITY (5)  
Prerequisite: 10 credits in sociology-anthropology. 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 or anthropology, or permission of instructor. Social change in the United States (1900-1960); contemporary theories of social change; problems in predicting change.
- 441 PUBLIC OPINION (3)  
Prerequisite: Sociology-Anthropology 201, or permission of instructor. Factors involved in the formation of public opinion; propaganda analysis; agencies of mass impression; opinion measurement; the role of leadership.
- 446 CRIME AND DELINQUENCY (5)  
Prerequisite: Sociology-Anthropology 201, 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: Sociology-Anthropology 201; Linguistics 200, 201, or permission of instructor. Language as related to semantics and world view; speech communities, processes of change in language.
- 457 HISTORY OF SOCIAL WELFARE (3)  
Development of social welfare services in Western European civilization with particular emphasis upon twentieth century United States.
- 458 LAW AND WELFARE IN WASHINGTON STATE (3)  
The practice of social welfare in Washington State with particular emphasis upon legal aspects.
- 462 INDIANS OF THE NORTHWEST COAST (3)  
Tribal distributions, social organization, and ecological adjustment with emphasis on the Indians of Western Washington; problems of adjustment to the modern world.
- 470 RESEARCH (2 to 6)  
Prerequisite: permission of instructor. An opportunity to investigate a problem through field or library research.
- 475 INTERMEDIATE STATISTICS (3)  
Prerequisites: Sociology-Anthropology 275 and 370, or permission of instructor. Statistical methods with emphasis on tests of hypotheses and statistical inference as they apply to problems in sociology.
- 481 THE CHILD IN SOCIETY (3)  
Prerequisite: permission of instructor. The function 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 (2-5 each)  
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 (2 to 5 each)  
Prerequisite: permission of instructor.
- 497c BEHAVIORAL PROCESSES IN COMMUNICATION (5)  
Prerequisite: teaching experience, or permission of instructor. Recent research in the behavioral sciences applied to problems of visual communication: perception, small group behavior, mass behavior, motivation and personality, polls, changing patterns of social class conditioning in the United States; Summer 1966.



## SPEECH

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

### TEACHER EDUCATION MAJORS

#### *Elementary—General Classroom—45 credits*

- Speech 201 or 204 or 205, 233, 330, 350, 355, 356, 373, 461, and four credits in clinical practice
- 17 credits in speech selected under departmental advisement

(Students electing the alternate program in elementary education may defer these 17 credits.)

#### *Speech Therapist—45 credits*

- Speech 201 or 204 or 205, 233, 330, 350, 355, 373, 461, six credits in clinical practice, plus electives under departmental advisement.
- Directed Teaching*, under the supervision of a speech therapist.

#### *Secondary—45 credits*

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

### TEACHER EDUCATION MINOR

#### *Secondary—25 credits*

- Speech 105, 130, 201, 204 or 205 or 206, 236, 373, 437, 485
- Additional course selected under departmental advisement.

### ARTS AND SCIENCES MAJOR

50 credits

- Speech 130, 201, 233 or 341, 355, and 373
- 20 credits in one area listed below, plus 6 credits in each of the remaining two areas.

Theatre:

- Speech 230, 231, 232, 236, 237, 238, 320, 330, 336, 337, 338, 421, 422, 424, 425, 426, 427, 430, 433, 437, 438

## Public Address:

□ Speech 202, 204, 205, 206, 207, 208, 305, 480, 490

## Speech Therapy:

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

## ARTS AND SCIENCES MINOR

25 credits

□ Speech 130, 201, 233, 340 or 341, 355, and 373, plus courses chosen under advisement from the three areas above.

## 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 each)

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 each)

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 his 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.

## 306 ORGANIZING AND DIRECTING THE FORENSICS PROGRAM (2)

Fundamentals of interscholastic debate, discussion, oratory, and extempore speaking; for non-majors or minors. Summer only.

## 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.

Speech

- 330 INTRODUCTION TO CHILD DRAMA (3)  
Relationships between formal theatre and informal dramatics; the role of child drama in education, recreation, and speech therapy.
- 336 DESIGN FOR THE STAGE (3)  
Prerequisite: Speech 236. Design for modern theatre with emphasis on interpretation of the play through design; practical design and techniques.
- 337 ACTING (3)  
Prerequisite: Speech 233, or permission of instructor. Interpretation and action on the stage; application of the basic techniques of acting.
- 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 communication 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 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, 359, 360 CLINICAL PRACTICE IN SPEECH THERAPY (2 each)  
Prerequisites: Speech 350, 355, 356, 357 and 373. Supervised clinical practicum in therapy for the more prevalent voice and articulation disorders.
- 373 PHONETICS (3)  
Training in recognition and production of sounds of spoken English through use of the International Phonetic Alphabet.
- 384 PROGRAM MATERIALS FOR THE PUBLIC SCHOOL (2)  
Materials, organization, and production of assembly programs in the elementary and secondary schools.
- 400 SPECIAL PROBLEMS (1 to 3)  
Prerequisite: permission of instructor. Investigation of special problems in the fields of speech.
- 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 each)  
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)  
The American theatre from O'Neill to World War II. Also offered as English 473.
- 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; observation of children's classes in creative dramatics; story selection, 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 each)**  
Prerequisites: Speech 358 plus 6 additional credits in the field. Supervised clinical practicum dealing with more complex cases.
- 461 **INTRODUCTION TO HEARING (3)**  
Prerequisites: Speech 355 and 356, and 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.
- 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; and their relationship to American political, social, and intellectual life.
- 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 to 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 of instructor. Evaluation of experimental research.
- 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.



## 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. Such courses and concentrations follow.

### 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 page 37.

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 the 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:



A number of courses are given as departmental offerings:

Biology 101  
 Chemistry 101  
 English 100, 101  
 Geography 101 or Geology 101  
 Mathematics 151  
 Physical Education activities  
 Physics 101  
 Speech 100

Refer to respective departmental sections of the Catalogue for descriptions.

## 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 each)  
 (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 each)  
 These are the same as General Education 121, 122, 123, with the addition of work in English composition. This three quarters sequence also satisfies the requirements of English 100 and 101.

200 AN 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

### TEACHER EDUCATION MAJORS

*Elementary* – 45 credits

Physics 131  
 Geology 211, 311  
 Biology 204  
 physics 105 and /or Geography 331  
 One of the following: Geology 212, 412, 413, 414  
 3 to 8 credits from Biology 240, 301; Botany 253; Zoology 263  
 Additional electives under advisement, with a minimum of 11 credits in each area of physical, biological, and geological studies.

*Junior High School* – 45 credits

In addition to the general education requirements in science:

Physical Science 492  
 Biology 493  
 25 credits in one field of concentration (biology or geology)  
 15 credits in the second field (biology or geology).  
 Students taking this major are advised to include the Physical Science Minor (see below) if they wish to be recommended for general science teaching.

For these interdepartmental concentrations Dr. Lahti of the Physics Department has been assigned as adviser.

## COURSES

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.

## HONORS

These courses are restricted to students who are enrolled in the Honors Program (see page 44).

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;

## Interdepartmental

c. have completed at least 20 credits of honors courses, and 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.

## COURSES

- 151, 152, 153 TUTORIAL (2 each)
- 161 SCIENCE COLLOQUIUM (2)
- 162 HUMANITIES COLLOQUIUM (2)
- 163 SOCIAL SCIENCE COLLOQUIUM (2)
- 251, 252, 253 TUTORIAL (2 each)
- 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)

## LINGUISTICS

### TEACHER EDUCATION/ARTS & SCIENCES MINORS

Minors in general and applied linguistics may be taken by candidates for the Bachelor of Arts or the Bachelor of Arts in Education degrees. These minors are available in 1966-67 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 390, 490, 491

□ English (Teacher Education)—see English minor with Linguistics Emphasis, page 71

□ Foreign Languages (either degree)—add 6 credits selected under departmental advisement in a single foreign language other than the major 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

- 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)  
Principles of language typology, linguistic geography, comparative method, and historical reconstruction.
- 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

### TEACHER EDUCATION MAJOR

*Secondary*—45 credits

- General Science 405
- Chemistry 121, 122, 131, 251
- Physics 231, 232, 233 (or 131, 132, 133), 381
- Physical Science 492

### TEACHER EDUCATION MINOR

*Junior High School*

25 credits, in addition to the general education requirements, selected under advisement.

For these interdepartmental concentrations, Dr. Lahti of the Physics Department has been assigned as consulting adviser.

## COURSES

- 382 PHYSICAL SCIENCE FOR THE ELEMENTARY SCHOOL (3)  
Prerequisite: science general education requirements or equivalent. The 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. The content, materials, and methods of teaching general physical science, physics, and chemistry in the junior and senior high schools.

## SCIENCE EDUCATION

There are no concentrations in this interdepartmental category. Questions relating to these courses should be directed to the science departments carrying the instructional responsibility for each course as indicated in the Schedule of Classes.

## COURSES

- 380 SCIENCE FOR THE ELEMENTARY SCHOOL (5)  
Prerequisite: permission of instructor. 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: Biology 101 or 104 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: Physical Science 492 or Biology 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.

## TEACHER EDUCATION MAJORS

*Junior High School* 45 credits

- Geography 201
- 5 credits from Geography 311, 313, 314, 315, or 316
- History 203 or 204
- Sociology-Anthropology 201
- Social Studies Education 426
- Political Science 250 or Economics 201
- Courses under advisement: 14 credits concentrated in one of the following fields: geography, history, political science, or sociology-anthropology.

*Elementary* 45 credits

- History 203, 204; Geography 201, 311; Sociology-Anthropology 201
- Political Science 250 or Economics 201
- 17 additional credits under advisement in one of the following four fields: geography, history, political science, or sociology-anthropology
- Students electing the alternate program for elementary teachers will select 28 credits of the above under advisement of the history department.

### *Teaching Competence*

Recommendation for teaching competence in social studies (junior high school) requires completion of the major with a grade average of 2.0 or better.

## COURSES

- 425 SOCIAL STUDIES FOR THE ELEMENTARY SCHOOL (3)  
The information 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.

## 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 are 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, Mathematics, 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 page 37 with Mathematics 121 and Chemistry 125 selected from the alternate courses;



(2) the professional education sequence outlined on page 40; the following concentration to satisfy the major-minor requirements.

- Art 101, 102, 291, 371
- Chemistry 208, 209
- Economics 338
- English 202 or 210
- 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 Catalogue for descriptions of these courses.

## TWO-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 125
- Economics 251, 335, 338
- English 100, 101, 202 or 210
- General Education 105
- Industrial Arts 210, 240, 340, 360, 361, 379, 447
- Mathematics 121, 122
- Physical Education activities, three quarters as indicated on page 110
- 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.



# ORGANIZATION AND PERSONNEL

## BOARD OF TRUSTEES

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

## COLLEGE ADMINISTRATION

Harvey C. Bunke, Ph.D. · President  
Charles J. Flora, Ed.D. · Academic Dean  
Merle S. Kuder, Ph.D. · Dean of Students  
J. Alan Ross, Ph.D. · Dean of Graduate  
Studies and the Summer Sessions  
Herbert C. Taylor, Ph.D. · Dean of Research  
and Grants  
J. Arnold Bricker, M.P.A. · Administrative  
Assistant to the President  
Gerald W. Brock, B.S. · Director of Housing  
Don F. Blood, Ph.D. · College Examiner  
Sam Buchanan · Payroll and Retirement  
Officer

F. Richard Feringer, Ed.D. · Director of  
Continuing Studies  
Donald A. Ferris, M.A. · Coordinator of  
Instructional Programs  
Harold A. Goltz, M.A. · Director of  
Campus Development and Planning  
Jack N. Griffin, B.B.A. · Project Fiscal  
Officer  
Corrinne Hamilton, M.A. · Director of  
Placement in Business and Government  
William T. Hatch, M.A. · Director of  
Financial Aid and Student Advisement  
Halldor Karason, Ph.D. · Director of  
General Studies  
Kermit Knudtzon, B.A. · Controller  
Louis T. Lallas, M.Ed. · Assistant Registrar  
C. W. McDonald, M.A. · Dean of Men  
Howard F. McGaw, Ed.D. · Director of the  
Library  
Philip J. McAuley, M.A. · Advisor to Student  
Publications  
Gary L. Mansfield, M.Ed. · Assistant  
Director of Continuing Studies  
Calvin A. Mathews, M.A. · Associate  
Registrar and Coordinator of College Relations

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

Frank A. Nugent, Ph.D. · Director of  
Counseling Center

Joe Nusbaum, B.A. · Business Manager

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

Richard E. Reynolds, M.Ed. · Director of  
Student Activities

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

Ernest Sams · Financial Planning Officer

Bearnice Skeen, Ed.D. · Director of  
the Campus School

Texas Warren · Construction Supervisor

#### 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., Co-  
lumbia University; University of Washington.

Hazel Breakey · Assistant Professor Emeritus  
of Art  
B.S., graduate work, Teachers College, Co-  
lumbia 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, Kal-  
amazoo; Western Washington State College.

Mira E. Booth · Assistant Professor Emeritus  
of Music  
B.A., University of Washington; M.A., Teach-  
ers 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., Teach-  
ers College, Columbia University; University  
of Chicago.

Nora B. Cummins · Professor Emeritus of  
Political Science and History  
B.A., University of Minnesota; M.A., Colum-  
bia University; Northern Normal and Indus-  
trial 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 Colo-  
rado; 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. Sundquist · 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.

## 1966-1967 FACULTY AND ADMINISTRATIVE OFFICERS

(The following list is complete as of June 15 when the Catalogue went to press. Additions or deletions since that date are not included.)

NOTE: Date in parenthesis indicates year of initial service with the College.

- William R. Abel (1962) · Associate Professor of Mathematics  
B.A., Morningside College; M.A. University of South Dakota; Ph.D., University of Missouri.
- Gottfried K. V. Adam (1963) · Assistant Professor of German  
B.A., M.A., University of California, Berkeley.
- Donald A. Adams (1964) · Instructor of Speech  
B.A., M.A., University of Washington.
- Henry L. Adams (1957) · Professor of Psychology; Chairman, Honors Board  
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.
- James A. Allan (1964) · Instructor of English  
B.A., University of Vermont; M.A., Brown 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.
- H. Milo Anderson (1965) · Assistant Professor of Education  
B.A., University of Michigan; M.A., Michigan State University; Ed.D., University of Oregon.
- Dwight Andrus (1965) · Lecturer in Education  
B.A., B.A. in Ed., Ed.M., Western Washington State College.
- 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.
- Guadalupe Garcia Barragan (1965) · Lecturer in Spanish  
M.A., New Galicia.
- Declan Barron (1946) · Associate Professor of Biological Science  
B.A. in Ed., Western Washington State College; M.A., Yale University.
- 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.Ec., Oregon State University.
- Thomas Billings (1964) · Associate Professor of Education  
B.S., Ph.D., University of Oregon.
- Richard T. Bishop (1966) · Lecturer in Education  
Ph.B., University of Chicago; M.A., Michigan State University.
- 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  
A.B., University of Washington; M.A., Ph.D., Teachers College, Columbia University.
- Eileen C. Bouniol (1965) · 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) · Associate Professor of History  
B.A., M.A., University of Washington; Ph.D., University of Missouri.
- Laurence W. Brewster (1948) · Professor of Speech  
B.A., Yankton College; M.A., Ph.D., Iowa State University.
- J. Arnold Bricker (1966) · Administrative Assistant to the President  
B.A., Pacific Lutheran University; M.P.A., University of Washington.
- Thomas J. Bridge (1965) · Instructor of English  
B.A., University of British Columbia; M.A., Ohio 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.
- Gerald W. Brock (1964) · Director of Housing  
B.S., Oregon State University.
- Henrich Brockhaus (1965) · Assistant Professor of German  
B.A., M.A., University of British Columbia.
- Madeline Bronsdon (1965) · Instructor of Anthropology  
E.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 California, Berkeley.
- Robert D. Brown (1965) · Professor of English and Chairman of the Department.  
A.B., M.A., Ph.D., Indiana University.
- Willard A. Brown (1966) · Associate Professor of Physics  
B.S., University of Washington; M.A.T., Washington State University; Ed.D., University of Florida.
- William C. Budd (1953) · Professor of Psychology  
B.A., Hamline University; B.S., M.A., Ph.D., University of Minnesota.
- William A. Bultmann (1965) · Professor of History  
A.B., Ph.D., University of California, Los Angeles.
- Harvey C. Bunke (1965) · Professor of Economics and President of the College  
B.S., M.S., Ph.D., University of Illinois.
- Nita G. Bunnell (1965) · Instructor of English  
B.A., Louisiana State University; M.A., University of Oregon.
- Donald J. Call (1958) · Associate Professor of Sociology and Chairman of the Department  
B.A., M.A., Ph.D., University of Oregon.
- Sene R. Carlile (1947) · Professor of Speech and Chairman of the Department  
B.A., B.S., Fort Hays, Kansas, State College; M.A., Colorado State College; Ph.D., University of Wisconsin.
- Clara J. Carmean (1965) · Lecturer in Humanities  
B.A., University of Illinois.
- Stephen L. Carmean (1964) · Assistant Professor of Psychology  
R.A., M.A., Ph.D., University of Illinois.

- Jere M. Cary (1966) · Assistant Professor of Industrial Arts  
B.A., Washington State University; B.A. in Ed., M.A. in Ed., Central Washington State College.
- Meredith B. Cary (1964) · Instructor of English  
B.A., Central Missouri State College; M.A.L.S., University of Michigan; M.A., Michigan State University.
- \*Katherine M. Carroll (1958) · Associate Professor of Education  
B.S., Salem State College; Ed.M., Ed.D., Boston 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.
- \*Robin Chaney (1964) · Associate Professor of Mathematics  
B.S., Ph.D., Ohio State University.
- Sea Bong Chang (1964) · Assistant Professor of Chemistry  
B.S., Armed Forces College, Korea; M.A., Duke University; Ph.D., Massachusetts Institute of Technology.  
On leave Fall quarter 1966.
- Edna Channer (1940) · Associate Professor of Industrial Arts  
B.A., University of Washington; M.A., University of Iowa.
- M. V. Chari (January, 1967) · Assistant Professor of Economics  
B.S., M.A., Osmania University, India.
- 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.
- David E. Clarke (1966) · Associate Professor of Political Science  
Ph.D., Stanford University.
- 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.
- Lowell T. Crow (1962) · Associate Professor of Psychology  
B.S., M.A., University of South Carolina; Ph.D., University of Illinois.
- Stanley M. Daugert (1962) · Professor of Philosophy and Chairman of the Department.  
A.B., M.A., Ph.D., Columbia University.

- David H. Davis (1966) · Instructor of History  
B.A., University of Washington; M.A., Claremont Graduate School.
- Roland L. DeLorme (1966) · Assistant Professor of History  
A.B., University of Puget Sound; M.A., University of Pennsylvania; Ph.D., University of Colorado.
- 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.
- Arthur Dimond (1965) · Instructor of Music  
B.A., Willamette University; M.M., University of Oregon.
- William J. Dittrich (1951) · Assistant Professor of Physics  
B.S., M.S., University of Washington.
- Lawrence Douglas (1964) · Assistant Professor of Sociology  
B.A., M.A., University of British Columbia; Ph.D., University of London.
- Maurice A. Dube (1963) · Assistant Professor of Biology  
B.S., Washington State University; M.S., Ph.D., Oregon 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.
- 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. Kaye Faulkner (1962) · Assistant Professor of Economics  
B.S., Ph.D., University of Utah.

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- F. Richard Feringer (1962) · 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 Coordinator of Instructional Programs.  
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 Biology 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.
- Pat H. Fredeman (1963) · Instructor of English  
B.A., University of Oklahoma; M.A., University of British Columbia.
- Bernadette M. Gadzella (1962) · Assistant Professor of Education.  
B.Ed., University of Alberta; M.Ed., Ph.D., University of Ottawa.
- 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.
- Harold A. Goltz (1957) · Director of Campus Development and Planning  
B.A., Macalester College; M.A., University of Minnesota.
- \*Alexandre Goulct (1966) · Professor of French Baccalaureat es lettres, Laval University; Baccalaureat es Arts, Joliette College; Doctorate d'universite, University of Paris.
- Jack N. Griffin (1966) · Project Fiscal Officer  
B.B.A., Lamar State College.
- 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.
- 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.
- \* On leave 1966-67.

- C. Corinne Hamilton (1965) · Director of Placement in Business and Government  
B.A., State College of Iowa; M.A., University of Iowa.
- 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.
- Ernest E. Harper (1966) · Acting Director of the Audio Visual Center  
Registered professional electrical engineer.
- Howard Harris (1966) · Associate Professor of Anthropology  
B.A., University of Iowa; M.A., University of Missouri; B.D., Hartford Theological Seminary
- Charles W. Harwood (1953) · Professor of Psychology and Chairman of the Department  
B.S., M.S., Ph.D., University of Washington.
- Joseph Hashisaki (1962) · Professor of Mathematics and Chairman of the Department  
E.A., Montana State University; M.A., Ph.D., University of Illinois.
- William T. Hatch (1962) · Director of Financial Aid and Student Advisement  
E.A. in Ed., Western Washington State College; M.A., Claremont Graduate School.
- 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 Public services Librarian  
E.A., Ed.M., Tufts College; B.S. in L.S., M.A. in L.S., University of Illinois.
- Wallace G. Heath (1962) · Assistant Professor of Biological Sciences  
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.A., University of Oregon; Ph.D., Stanford University.
- 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.
- Harley E. Hiller (1957) · Associate Professor of History  
B.A., Westmar College; M.A., Ph.D., University of Minnesota.
- \* On leave 1966-67.

- Evelyn M. Hinds (1960) · Assistant Professor of Music  
B.A. in Ed., M. Ed., Western Washington State College.
- Kay W. Hitchcock (1963) · Instructor of English  
B.A., M.A., University of Alaska.
- Mabel Hodges (1957) · Assistant Professor of Education  
B.A., Western Illinois State University; M.A., Washington State University.
- Thomas C. Horn (1964) · Assistant Professor of History  
B.A., University of Pittsburgh; M.A., Ph.D., University of California, Berkeley.
- Annis J. Hovde (1948) · Associate Professor of English  
B.A., M.A., University of Washington.
- \*Robert Huff (1964) · Assistant 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.
- Kenneth Inniss (1966) · Assistant Professor of English  
A.B., A.M., Indiana University; Ph.D., University of Kansas.
- 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.
- \* On leave Winter and Spring Quarters 1967
- 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 (1963) · Instructor of English  
B.A., M.A., University of Washington.
- Vivian Johnson (1941) · Associate Professor of Education  
B.A., M.A., University of Washington.
- \*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., University of Washington.
- William C. Keep (1966) · Assistant Professor of English  
B.A., Ph.D., University of Washington.
- Samuel P. Kelly (1965) · Assistant Professor of Education  
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.
- \* On leave 1966-67.

- 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 British Columbia; M.A., University of Toronto; Ph.D., University of Wisconsin.
- B. L. Kintz (1965) · Assistant 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.
- 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.
- Kermit Knudtson (1966) · Controller  
B.A., University of Washington.
- 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.
- Merle S. Kuder (1937) · Professor of Education and of Psychology and Dean of Students  
B.A., University of Arizona; M.A., Ph.D., Teachers College, Columbia University.
- Maurice M. La Belle (1965) · Instructor of English  
B.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.
- Louis T. Lallas (1966) · Assistant Registrar  
B.A. in Ed., M.Ed., Western Washington State College.
- 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.S., 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  
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.
- Janice R. Leno (1964) · Instructor of Home Economics.  
B.S., South Dakota State University; M.S., Oklahoma State University.
- Stanley J. LeProtti (1964) · Associate Professor of Physical Education  
B.A., San Francisco State College; M.A., California State Polytechnic College.
- Merrill Lewis (1962) · Assistant Professor of English  
B.A., M.A., University of Oregon.
- Sima Lieberman (1966) · Assistant Professor of Economics  
B.S., M.A., University of California, Berkeley; LL.B., LL.M., Georgetown University.
- Richard H. Lindsay (1961) · Associate Professor of Physics  
B.S., University of Portland; M.S., Stanford University; Ph.D., Washington State University.
- Louis G. Lippman (1966) · Assistant Professor of Psychology  
B.A., Stanford University; M.A., Michigan State University.
- Frederick M. Lister (1954) · Associate Professor of Mathematics  
B.S., Tufts University; M.A., University of Michigan; Ph.D., University of Utah.
- 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) · Assistant Professor of Psychology  
A.B., Brown University; M.A., Ed.D., University of California, Berkeley.
- Gary L. Mansfield (1966) · Lecturer in Education and Assistant Director of Continuing Studies  
B.A., University of Puget Sound.
- 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., 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.
- Calvin E. Mathews (1964) · Associate Registrar and Coordinator of College Relations  
B.A., Olivet Nazarene College; M.A., Colorado State College.
- Erwin S. Mayer (1953) · Professor of Economics and Chairman of the Department  
B.A., Hunter College; Ph.D., University 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) · Associate Professor of Sociology  
A.B., Stetson University; M.A., University of Colorado; Ph.D., University of Washington
- 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.
- Philip J. McAuley (1965) · Adviser to Student Publications  
A.B., Missouri Valley College; M.A., University of Kansas City.
- S. Glenn McCauley (1965) · Lecturer in Mathematics  
B.S., University of Arizona; M.S., University of Washington.
- Robert A. McCracken (1963) · Associate Professor of Education  
B.A., M.A., Ph.D., Syracuse University.
- Clyde W. McDonald (1946) · Dean of Men  
B.A., M.S., University of Washington.
- \*David McDonald (1948) · Associate Professor of Education and Director of Audio Visual Center  
B.A., Bethany College; M.A., University of Southern California; Ed.D., University of Oregon.
- 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 and Director of the Library  
A.B., Vanderbilt University; M.A., B.S. in L.S., George Peabody College for Teachers; Ed.D., Teachers College, Columbia University.
- Ruby D. McInnes (1948) · Associate Professor of Education  
B.A., University of Washington; M.A., Teachers College, Columbia University
- Raymond G. McInnis (1965) · Instructor of Library Science and Reference Librarian  
B.A., University of Washington; M.A., Teachers College, Columbia University.
- Donald B. McLeod (1963) · Lecturer in English  
B.A., Whitman College; M.A., Montana State University.
- Raymond R. McLeod (1961) · Associate Professor of Physics and Chairman of the Department  
B.A., M.A., University of British Columbia; Ph.D., Purdue University.

\* On leave March 1966 to March 1967

- Florence McNeil (1965) · Instructor of English  
B.A., M.A., University of British Columbia.
- Robert D. Meade (1965) · Associate Professor of Psychology  
B.A., Indiana University; M.A., Ph.D., University of Pennsylvania.
- Ronald T. Melbin (1966) · Lecturer in Spanish  
B.A., University of California, Berkeley.
- Connie Meredith (1966) · Lecturer in Education  
B.A., University of Hawaii; M.A., University of Illinois.
- Gerald M. Meredith (1966) · Assistant Professor of Psychology  
B.A., M.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  
B.A., Central Washington State College; M.S., Ph.D., University of Washington.
- Robert R. Michener (1962) · Assistant Professor of Art  
B.A., Hamline University; M.F.A., University of Minnesota.
- 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.
- 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) · Associate Professor of Economics  
B.A., Whitworth College; M.A., 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) 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.
- Debnath Mookherjee (1961) · Assistant Professor of Geography  
B.S., M.Sc., University of Calcutta; Ph.D., University of Florida.
- Michael J. Moore (1966) · Instructor of History  
B.A., University of Washington.
- Theodore A. Mork (1964) · Instructor of Education  
B.A. in Ed., Western Washington State College.

\* On leave 1966-67

\* On leave 1966-67.

- 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.
- Wayne C. Muller (1965) · Instructor of Political Science  
B.A., Huron College; M.A., University of Minnesota.
- James H. Mulligan (1961) · Director of Public Information  
B.A., M.A., University of Washington.
- Michael Murphy (1964) · Instructor of Education  
B.S., Washington State University; M.A., Western Washington 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. Napiecinski (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.
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B.S., New Jersey State Teachers College; M.A., Columbia University; Ph.D., University of California, Berkeley.
- Joe E. Nusbaum (1963) · Business Manager  
B.A., University of Minnesota.
- James H. O'Brien (1946) · Associate Professor of English  
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B.A. in Ed., M.Ed., Western Washington State College.
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B.A., Princeton University; B.M., M.M., Yale University; D.M.A., University of Southern California.
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Mag. Phil., University of Latvia; M.A.L.S., University of Michigan.
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A.B., M.P.A., Ph.D., Harvard University.
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B.A., M.A., M.F.A., University of Washington.
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B.A., Ohio State University; M.A., Western Reserve University; Ph.D., University of Pennsylvania.
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A.B., Iowa State Teachers College; M.A., Teachers College, Columbia University; Ed.D., University of Missouri.
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B.A., University of Wisconsin; M.A., University of Iowa.
- 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., University of Chicago; Ph.D., University of California, Los Angeles.
- August Radke (1953) · Professor of History  
B.A., M.A., Ph.D., University of Washington.
- Gayle Rahmes (1966) · Assistant Professor, Education Librarian  
B.S., Oregon State University; M.L.S., University of Washington.

- Dorothy Ramsland (1949) · Associate Professor of Home Economics and Chairman of the Department  
B.S., University of Wisconsin; M.S., Michigan State University.
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B.S.M., Kansas State Teachers College; M.Mus., University of Michigan; D.M.A., University of Southern California.
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B.S. in L.S., University of Washington.
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B.S., M.Ed., University of Oregon.
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B.A., M.A., Ph.D., University of Texas.
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- 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.

- 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.
- 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.
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B.S., M.S., Ph.D., University of Michigan.
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A.B., A.M., A.M.L.S., University of Michigan.
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B.A., M.F.A., Tulane University; Ph.D., Stanford University.
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B.A., Dickinson College; M.A., University of Delaware; Ed.D., University of Illinois.
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B.A., M.A., University of Nebraska.
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B.A., M.S., University of Illinois; Ed.D., University of Oregon.
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- 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.
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Candidate's title, University of Amsterdam.
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- Jiri J. Veit (1963) · Assistant Professor of Physics  
B.Sc., University of London; M.Sc., University of Birmingham; Ph.D., University of London.
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LL.B., University of Cologne; J.D., University of Berlin; Ph.D., Stanford University.
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- Don C. Walter (1947) · Associate Professor of Music  
B.A., Wartburg College; M.A., Colorado State College; Ed.D., University of Oregon.
- Texas C. Warren (1966) · Construction Supervisor  
University of Washington; American School of Fontainebleau, France; University of Lausanne, Switzerland.
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B. Mus., M. Mus., College of Music of Cincinnati; A.M.D., Eastman School of Music, University of Rochester.
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B.S., M.A., Kansas State University.

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of Physical Education  
B.A., Idaho State University; M.S., Wash-  
ington State University.

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A.B., College of Southern Utah; B.S., M.S.,  
Utah State University.

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B.S.Ed., Bowling Green State University; M.A.,  
Ph.D., Ohio State University. Honorary de-  
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College; Litt.D., Ripon College; L.H.D., Bow-  
ling 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  
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B.A., University of British Columbia; M.Lib.,  
University of Washington; Ph.D., University  
of Madrid.

Edna Zoet (1965) · Instructor of Business  
Education  
A.B., Stanford University; M.Ed., Western  
Washington State College.

#### AFFILIATED TEACHERS OF MUSIC

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B.M., M.M., Westminster Choir College; B.S.  
in Mus. Ed., Columbia University; Fulbright  
Scholarship to Austria.

Nancy Bussard · Piano  
A.B., Whitman.

Kenneth A. Cloud · Trombone, Trumpet  
B.A. Mus. Ed., University of Washington;  
First Trombone, Seattle Symphony since 1939;  
Trombone instructor at the University of  
Washington and Seattle Pacific College.

Phyllis E. Salter · Piano  
Licentiate Royal School of Music, London,  
England; Licentiate Royal College of Music,  
Toronto, Canada; Fellowship Trinity College,  
London, England.

Nonie Stonehouse · Wind Instruments  
B.M.E., Northwestern University.

Arthur Thal · Violin  
Study under Felix Winternitz, New England  
Conservatory of Music, Boston; and under  
Scott Willits, American Conservatory, Chi-  
cago; special study with members of the  
Budapest String Quartet.

Dolores Wicks · Piano  
B.A., Western Washington State College; Jui-  
liard School of Music Diploma.

## CONSULTANT

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Counseling Center  
B.A., Dartmouth College; M.D., University of  
Oregon.

## CAMPUS SCHOOL ASSOCIATES

Mary R. Irvin (1965) . Teaching Associate  
B.A. in Ed., Western Washington State Col-  
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Karen Olson (1965) . Teaching Associate  
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B.S., Massachusetts Institute of Technology;  
M.D., University of Chicago School of Medi-  
cine.

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B.Sc., Capetown; B.Sc., University of London;  
Ph.D., Institute of Paper Chemistry, Lawrence  
College.

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B.Sc., Ph.D., University of Sydney, Australia.

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B.S., Eastern Montana College of Education;  
M.S., Montana State University.

## SUMMARY OF ENROLLMENT

### *Resident*

Summer Quarter, 1965	2664
Fall, Winter, Spring, 1965-66	5669

### *Extension*

Correspondence	350
Evening Classes (on campus)	1056
Extension Classes (off-campus)	1142
Total Extension Enrollment	2548

### *Degrees and Certificates*

*Degrees granted* from August, 1965, to June,  
1966, inclusive:

Master of Education	73
Master of Arts	7
Master of Science	5
Bachelor of Arts in Education	618
Bachelor of Arts	289
Total	992

*Teaching Certificates* issued from August, 1965,  
to June, 1966, inclusive:

Three-Year Elementary	21
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HISTORY  
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LATIN  
LIBRARY SCIENCE  
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PHILOSOPHY  
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PHYSICS  
POLITICAL SCIENCE  
PSYCHOLOGY  
RECREATION  
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ZOOLOGY

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