

General Catalogue

1964-1965



WESTERN WASHINGTON STATE COLLEGE

**WESTERN WASHINGTON
STATE COLLEGE
BULLETIN**

GENERAL CATALOGUE

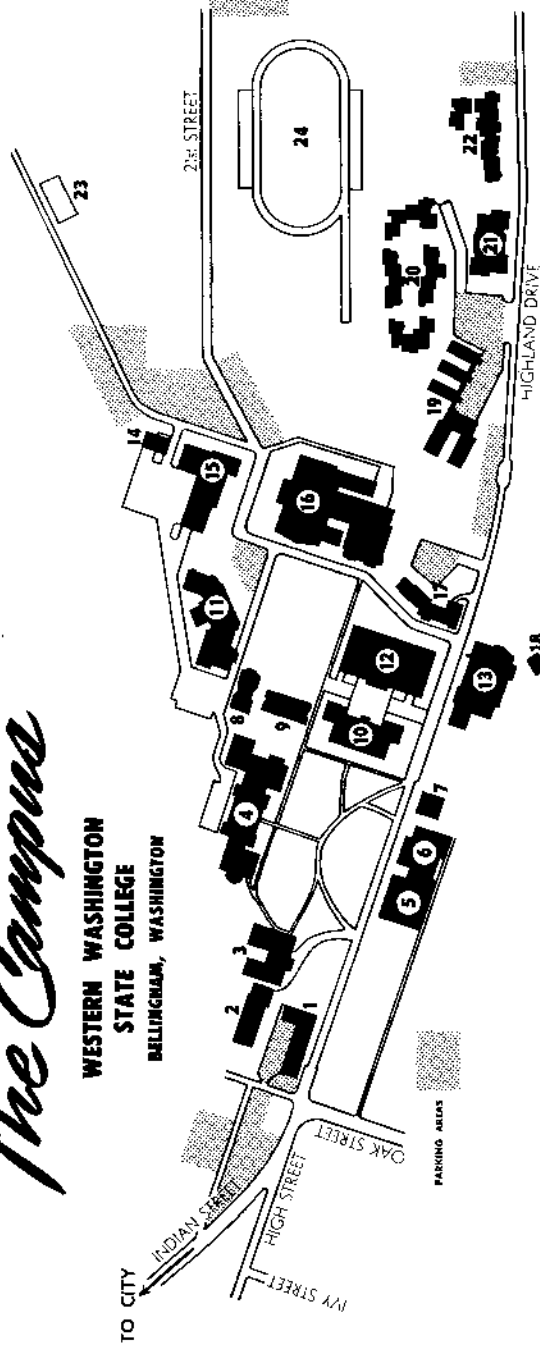
1964 - 1965

July, 1964

Bellingham, Washington

The Campus

**WESTERN WASHINGTON
STATE COLLEGE**
BELLINGHAM, WASHINGTON



- | | | | |
|---------------------|---------------------------------|------------------------------------|--------------------------|
| 1. Higginson Hall | 7. Book Store | 13. Auditorium-Music Building (AM) | 19. Highland Hall |
| 2. Edens Hall North | 8. Lecture Halls | 14. Heating Plant | 20. Ridgeway Dormitories |
| 3. Edens Hall | 9. Humanities Bldg. (Huj) | 15. Arts Building | 21. Ridgeway Dining Hall |
| 4. Old Main (M) | 10. Library | 16. Sanford E. Carver Gymnasium | 22. Ridgeway Dormitories |
| 5. Viking Commons | 11. Campus School (CS) | 17. Women's Residence Hall | 23. Tennis Courts |
| 6. Viking Union | 12. Haggard Hall of Science (H) | 18. President's House | 24. Athletic Field |

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WESTERN WASHINGTON STATE COLLEGE BULLETIN

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July, 1964

Number 1

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1964

SEPTEMBER

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College

Fall Quarter, 1964

August 1

Last day to apply for admission.

August 3-14, by appointment.

Registration counseling for freshmen.

September 15-17, by appointment.

Registration of new transfer students.

September 20, 7:30 p.m.

Convocation for new freshmen.

September 22

Registration of returning students.

September 23, 8:00 a.m.

Classes begin.

November 11

Veterans' Day Holiday.

November 25, noon — November 30,

8:00 a.m. Thanksgiving Recess.

December 8-11

Final Examinations.

Calendar

Winter Quarter, 1965

January 4

Registration.

January 5, 8:00 a.m.

Classes begin.

February 22

Washington's Birthday Holiday.

March 16-19

Final Examinations.

Spring Quarter, 1965

March 29

Registration.

March 30, 8:00 a.m.

Classes begin.

May 31

Memorial Day Holiday.

June 7-10

Final Examinations.

June 11

Commencement.

Summer Quarter, 1965

June 22-July 30

Six-Week Session.

June 22-August 20

Nine-Week Session.

1965

MARCH

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The College

Western Washington State College is one of three state colleges which, along with the two universities and 15 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 35,000 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, with a graduate program added in 1947, and to the State College in 1961. Most recently (1963), the legislature has authorized the granting of a master's degree in the arts and sciences.

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 also provide one or two year programs for transfer to professional schools of the universities.

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. The American Association of University Women accepts its graduates for membership.

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 a free citizen 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 engineering, law, medicine, etc., preprofessional programs are provided.

In order to accomplish these functions the total college program provides planned experiences in the areas of:

1. General education
2. Professional education of teachers
3. Subject matter specialization

The aims of the general education program are:

1. To broaden and intensify the student's understanding of the most significant aspects of man's cultural heritage;
2. To train the student in the methods and tools of thought and expression;
3. To assist the student in integrating his knowledge;
4. To assist the student in developing his powers of aesthetic enjoyment and creativity;
5. 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:

1. To develop the student's
 - a. knowledge of the subject matter and techniques appropriate to his teaching fields;
 - b. understanding of individual differences and the process of growth and learning in children;
 - c. understanding of the processes whereby personality is formed and maladjustments avoided;

- d. understanding of the place of the school in society and its present organization and administration;
 - e. interest in forming his own philosophy of education;
2. To provide the student, prior to provisional (fourth-year) certification, with the background and the opportunity to demonstrate his:
 - a. skill in planning and in carrying out his ideas independently;
 - b. skill in using established methods of instruction, plus a willingness to experiment with new methods;
 - c. ability to evaluate his own teaching practices;
 - d. ability to work cooperatively with children, colleagues, parents, and others in the community;
 - e. ability to discriminate between the significant and the less significant in education.
 3. To provide the student, prior to standard (fifth-year) certification, with an opportunity:
 - a. to extend his knowledge of subject matter appropriate to his teaching fields;
 - b. 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:

1. Increased depth of subject matter mastery appropriate to his teaching assignment.
2. A sound basis for pursuing further and more advanced study in a specialized field.

Facilities

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, Hoggard Hall of Science, Carver Gymnasium, the Humanities Building and Lecture Halls, and two wings of the Mabel Zae Wilson Library have been added to the academic facilities. Student residences have also grown apace with the addition of Higginson Hall and six units of the Ridgeway Dormitories. Three more units are now under construction. The Viking Union, Student Cooperative Book Store, and two dining halls have also been opened within the past five years. Planning is proceeding for other buildings to be added as enrollment continues its rapid growth in the next decade.

Board of Trustees

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BERNICE M. HALL, B.A. in Ed.	Bellingham
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HERBERT C. TAYLOR, Ph.D.	Director of Faculty Research

Admission

FRESHMEN

The College selects for freshmen admission those applicants who, on the basis of evidence available, are judged likely to succeed in a college program. Since no single factor is a sufficient predictor of college success, admission will be granted to graduates of accredited high schools either on the basis of high school achievement or on the results of aptitude tests which may serve to indicate that the applicant has the potential to achieve success in an academic program.

This multi-factor admissions policy will grant admission to freshmen applicants who qualify in either of the following two respects:

1. High School Achievement*

By achieving a 2.5 or better cumulative grade point average
or

By graduating in the upper one-half of the senior class.

OR

2. Measured Aptitude

By demonstrating the ability to do college level work through aptitude tests commonly used in high school counseling and testing programs.

Special consideration for admission may be made for persons over twenty-one years of age who are not high school graduates and who have not taken course work at the college level. Such persons may establish eligibility by filing the appropriate application for admission, having an interview with the Director of Admissions, and by demonstrating ability to profit from college course work on a series of achievement and aptitude tests.

* A student may qualify for admission either on the basis of high school grades earned after September, 1961, or upon his total high school record.

TRANSFERS with advanced standing from an accredited college or university

- A. **Applicants with credit for one year or more** (minimum 40 quarter hours) are eligible for admission **provided** they have achieved a cumulative grade point average of 2.0 (C) in all previous college work and are in good standing at the last college attended. Those who do not meet this standard may submit a written petition to the Admissions Board. Exceptions to the minimum scholarship standard will be made only when extenuating circumstances are shown to be the cause of low academic achievement and when evidence of scholastic competence can be furnished. In many instances a personal interview will be required. The petition and supporting evidence must be in the hands of the Committee not later than the application deadlines listed below.
- B. **Applicants with less than 40 quarter hours of credit** must meet standards for freshmen admission (see page 10), or present a minimum of 25 quarter hours of credit with a cumulative grade average of 2.5 or better.

ADMISSION TO GRADUATE STANDING

See Graduate Bulletin.

APPLICATION PROCEDURE

Freshmen:

Obtain application form from high school principal or the Admissions Office of the College; fill out as directed and leave with high school principal for submission of academic record.

Transfers:

Obtain application from the Admissions Office. Fill out and return according to instructions. Have an official transcript of all credits earned sent **directly from each** collegiate institution previously attended. Failure to submit a complete record is considered a serious breach of honor which may disqualify a student for enrollment or further attendance.

TIME OF APPLICATION

The final date for the acceptance of applications for each quarter of the academic year is as follows:

Fall Quarter.....	August 1
Winter Quarter.....	December 15
Spring Quarter.....	March 15

Applications may be submitted by freshmen after the beginning of the final semester in high school and by transfers after the beginning of their final quarter or semester in another institution. Applicants who are clearly eligible will receive notification of admission as soon as possible after receipt of necessary records, subject only to satisfactory completion of work in progress. In some instances, it may be necessary to await final grades or test scores in order to determine admissibility. In any event, the student will be notified of action on his application.

ENROLLMENT DEPOSIT

Students accepted for admission to the College must confirm their application by submitting a \$35 partial prepayment of fees. This deposit is non-refundable and is forfeited by those applicants who do not register for the quarter to which they are admitted.

The payment **should not** accompany the application. Full instructions for payment will be sent with the notice of admission.

AGREEMENT OF MUTUAL RESPONSIBILITY

When a student is accepted for admittance and enrolls at Western Washington State College, the College and the student enter into an agreement of mutual responsibility. The student's part of this agreement is to accept established College rules and policies, to respect the laws of the city and the state, and to act in a responsible, mature manner appropriate to these laws, rules, and policies. The College's part is to fulfill its obligation for an appropriate atmosphere which will provide due 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 is taken when it has been established that the student has violated this agreement.

ENTRANCE TESTS

All entering freshmen are required to take the Washington Pre-College Test Battery prior to formal admission. This comprehensive battery is available to high school students in Washington during their senior year. All other freshmen applicants for admission take these tests on the campus immediately prior to the opening of the fall quarter. The cost of administering, scoring, and interpreting these tests (\$5) is borne by the student.

Transfer students take an academic aptitude test at entrance.

ADVANCED PLACEMENT

Western Washington State College is committed to a recognition of individual differences in the preparation of high school graduates who enter the freshman class and is concerned that students be placed in courses at an instructional level commensurate with their ability and previous study. Such recognition is awarded through several means:

- recognition of credits earned in advanced study
- departmental examinations
- Advanced Placement Examinations of the College
- Entrance Examination Board.

In some instances such evidence forms the basis for placement of the student in advanced rather than introductory courses which might duplicate previous study; in some cases credit toward graduation may also be allowed.

Students who have taken the Advanced Placement Examinations in specific subjects offered by the College Entrance Examination Board should be certain that results are filed with the Admissions Officer. He in turn will refer the student to the appropriate department for evaluation, placement, and possible credit.

Students who have taken advanced mathematics courses in high school should consult the Mathematics Department for evaluation and placement in appropriate courses in that field.

Students who have studied a foreign language are required to take a placement examination before registering for additional courses in a given language.

After a student is in attendance, he has the privilege of challenging courses by examination as provided on page 24.

HEALTH EXAMINATION

A thorough health examination is required of all students prior to registration. The College supplies each applicant with a standard form for recording medical history and examination data. Presentation of this form, fully executed by a licensed physician, based on an examination made within 90 days, satisfactorily meets this requirement. The adequacy of the examination and thoroughness of the report must meet college standards.

The protection of immunization is strongly urged for all entering students. A requirement of immunization, at student expense, may be instituted at any time at the discretion of the Health Service.

Student 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)

Residents of the State of Washington, per quarter\$ 77.00

Tuition\$15.00

*Other Fees 62.00

Non-Residents of the State of Washington, per quarter 107.00

Tuition\$45.00

*Other Fees 62.00

*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)

For each credit 8.00

(Minimum fee \$16.00)

AUDITORS (Without credit)

One or more courses per quarter 16.00

EXTENSION AND CORRESPONDENCE FEE, per credit 8.00

MUSIC — INDIVIDUAL INSTRUCTION 36.00

(See page 122 for special provisions applying to music majors and minors.)

MISCELLANEOUS SERVICE CHARGES

On-Campus Parking, per quarter 3.00

Changes of Schedule. After the student has completed his registration, \$1 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 5.00
 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 25c 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

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.

Charges for Materials

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 Office of Budget and Accounts.

Lockers

Metal lockers are available without charge to students in certain buildings. Students must provide themselves with the standard type combination lock sold only by the Student Cooperative Bookstore.

LIVING COSTS

BOARD AND ROOM IN COLLEGE RESIDENCE HALLS:

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

Fall Quarter	\$240.00*
Winter Quarter	234.00*
Spring Quarter	233.00*

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 25c per day effective on registration day. The penalty applies each pay period for those who are delinquent. Registration and payment for

* These charges are based on the actual number of meals served during the quarter. Board and room on a Monday-through Friday basis is available only in cases of regular out-of-town week-end employment. Such arrangements are made through the Dean of Men or the Dean of Women.

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 Room Service Office, Viking Commons.

Furnished Rooms Off-Campus

Prices for furnished rooms without board in private off-campus houses range from \$25.00 to \$30.00 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 cost of books and supplies as well as a moderate allowance for incidentals, is as follows:

	<u>Minimum</u>	<u>Average</u>
If rooming and boarding	\$1,100.00	\$1,300.00
If housekeeping	850.00	1,150.00
If living at home or working for room and board	450.00	550.00

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

FINANCIAL ASSISTANCE

Financial Aids Office

Assistance to students in financial matters is coordinated by the College Financial Aids Officer. Scholarships, student loans, and part-time employment are obtained through this office.

Employment

The College offers as many opportunities as possible for students to earn part of their expenses through part-time employment in the

library, laboratories, dining halls, offices, and in custodial service. To be eligible for such employment the student must be satisfactorily carrying not less than 12 quarter hours. Students on academic probation may not hold these jobs. The Financial Aids Office also assists students in gaining part-time employment in the community. Some opportunities are available, especially for women students, to obtain their room and board in exchange for household duties.

Graduate Assistantships

A number of graduate assistantships will be available in 1964-65 with duties assigned in the various departments of the College. These carry a monthly stipend of \$200. Inquiries should be addressed to the Dean of Graduate Studies.

Scholarships

Western Washington State College annually awards more than fifty scholarships to outstanding entering freshmen. The awards are sufficient to cover the cost of College tuition and fees for one year.

To be eligible for consideration, students must have a 3.0 high school grade average through seven semesters and be recommended by their high school principal. Application forms may be secured from the high school principal or counselor after January 15 or by writing directly to the College. All applications must be completed and on file by March 1. Applicants must send a parents' confidential statement to College Scholarship Service by February 23.

The awards include:

PROSPECTIVE TEACHER SCHOLARSHIPS: available to entering students who plan to enter the teaching profession and who have demonstrated in a high degree those qualities required of superior teachers.

ARTS AND SCIENCES SCHOLARSHIPS: for entering freshmen who do not anticipate a teaching career but who expect to complete requirements for a College degree in another field of study.

The following full Tuition and Fees Scholarships are offered in the name of their donors:

American Fabricators Company	B & P Distributors
Automotive Parts Service	Bellingham Art League
Barr's Camera Shop	Bellingham Builders
Fred Bassetti & Company	

-
- Bellingham Central Lions Club
Bellingham Cold Storage
Bellingham Kiwanis Club
Bellingham Lodge, B.P.O.E.
The Bellingham National Bank
The Bellingham Publishing Company
Bellingham Travel Service
Bellingham Tug & Barge Company
Bellingham Women's Music Club
A. J. Blythe Plumbing & Heating Company
Boeing Company
Cascade Laundry & Cleaners
Cascade Natural Gas Corporation
Eiford Company, Inc.
Fountain Motors
Fraser Chevrolet Company
Georgia-Pacific Corporation
Puget Sound Division
Hart Novelty Company
Haskell Corporation
Horseshoe Cafe
Ireland & Bellingar Insurance
King & Doul Tire Company
KVOS-TV Corporation
Lynden Tribune
Mobil Oil Company Refinery Employees, Ferndale
Morse Hardware
Northwest Liquidators
Pacific American Corporation
Pacific First Federal Savings & Loan
Presser Foundation
Puget Sound Power & Light Company
Rotary Club
Safeway Stores
Saga Food Scholarships for Academic Excellence
Sears, Roebuck & Company
Seroptimist Club of Bellingham
Thriftway Stores
Tri-County Office Equipment Company
Union Printing Company
Vienna Cleaners Award
Whatcom County Dairymen's Association
Whatcom County Medical Society
Whatcom Travel Service

In addition to scholarships offered by the College from these funds the Washington Congress of Parents and Teachers each year makes awards to freshmen students of outstanding merit entering Western Washington State College to prepare for teaching careers. Three such scholarships are granted in the amount of \$700 (\$175 each year for four years).

Music Students from Whatcom County are eligible for the Paul Lusterman Memorial Scholarships. Three scholarships, in the amounts of \$250, \$100, and \$50, are awarded annually. (See also page 122 for other Music Awards.)

The Boeing Company has established scholarships at the College for prospective teachers of science and/or mathematics. Applicants for a Boeing Scholarship must show evidence of interest and outstanding ability in science or mathematics.

A limited number of awards are available to graduates of Washington community colleges. Detailed information is available at the Financial Aids Office.

Student Loan Funds

COLLEGE LOAN FUND—A student loan fund exceeding \$30,000 is held in trust by the Board of Trustees and is made available at a low rate of interest to students recommended by a faculty committee. Eligibility to borrow from this fund requires at least one quarter's residence.

EMERGENCY LOANS—Under special circumstances small emergency loans are made from the student loan fund through the Dean of Women, Dean of Men, or Financial Aids Office. No emergency loan is granted for the payment of fees.

NATIONAL DEFENSE EDUCATION ACT PROGRAM

The College participates in the National Defense Education Act Student Loan Program. Loans are available to all students with proven academic ability who can also demonstrate financial need. The provisions of the Act make these loans especially attractive for prospective teachers and students majoring in science, mathematics, or a modern foreign language. High school seniors of superior ability who are unable to finance a college education may make application for a loan during the spring semester prior to graduation.

UNITED STUDENT AID FUND

Bank loans are available under this arrangement. Qualifications are similar to those for NDEA loans. Repayment begins following graduation on a 36 month schedule.

All inquiries regarding loan funds should be directed to the Financial Aids Office.

AID TO VETERANS

Public Law 550 (Korean Bill) and Public Law 895 (Rehabilitation Act) provide educational benefits for certain eligible veterans. Payments are made directly to the veteran.

Matters of eligibility for veterans' benefits should be arranged directly with the Veterans Administration in advance of initial entrance.

Veterans transferring from one institution to another or from another training situation in which they have been receiving veterans' benefits must notify the regional office of the Veterans Administration servicing their particular area and receive a revised certificate of eligibility.

Children of deceased veterans who qualify for educational benefits under Public Law 634 should make the necessary arrangements directly with the Veterans Administration.

Academic Regulations

REGISTRATION

Dates of Registration

The date of registration for each of the four quarters is listed in the official calendar on pages 4 and 5.

Early Registration for New Students

In the fall, provision is made for the early registration of new students. By July first each applicant receives complete information about registration dates and procedures to be followed. In the week preceding the beginning of fall quarter instruction all freshmen and transfers entering for the first time are expected to participate in an induction and orientation program.

Registration During the College Year

During the fall, winter, and spring quarters, students in attendance who plan to continue the succeeding quarters are expected to prepare their class schedules for that quarter and register on the days specified for the purpose, customarily during the two weeks prior to final examinations. In the spring quarter, students also preregister for summer as well as fall.

Registration Day

Except as noted in the preceding paragraphs, registration day for new students will be the first day of each quarter. Earlier registration opportunities are provided for students already in attendance.

Applicants for admission whose credentials have not been filed with the Admissions Office will not be permitted to complete their registration.

Late Registration

A charge of \$3.00 is assessed if a student does not meet his scheduled registration appointment.

Change In Registration

A charge of \$1.00 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.

Entering New Courses

After the close of the first week of class instruction in the fall, winter, and spring quarters, students are not permitted to enter new courses. Special limitations apply to the more brief summer sessions; details are given in the Summer Bulletin.

WITHDRAWAL

Withdrawal From Courses

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 in the course. Students may withdraw from a course with a grade of "W" during the first four weeks of instruction in any quarter. No penalty is 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.

No withdrawals are permitted within the last two weeks of a quarter.

Withdrawal From College

A student may completely terminate his enrollment at any time prior to the final two weeks of a quarter. Formal withdrawal at the Registrar's Office is necessary. Students who leave the College without official withdrawal will receive failing grades. The regulations pertaining to the assignment of grades in cases of withdrawal from courses as stated in the preceding section apply equally to withdrawal from College.

CREDITS AND LOAD

Credits

The unit of college work, 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

Work done by correspondence or extension 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.

Credit By Examination

Credit for work paralleling courses listed in the Catalogue may in some instances be established by examination.

The privilege of establishing credit by examination is extended only to students actually enrolled in the College. It is not to be considered as a means by which failing or law-passing grades may be raised, nor for earning credit in courses previously audited.

Students interested in applying for examination privileges will first consult the Registrar and the department chairman concerned to ascertain that appropriate study has been accomplished and that duplication of credit is not entailed.

See also Advanced Placement, page 13.

The Academic Load

Sixteen hours, including physical education, constitute the standard student load. During the first quarter in residence students are limited to this amount. Thereafter any program in excess of seventeen credits must be approved by the Registrar.

Students who are permitted to carry an overload 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

A load in excess of twenty hours is not permitted under any circumstances. The maximum load allowed is somewhat less in the summer sessions.

A student doing outside work for three or four hours per day shall not carry more than thirteen hours, including physical education, unless he has demonstrated his ability to carry the load without detriment to his

scholarship or health. A student working more than four hours per day is expected to reduce his scholastic program accordingly.

ATTENDANCE AND GRADES

Attendance Regulations

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

System of Grading

In reporting grades to the Registrar, faculty members use the following marks:

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.

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.

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

Grade Reports

At the close of each quarter a grade report is mailed to all students. Reports will be mailed to parents of students under 21 years of age upon request of the parent or the student.

Mid-Term Deficiency Report

In the middle of each quarter, unsatisfactory work evaluated as less than "C" is reported directly to the student and his adviser, but not recorded.

Grade Points

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; all other grades 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.

Grades for Repeated Courses

In the event a student repeats a course in which he has received a failing or low passing grade, both grades are used in computing the grade point average.

STANDARDS GOVERNING LOW SCHOLARSHIP

Termination of Enrollment

At the end of the third quarter of college attendance, or any subsequent quarter, a student is dropped from the College if his cumulative grade average falls below 2.0 (Exception: a student will not be dropped at the close of any quarter in which he achieves a 2.0 average or better for the quarter.) A student whose enrollment is terminated may normally petition the Scholastic Standing Committee for reinstatement unless he is on final probation. (See below.)

In computing cumulative grade point average, only work completed at Western Washington State College is taken into account.

Warning

Students who are not dropped under the above regulations but who receive less than a 2.0 grade average during any given quarter 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

1. A freshman admitted to regular status who fails to achieve a grade average of 2.0 at the end of the first quarter of attendance is sent a warning notice. He is required to consult with his faculty counselor during the first week of the ensuing quarter. If he then fails to achieve a cumulative grade average of 2.0 at the end of his second quarter he is placed on academic probation.
2. Students other than first or second quarter freshmen are placed on academic probation:
 - a. when subject to scholastic warning for two consecutive quarters, or
 - b. when admitted or readmitted to the College by action of the Scholastic Standing Committee.

Final Academic Probation

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

Restrictions Governing Students On Academic Probation

Students on academic probation, including final academic probation, (a) are not eligible for remunerative employment on campus; (b) may not hold an elective or appointive office in any student organization nor appear in any performance before the student body or the public; (c) 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.

OTHER REGULATIONS

Full-Time Status

Certain College regulations and standards relative to on-campus employment, eligibility for student offices, and requirements for graduation require status as a "full-time student." This requires enrollment in regularly scheduled courses totaling not less than twelve quarter hours. However, veterans or students deferred by the Selective Service System are expected to carry loads adequate to constitute normal progress toward a degree.

Special (Part-Time) Students

Persons carrying not more than six credits are classed as special students. They pay a smaller fee but do not share in certain student body privileges.

Auditors

Any mature person not desiring to register for credit may, with the consent of instructors and upon payment of a fee of \$16.00 per quarter, enroll as an auditor in any except laboratory courses. No person may attend classes unless he has registered for credit or as an auditor.

Final Examinations

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).

THE INSTRUCTIONAL PROGRAM

Undergraduate Study

COMMON DEGREE REQUIREMENTS

TEACHER EDUCATION

ARTS AND SCIENCES

TRANSFER PROGRAMS

THE HONORS PROGRAM

Graduate Study

ADVANCED DEGREE PROGRAMS

FIFTH YEAR

The Instructional Program

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

Bachelor of Arts in Education (for teacher certification)

Bachelor of Arts with majors in 20 fields

Master of Education

Master of Arts and Master of Science degrees have now been authorized, and programs are being developed in certain subject areas. See page 40.

One- or two-year programs are offered as preprofessional study in a number of fields such as engineering, business administration, law and medicine. Arrangements have been established with the state universities for the effective transfer of credits in these programs.

Undergraduate Study

COMMON DEGREE REQUIREMENTS

(For the Bachelor of Arts or Bachelor of Arts in Education degrees)

Credits:

192 quarter hours with not less than 60 credits in upper division study (courses numbered 300 and above).

Residence:

At least one full year (45 credits), including the final quarter with 12 or more credits.

Not more than 48 credits in extension or correspondence study.

Scholarship Standard:

A cumulative grade point average of 2.0 (C), with no grades of less than "C" permissible in the major, minor, professional education courses, or in English 100 and 101.

English and Mathematics Proficiency:

Entering students are expected to meet certain minimum requirements in English usage and in mathematics as measured by the Washington Pre-College test. Those who enter with a deficiency in either are required to remove that deficiency prior to enrollment in a fourth college quarter.

- (a) English—students failing to meet minimum standards on the above test 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 by the end of the first college year.
- (b) Mathematics—students failing to meet minimum mathematics standards on the Washington Pre-College Test may take a re-test offered toward the close of each quarter. Deficient students are urged to undertake review study during the first or second quarter.

While the College does not offer remedial or review courses as part of its curriculum, the two departments concerned do provide opportunities for special instruction under qualified teachers. The cost of this instruction is borne by the student.

General Education Courses 58 credits

Communications

- English 100, 101 — Freshman Reading and Writing
(Minimum grade of "C" required)
- Speech 100 — Fundamentals of Speech

Humanities

- General Education 121 — The Ancient and Medieval World
- General Education 122 — The Early Modern Period
- General Education 123 — The Modern World
- General Education 321 — Survey of Afro-Asia

Natural Sciences and Mathematics

- Biology 101 or 104 — General Biology
- Earth Science—Geography 101 or Geology 101 or 211
- Physical Science — choice of one course from
Chemistry 101, 121 or 125; Physics 101, 131 or 231
- Mathematics 151 — Foundations of Mathematics
(or Mathematics 121 or 122)

Social Sciences

- General Education 105 — Behavioral Science
- General Education 200 — Introduction to Economic and Political Institutions

Physical Education

- Three quarters in specified activities courses (see page 131).

Sequence of Courses

Normally the major part of the General Education program is to be scheduled in the student's first year. He is expected to complete these requirements (except General Education 321) in his sophomore year. To effect a proper distribution of students among courses throughout the three quarters, the freshmen program is largely prescribed. With the exception of a few special programs, the first year is as follows:

General Education 121, 122, 123 — in successive quarters

English 100, 101, and Speech 100 — one in each quarter

Physical Education activity — one in each quarter

One of the following to complete a full program:

A. An assigned course each quarter from general education requirements in mathematics, natural or social sciences.

or

B. A sequence of courses in a major or minor selected under departmental advisement.

TEACHER EDUCATION

(and additional requirements for 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.

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 (see page 41).

Formal Admission to Teacher Education:

Admission to the College does not automatically admit the student to the teacher education program. Prior to formal admission to the latter, a student must meet the following requirements:

1. Demonstrate English competence

Pass English 100 and 101 (or equivalents) with a grade of "C" or better.

Pass an English competency test. (Students who achieve a grade of "B" or better in English 100 and 101 at this College or in English 100H, Honors English, are exempt from the test.) A student is permitted no more than two attempts at the test.

2. Demonstrate Speech competence

A test for this purpose is given in Speech 100, and by special arrangement for those who have completed this course requirement elsewhere.

3. Complete the general education requirement of Mathematics 151, or equivalent.

4. Achieve a cumulative grade average of 2.00 (C) or better on all courses.

(This minimum grade average requirement is to be 2.10 in September 1965, and 2.20 after September 1966.)

5. Be in good academic standing. Students on academic probation are not admissible.

6. Complete Education 301 with grade of "C" or better.

Students will enroll in Education 301 in their sophomore year or first quarter of their junior year. The formal application for admission to the teacher education program is filed while taking this course. Transfer students who have been granted credit for an equivalent course will file a formal application at the time of registration for their first quarter at this College.

One quarter is to be allowed for checking applications before the student enrolls in further professional work, i.e. the professional sequence or elementary teaching subjects. Students will receive notification of their admissibility to teacher education during that quarter.

Course Requirements:

In addition to the common degree requirements specified above, the candidate for the **Bachelor of Arts in Education** degree and the **Provisional Teaching Certificate** must complete the professional education sequence, Washington State History and Government, 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)

One of the following:

Education 315 — Foundations of Education

or

Education 318 — History of Educational Thought

Education 385 — Foundations of Teaching Reading

*Courses in Educational Psychology:

261 — The Psychology of Adjustment

355 — Human Growth and Development

371 — Evaluation in the Public School

451 — Principles of Human Learning

Supervised Teaching — 16 credits

Various 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.

STATE HISTORY REQUIREMENT:

History 391 — History and Government of Washington

*Sophomores and transfer students in teacher education will be given the option of satisfying the requirements in educational psychology either by the conventional class program or by independent study.

Under the independent study program the student is provided with study guides and reading lists which describe in detail the requirements of each of the four course areas. Optional lectures and discussion sessions are offered, and faculty members are available for individual consultation. Competency examinations are given approximately once each quarter covering each of the four course areas. The student may take these when he has prepared sufficiently. Each examination may be repeated once if the first attempt is not successful. A \$10 reading fee covers the cost of all reading materials.

Students interested in enrolling in the independent study program should contact the Psychology Department.

SUBJECT MATTER CONCENTRATION

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.

FOR ELEMENTARY TEACHERS

Recommended Program

Major Concentration—45 credits in specified courses in one of the following:

Art	Mathematics
Biology	Music
Earth Science	Psychology
English	Sociology-
Foreign Language	Anthropology
General Science	Social Studies
Geography	Speech, General
History	Speech Therapy
Library Science	

See departmental listing, pages 43 to 167 for detailed specifications.

Elementary Teaching Minor—
28-30 credits

- Education 486
- Mathematics 251
- Mathematics 481
- Science Education 380
- Social Studies Education 425

Two courses from:

- Art 325
- Industrial Arts 350
- Music 250
- Physical Education 306

One course from:

- English 495
- Library 305
- Speech 233, 355, 430, or 373

Alternate Program

Major Concentration—28 credits

At least 28 credits in one of the following:

Art	Mathematics
Biology	Music
Earth Science	Psychology
English	Sociology-
Foreign Language	Anthropology
General Science	Social Studies
Geography	Speech, General
History	Speech Therapy
Library Science	

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

Elementary Concentration—40 credits

- Art 325
- Education 486
- Industrial Arts 350
- Mathematics 251
- Mathematics 481
- Music 250
- Physical Education 306
- Social Studies Education 425

Two of the following:

- English 495
- Library 305
- Speech 233, 355, 430, or 373

Two courses from:

- Biology 383
- Geology 384
- Physical Science 382

FOR SECONDARY TEACHERS

(See departmental listing, pages 43 to 167, for detailed specifications.)

Major Concentrations—45 credits in specified courses in one of the following:

(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.)

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

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

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

Minor Concentrations—25 credits

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

FOR 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
- o broad liberal arts preparation
- o major field acceptable for public school teaching
- realistic career plans.

THE ARTS AND SCIENCES

(Additional requirements for the Bachelor of Arts degree)

In addition to the general requirements for graduation listed on page 30, the candidate for the Bachelor of Arts degree must complete a **major concentration**, usually accompanied by required **supporting courses**, and one minor concentration. 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 concentration

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

Minor Concentration

Requirements for the minor include specified courses totalling 20-25 credits.

Concentrations are offered in:

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

Electives

In addition to the General Education requirements, the major concentration with its 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.

TRANSFER PROGRAMS

Carefully planned programs of study have been developed in the Arts and Sciences to meet the needs of students who are not concerned with teacher education or a full four-year program at this institution. The programs are designed for those who plan more advanced specialized study in other colleges and universities. Some students prefer to begin their college careers in such an institution as Western Washington State College, completing one or two years for advanced standing before transferring to a professional school. A number of specific pre-professional programs have been developed in close collaboration with Washington State University and the University of Washington. These include such fields as business administration, engineering, law, and medicine. (See annual Schedule of Classes for detailed study programs.)

It is to be clearly understood that in no sense does the College maintain professional schools outside of teacher education. However, students contemplating transfer to one of these institutions in the fields listed can, by taking the appropriate courses, transfer without undue loss of credit.

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: (a) his scholastic aptitude test scores place him in the top five per cent of all students at the College, (b) he attains a cumulative grade point average of 3.7, or (c) he is nominated by a high school or college instructor. Eligibles are selected by the Honors Board after interview with members of the Board. Each honors student is assigned to 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.

Those interested in more details concerning the Honors Program should consult the Chairman of the Honors Board.

Graduate Study

ADVANCED DEGREE PROGRAMS

(For complete information regarding admission, program, and requirements, consult the Graduate Bulletin, a copy of which may be obtained upon request from the Dean of Graduate Studies.)

MASTER OF EDUCATION DEGREE

Western Washington State College has as its primary purpose the preparation of professional personnel for the schools of the state. In 1947 the legislature authorized the college to offer programs of study leading to the degree of Master of Education. The administration and faculty of the College have interpreted their responsibility as that of developing with candidates advanced subject backgrounds and professional skills in order that they may assume positions of leadership in teaching, administration, supervision, and special services.

MASTER OF ARTS AND MASTER OF SCIENCE DEGREES

The Graduate Council is working with departments in implementing legislation which in 1963 authorized Western Washington State College to grant the Master of Arts and Master of Science degrees in addition to the Master of Education Degree previously authorized. These new degree programs will 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. Already approved are Master of Arts and Master of Science programs in mathematics and a Master of Arts program in history. Specific announcement will be made when other programs are launched. Early announcement may be expected concerning programs in English, physics, psychology, and geography.

GRADUATE ASSISTANTSHIPS

For information regarding graduate assistantships, see page 18.

FIFTH YEAR (For Standard Teaching Certificates)

The candidate for a Standard Teaching Certificate (see page 32) 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 a 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:

1. Total credit: 45 quarter hours.
2. Extension and/or correspondence study is limited to 12 quarter hours.
3. At least one-half of the credits must be in upper division or graduate courses.
4. 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.
5. A limited amount of the fifth year study may be completed prior to a year of teaching experience.

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.

DEPARTMENTS OF INSTRUCTION

DEPARTMENT FACULTY

MAJOR AND MINOR CONCENTRATIONS

DESCRIPTION OF COURSES

Departmental Concentrations and Courses

COURSE NUMBERS

Courses numbered from 100 to 299 are classified as lower division. The first digit generally indicates the year 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.

ANTHROPOLOGY

(See Sociology-Anthropology, page 157)

DEPARTMENT of **ART**

Faculty

Professor: Weiner (Chairman)

Associate Professors: Kelsey, Marsh, Peck

Assistant Professors: Foss, Tucker, Vike, Wegner

Instructors: Hanson, Mayor, Michener

CONCENTRATIONS

Teacher Education

MAJOR (elementary) 45 credits

Two courses from Art 151, 152, 153

Art 210, 212, 260, 261, 270, 320*, 355

One course from Art 380, 381, 382

Additional courses selected under advisement.

At least 20 credits of the 45 must be in upper division courses.

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

MAJOR (secondary) 45 credits

Art 151, 152, 153, 210, 212, 260, 261, 270, 321*, 351 or 355, 361 or 362.

Select one from Art 380, 381, 382.

A sequence of 9 credits from one of the following:

Design and crafts: Art 304, 430, 431, 461, 462

Ceramics and sculpture: Art 211, 213, 310, 312, 410, 412

Commercial art: Art 271, 371, 408, 451, 471, 472

Drawing, composition and painting: Art 252, 253, 351, 352, 353, 355, 356,
357, 358, 359, 451, 452, 453

Interior design: Art 240, 241, 340

At least 20 credits of the 45 must be in upper division courses.

MINOR (secondary) 25 credits

Art 151 or 152 or 153

Art 210, 212, 260, 261, 321*

Electives under advisement

*Art 320 or 321 must be taken prior to student teaching in art.

Arts and Sciences

Students majoring in art should plan programs of study early in their college careers to assure completion of all necessary courses. Specialization may be elected in drawing and composition, painting, design and crafts, interior design, or ceramics and sculpture.

MAJOR 70 credits, plus Supporting Courses

Art 151, 152, 153, 210, 212, 260, 261, 270, 351 or 355, 358, 361 or 362, 380, 381, 382, 401.

A minimum of 9 credits in each of two of the following areas:

Painting: Art 351, 352, 353, 354, or Art 355, 356, 357

Drawing and composition: Art 252, 253, 358, 359, 452, 453

Sculpture: Art 211, 310, 410

Ceramics: Art 213, 312, 412

Interior design: Art 240, 241, 340

Design and crafts: Art 304, 362, 430, 431, 461, 462

Electives under advisement

At least 30 credits of the major must be in upper division courses.

Supporting Courses: 15 credits selected under advisement from philosophy, industrial arts, home economics, or a foreign language. Philosophy 405 must be included.

MINOR 24 credits

Art 260, 261

Two courses from Art 151, 152, 153

One course from Art 380, 381, 382

Electives selected under advisement

Departmental Honors

In addition to the general requirements for all Honors Students (see page 107) an Art major who wishes to graduate "with honors" must complete:

Art 401a,b,c, during three of the last five quarters in college

Philosophy 405

Honors work to supplement two courses selected from:

Art 304, 310, 312, 352, 359, 410, 412, 361, 362

Graduate Study

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

COURSES

101 ORIENTATION 2 credits

Introduction to the place and scope of art in contemporary society.

151 BASIC DRAWING 3 credits

Drawing techniques and pictorial space concepts using a variety of media.

- 152 LIFE DRAWING I 3 credits**
Prerequisite: Art 151. Drawing the human figure in a variety of techniques to interpret contour, gesture, and volume.
- 153 DRAWING AND COMPOSITION I 3 credits**
Prerequisite: Art 151. Drawing, employing a variety of media and types of composition with emphasis on landscape.
- 210 SCULPTURE I 3 credits**
Techniques developed for working with clays and plaster with emphasis on plastic design.
- 211 SCULPTURE II 3 credits**
Prerequisite: Art 210. Extension of the techniques in Art 210 to develop a more thorough understanding of sculptural problems.
- 212 CERAMICS I 3 credits**
Basic ceramics with emphasis on the use of materials and techniques; practice in the hand-building processes, non-technical glaze composition, kiln stacking and firing.
- 213 CERAMICS II 3 credits**
Prerequisite: Art 212. Experiments in glazes.
- 240 INTERIOR DESIGN 3 credits**
Prerequisite: Art 260. Basic study of plans, elevations, and colors for home furnishing.
- 241 INTERIOR DESIGN 3 credits**
Prerequisite: Art 240. The group living area in home furnishing.
- 252 LIFE DRAWING II 3 credits**
Prerequisite: Art 152. Drawing of the figure in pencil, charcoal, and ink.
- 253 DRAWING AND COMPOSITION II 3 credits**
Prerequisite: Art 153. Experiments with various types of composition in pencil, conte crayon, charcoal, and pastels.
- 260 BASIC DESIGN I 3 credits**
Prerequisite: Art 101 or equivalent. Development of judgment and abilities to use design and color in two-dimensional problems.
- 261 BASIC DESIGN II 3 credits**
Prerequisite: Art 260. Development of abilities in three-dimensional problems.
- 270 LETTERING I 2 credits**
Practice in pen, brush, and show card lettering, employing various styles in contemporary advertising.
- 271 LETTERING II 2 credits**
Prerequisite: Art 270. Continuation of Art 270 with emphasis on layout and poster design.
- 300 SPECIAL PROBLEMS Variable credit**
Prerequisite: 15 credits in art and permission of instructor.
- 304 JEWELRY DESIGN 3 credits**
Prerequisite: Art 260 or permission of instructor. Design and construction of jewelry in various metals, with emphasis on silver; the setting of stones.
- 310 SCULPTURE III 3 credits**
Prerequisites: Art 152, 211, 260. Problems in various techniques for creating forms in space, with laboratory practice in clay modeling, wood and stone carving.
- 312 CERAMICS III 3 credits**
Prerequisites: Art 213 and 260. The use of form and design and the study of clay bodies; laboratory practice in the use of the potter's wheel and decorative techniques.

- 320 ART IN THE SCHOOL 3 credits**
Prerequisite: Art 260. Child development in art for the elementary school; observation of classroom activities in art and experimentation with materials usually available for use in schools.
- 321 ART IN THE SECONDARY SCHOOL 3 credits**
The philosophy and techniques of art in the secondary school.
- 325 ART EDUCATION 5 credits**
Prerequisite: Art 101 or Humanities sequence. Child development in art for the elementary school; problems in design, drawing, and painting as they relate to school. For non-majors.
- 340 INTERIOR DESIGN 3 credits**
Prerequisite: Art 241. Three-dimensional study of color and design as related to all aspects of home decoration and furnishing.
- 351 ELEMENTARY OIL PAINTING 3 credits**
Prerequisites: Art 151, 152, 153, 260. Fundamental technique of painting and use of color.
- 352, 353, 354 OIL PAINTING 3 credits each**
Prerequisite: Art 351.
- 355, 356, 357 WATER COLOR PAINTING 3 credits each**
Prerequisites: Art 151 or 153 and 260. The techniques of water color in compositions of still life and landscape.
- 358 PRINT MAKING I 3 credits**
Prerequisites: Art 151 and 260. The planographic and relief techniques of serigraph, lithograph, and woodcut.
- 359 PRINT MAKING II 3 credits**
Prerequisite: Art 358. Etching and engraving techniques.
- 361 DESIGN AND COLOR 3 credits**
Prerequisite: Art 260. Design, stressing two-dimensional qualities, textures, and color, and use of the silkscreen medium.
- 362 DESIGN AND COLOR 3 credits**
Prerequisite: Art 261. Color and design with emphasis on three-dimensional qualities.
- 371 COMMERCIAL DESIGN I 3 credits**
Prerequisites: Art 151, 152, 260, 270. Analysis and design of commercial products; practice in the use of the air brush.
- 380 ANCIENT ART 3 credits**
Prerequisites: General Education 121 or History 105. The genesis of Western expression; visual forms from their beginning in the Near East to the fourth century, A.D.
- 381 MEDIEVAL AND RENAISSANCE ART 3 credits**
Prerequisites: General Education 121 or History 105. The development of European expression; visual forms from the Crusades to the French Revolution.
- 382 MODERN ART 3 credits**
Prerequisites: General Education 122 and 123, or History 106. Contemporary expression; visual forms from 1815 to the present, with emphasis on French and American movements.
- 396 a, b, c HONORS TUTORIAL 2 to 5 credits**
- 400 SPECIAL PROBLEMS IN ART 2 to 5 credits**
Prerequisites: senior status and permission of instructor. Individual instruction for students who wish to undertake special projects under supervision.

- 401 **SEMINAR IN ART 1 credit**
Selected problems in art. Specific problems will be announced as offered each quarter.
- 408 **GRAPHIC DESIGN 6 credits**
Prerequisites: Art 260 and 270 or Industrial Arts 340. For industrial arts students. The study and application of the principles of layout, design and printing in relation to their commercial applications. Also offered as Industrial Arts 440.
- 410 **SCULPTURE IV 3 credits**
Prerequisite: Art 310. Creation of original works in wood, metal, clay, stone, plaster, plastics, or other media; a survey of sculpture and a study of important artists.
- 412 **CERAMICS IV 3 credits**
Prerequisite: Art 312. Functional design and historical background; practice in mixing of glazes, stains, slips, clay bodies; kiln stacking and firing.
- 421 **ART IN THE SCHOOL 3 credits**
Prerequisites: Art 320 or 321. The handling of color and design in terms of their use on both elementary and secondary levels.
- 422 **MATERIALS OF ART EDUCATION 4 credits**
Prerequisites: Art 320 or 325 and Industrial Arts 350. Media, reference material and subject matter related to art and its integration with other school subjects.
- 423 **EVALUATION OF CHILD ART 2 credits**
Art problems suitable for children at various stages of development; evaluation of children's work and the uses of materials usually available for schools.
- 425 **DRAWING AND PAINTING FOR THE SCHOOL 4 credits**
Prerequisites: at least one course in art, and teaching experience. Various painting media used in relation to school problems, group projects, and individual development.
- 426 **DEVELOPMENTAL ART EXPERIENCES 3 credits**
Prerequisite: teaching experience, student teaching, or permission of instructor. Stress on understanding the development of children, especially in the elementary and junior high school.
- 429 **ART WORKSHOP Variable credit**
Group endeavor for the elementary or secondary classroom teacher; exploration of art materials, and methods of adapting art work to the individual differences of children.
- 430 **DESIGN AND CRAFTS 3 credits**
Prerequisites: Art 361 or 362. Study and application of color and design to crafts using both modern and traditional techniques and materials.
- 431 **DESIGN AND CRAFTS 3 to 5 credits**
Prerequisite: Art 430. Emphasis on achievement in good design and fine craftsmanship.
- 451 **ILLUSTRATION 3 credits**
Prerequisites: Art 151, 152, 260 and 270.
- 452 **LIFE PAINTING 3 credits**
Composition and painting using a variety of media with the human figure as the subject.
- 453 **DRAWING 3 credits**
Prerequisite: one drawing course or graduate status and permission of instructor. Drawing and composition using a variety of subjects employing pencil, charcoal, conte crayon, pastels and ink.
- 458 **PERCEPTION AND DRAWING 2 credits**
Prerequisite: one drawing course or permission of instructor. Study of perception in relation to the problems of expression employing pencil, charcoal, conte crayon, and ink.

- 461 **ADVANCED DESIGN 3 credits**
Prerequisite: Art 361. Color and design in two or three media, with emphasis on two-dimensional work.
- 462 **ADVANCED DESIGN 3 to 5 credits**
Prerequisites: Art 361 or 362. The relationship between abstract and functional design in three-dimensional work.
- 471 **COMMERCIAL DESIGN II 3 credits**
Prerequisites: Art 371 and Industrial Arts 360. A continuation of Art 371 involving practice in the use of airbrush techniques combined with photography; the organization and presentation of final products.
- 472 **POSTER AND DISPLAY 3 credits**
Prerequisites: Art 270 or 271 and 260 or equivalent. Experimentation in designing posters, bulletin boards; layout, production, and printing of a poster design.
- 496 a, b, c **HONORS TUTORIAL 2 to 5 credits**
- 500 **SPECIAL PROBLEMS IN ART EDUCATION 2 to 4 credits**
Prerequisite: teaching experience and 27 credits in art, including Art 260 and 320 or equivalent. Study under supervision of a selected problem related to the teaching of drawing through experiments and research.
- 521 **COMPARATIVE TECHNIQUES IN DESIGN AND COLOR 4 credits**
Prerequisites: teaching experience, and 27 credits in art, including Art 260 and 320 or equivalent. Research in a number of techniques and materials for teaching design and color.
- 522 **CURRICULUM PLANNING 4 credits**
Prerequisites: teaching experience and 27 credits in art including Art 260 and 320 or equivalent. Ways to plan, develop, and evaluate art in relation to the total curriculum.
- 540 **RESEARCH IN ART MATERIALS 2 to 4 credits**
Prerequisites: teaching experience, Art 310 and Art 312 or permission of instructor. Research related to three-dimensional expression in art as a development factor.
- 550 **RESEARCH AND SEMINAR IN PICTORIAL EXPRESSION 2 to 4 credits**
Prerequisites: teaching experience, Art 320, 351 or 355. Concepts, media, and techniques of cultural pictorial expression.

DEPARTMENT of **BIOLOGY**

FACULTY

Professors: Broad (Chairman), Flora

Associate Professors: Barron, Kirkpatrick, Martin, Mitchell, Senger,
Slesnick

Assistant Professors: Dube, Ericksan, Heath, Kraft, Krejsa, Schwemmin

Instructor: Taylor

Lecturer: Chitwood

CONCENTRATIONS IN BIOLOGY

Students desiring a major or minor in biology are urged to plan carefully early in their college career with department advisers in order to assure proper sequence of courses selected. Biology 104 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. Majors or minors should not take Biology 101.

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

For students planning to teach in the elementary or junior high school the General Science major is recommended — see page 154. That concentration will include selections from the field of biology. Those desiring more specialization may elect one of the following concentrations:

MAJOR (elementary) 45 credits

Biology 247, 301

Botany 251, 252

Zoology 261

5 credits selected under advisement from:

Zoology 241, 243, 262

*17 credits selected under advisement from:

Biology 240, 402, 453

Botany 253, 352, 456, 458

Zoology 263, 324, 325, 361, 362, 363, 426, 461

*Students electing the alternate program for elementary teachers (see page 35) may defer this group of courses.

MAJOR (secondary) 45 credits

For the general education requirement in physical science the student should

take Chemistry 121 or 125.

Botany 251 or Zoology 261 (both recommended); Botany 252, Zoology 262
Biology 301, 493

General Science 405

4 or 5 credits from: Biology 345, 371, 471, 473, 477, 478

Botany 472, 475, 479

Zoology 366, 368, 450

4 or 5 credits from: Biology 402, 403, 453

Botany 253, 352, 456, 458

Zoology 262, 324, 325, 361, 362, 426, 461

Additional electives selected under advisement from above or other biological
science courses.

(Chemistry 351, 352, and 354 or 251, and Geology 211 or 210 are recommended
as supporting courses.)

MINOR (secondary) 25 credits

Biology 301, Botany 252 and/or Zoology 262

4 or 5 credits from: Biology 345, 371, 471, 473, 477, 478

Botany 472, 475, 479

Zoology 366, 368, 450

3 to 5 credits from: Biology 402, 403, 453

Botany 253, 352, 456, 458

Zoology 263, 325, 361, 362, 363, 426, 461

Electives selected under departmental advisement.

Arts and Sciences

MAJOR 50 credits, plus Supporting Courses

For the general education requirement in physical science the student must
include Chemistry 121.

Biology 301; Botany 251, 252; Zoology 261, 262

9 credits from: Biology 345, 371, 471, 473, 477, 478

Botany 472, 475, 479

Zoology 366, 368, 450

10 credits from: Biology 402, 403, 453

Botany 352, 456, 458

Zoology 324, 325, 361, 362, 363, 426, 461

General Science 405

Electives from the above or other biological sciences, or Geology 316

Supporting Courses:

Required: Chemistry 122, 351 and 354; Geology 211

Recommended: physics, 15 credits; a foreign language, courses in
mathematics, including statistics.

MINOR 25 credits

Option A—Botany 252, Zoology 262, plus 15 credits in courses selected under
departmental advisement.

Option B—Zoology 261, 262

4 or 5 credits from: Biology 371, 471, 477, 478

Zoology 366, 368, 450

5 credits from: Biology 402, 403

Zoology 324, 325, 361, 362, 363, 426, 461

5 credits from: Biology 345 or Zoology 243

Departmental Honors

In addition to the general requirements for all Honors students (see page 107) a biology major who wishes to graduate "with honors" must complete:

Biology 399, each quarter in the junior year.

Eight 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 a biology concentration in the program leading to the Master of Education degree, see the **Graduate Bulletin**.

COURSES IN BIOLOGY

101 PRINCIPLES OF GENERAL BIOLOGY 4 credits

Major concepts of biology and their contribution to man's thinking and culture; cell physiology, genetics, growth and development, and evolution. Not for biology majors nor students having a background in chemistry; see Biology 104.

104 PRINCIPLES OF GENERAL BIOLOGY 4 credits

Prerequisite: satisfactory completion of one year of high school chemistry or one quarter of college chemistry. Content of course similar to that of Biology 101 but on a more quantitative and chemical basis. Not open to those having completed Biology 101.

204 GENERAL BIOLOGY 4 credits

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; designed for elementary teachers not majoring in biology.

240 MARINE BIOLOGY 3 credits

Prerequisite: Biology 101 or 104. Study of plants and animals of the sea-shore. Not open to students with credit in Zoology 461 or Botany 456. Summers only.

247 HEALTH SCIENCE 3 credits

Prerequisite: Biology 101 or 104. A basis for intelligent guidance in the formation of health habits and attitudes, with stress on the functions of the body.

300 SPECIAL PROJECTS IN BIOLOGY 1 or 2 credits

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

- 301 ECOLOGY 5 credits**
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 credits**
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 credits**
Prerequisite: Biology 101 or 104. Basic theories, principles and laws of heredity; laboratory experiments with drosophila.
- 383 BIOLOGICAL SCIENCE FOR THE ELEMENTARY SCHOOL 3 credits**
Prerequisite: Biology 101 or 104. Philosophy, concepts, learning experiences, and materials for the biological sciences suitable to the elementary school.
- 399 SEMINAR IN BIOLOGY 1 credit**
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 credits**
Prerequisite: permission of the instructor.
- 402 LIMNOLOGY 5 credits**
Prerequisite: Biology 301. Physical and chemical characteristics of fresh water in relation to biotic communities; field trips.
- 403 PHYSIOLOGICAL ECOLOGY 4 credits**
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 credits**
Prerequisites: 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 credits**
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 credits**
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 bio-chemical genetics of man which apply to the nature of gene functions.
- 473 HISTOLOGICAL TECHNIQUES 5 credits**
Prerequisite: 10 credits in biology. Preparation of microscopic slides of both plant and animal tissues.
- 477, 478 GENERAL CELLULAR PHYSIOLOGY 5 credits 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 credits**
Prerequisite: 15 credits in biological science. Philosophy, concepts, learning experiences and material for the teaching of biological sciences in the secondary school.
- 500 SPECIAL PROJECTS IN BIOLOGY 2 to 5 credits**
Prerequisite: permission of instructor.
- 599 SEMINAR IN BIOLOGY 2 credits**
Prerequisite: 40 credits in biology. Selected problems in biology, with emphasis on current literature.

COURSES IN BOTANY

- 251 GENERAL BOTANY 5 credits**
Plants as living organisms; the structure and functions of typical vascular plants. Heredity and biology of the cell are included in Biology 101 or 104 and are not repeated here.
- 252 GENERAL BOTANY 5 credits**
Botany 252 may be taken without Botany 251 as a prerequisite. Comparative study of the major phyla of the plant kingdom with a view to interpreting present structure in terms of ecological adaptation and past evolutionary heritage.
- 253 PLANTS OF THE NORTHWEST 3 credits**
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 credits**
Prerequisite: Botany 252. Historical survey of classification systems; use of taxonomic keys, and evolutionary development of flowering plants; recognition of common plants and plant communities.
- 456 ALGAE 5 credits**
Prerequisite: ten credits in biology. Collection, identification, classification, distribution, and economic importance of marine and fresh water algae.
- 458 BRYOPHYTES 5 credits**
Prerequisite: ten credits in biology. Collection, identification, distribution, and evolution of mosses and liverworts.
- 472 PLANT ANATOMY 4 credits**
Prerequisite: Botany 251. Development and structure of cells, tissues, and organs of vascular plants.
- 475 DEVELOPMENTAL MORPHOLOGY 3 credits**
Prerequisites: Botany 251 and 252. The experimental approach to the study of plant morphology.
- 479 PLANT PHYSIOLOGY 4 credits**
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 credits**
Prerequisite: Biology 101 or 104 recommended. Not open to students taking the combined anatomy-physiology course, Zoology 248-249.
- 243 HUMAN PHYSIOLOGY 5 credits**
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 credits 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 credits**
Prerequisite: Biology 101 or 104. Survey of the invertebrate phyla, protozoa through the annelids, and molluscs.
- 262 GENERAL ZOOLOGY 5 credits**
Prerequisite: Biology 101 or 104. Survey of arthropod phylum and the chordate line.

- 263 ANIMALS OF THE NORTHWEST 3 credits**
Amphibians, reptiles, birds and mammals; their identification, life histories, habits, and distribution. Summers only.
- 324 GENERAL ENTOMOLOGY 3 credits**
Prerequisite: Zoology 262. An introductory study of insects, their morphology, physiology, metamorphoses, classification, and economic importance.
- 325 GENERAL ENTOMOLOGY LABORATORY 2 credits**
Prerequisite or concurrent: Zoology 324. Anatomy, physiology, and identification of insects.
- 361 ORNITHOLOGY 3 credits**
Prerequisite: Biology 101 or 104. Structural morphological adaptations of birds, their evolution, classification, distribution, and economic importance; field trips.
- 362 ORNITHOLOGY 3 credits**
Prerequisite: Biology 101 or 104, Zoology 361 recommended. Migration, foods, nesting behavior of birds; types of bird protection.
- 363 MAMMALOLOGY 5 credits**
Prerequisite: Zoology 262. Life 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 credits**
Prerequisite: Zoology 262. Comparative study of the morphology and evolution of the organic systems of major vertebrate groups.
- 368 GENERAL VERTEBRATE EMBRYOLOGY 5 credits**
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 credits**
Prerequisite: Zoology 262 or equivalent. 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 credits**
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 credits**
Prerequisite: 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 credits**
Prerequisite: Biology 301. Laboratory and field study of local marine invertebrates.
- 510 AQUATIC HELMINTHOLOGY 5 credits**
Prerequisites: Zoology 261 plus 20 additional credits in biology. Classification, life cycles, and bionomics of unsegmented worms, including flatworms, rotifers, kinorhynchs, nematodes, of both fresh and marine waters.

DEPARTMENT of **CHEMISTRY**

FACULTY

Professor: Knapman.

Associate Professors: Besserman, Eddy, Frank (Chairman), Neuzil.

Assistant Professor: Lampman

Program Planning

Students planning to major in chemistry or to begin pre-professional programs involving chemistry courses are advised to consult with the department at the beginning of their first year to arrange for proper sequence of courses.

CONCENTRATIONS

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

MINOR 25 credits

Chemistry 121, 122, 131, 251 (or 351 and 354)

Chemistry 233 or 461 or Physical Science 492

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.

MINOR 25 credits

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

Departmental Honors

In addition to the general requirements for all Honors students (see page 107) 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 a concentration in chemistry leading to the Master of Education degree, see Graduate Bulletin.

COURSES IN CHEMISTRY

- 100 **INTRODUCTORY CHEMISTRY** 2 credits
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 credits
Scientific method and its use in the development of such concepts as structure, states, and reactions of matter. Not open for credit to students with credit in high school chemistry.
- 121, 122 **GENERAL CHEMISTRY** 5 credits each
Prerequisite: high school chemistry or satisfactory completion of Chemistry 100 or 101. Principles and laws of chemistry developed from the properties, structure, and reactions of matter.
- 125 **GENERAL CHEMISTRY** 5 credits
Principles and laws of chemistry developed from the properties, structure, and reactions of matter; an abbreviated course in general chemistry for persons studying general science, biological science, nursing, and home economics.
- 131 **QUALITATIVE ANALYSIS** 5 credits
Prerequisite: Chemistry 122 or equivalent. The theory of electrolytic solutions and its applications to systematic separations.
- 233 **QUANTITATIVE ANALYSIS** 5 credits
Prerequisite: Chemistry 131. Theory and practice of gravimetric, volumetric, colorimetric, and electrolytic analysis.
- 251 **ELEMENTARY ORGANIC CHEMISTRY** 5 credits
Prerequisite: Chemistry 121 or 125. Reactions, nomenclature and uses of carbon compounds; an abbreviated course in organic chemistry primarily for persons studying general science, biological science, nursing, and home economics.
- 300 **PROJECT IN CHEMISTRY** 1 to 2 credits
Prerequisite: 20 credits in chemistry and permission of instructor. Projects under supervision.
- 305 **GLASS WORKING** 1 credit
Prerequisite: permission of instructor. Basic techniques of glass working and construction of simple glass apparatus.

- 344 INORGANIC PREPARATIONS 2 to 3 credits**
Prerequisite: Chemistry 233. Preparations of selected inorganic compounds of high purity by diverse methods.
- 351, 352, 353 ORGANIC CHEMISTRY 3 credits each**
Prerequisite: Chemistry 122 for 351; Chemistry 351 for 352; Chemistry 352 for 353; or permission of instructor. Chemistry of carbon compounds with emphasis on structural theory, reactions, and mechanisms.
- 354 ORGANIC CHEMISTRY LABORATORY 2 credits**
Prerequisite: Chemistry 351. Reactions, separations, and syntheses of organic compounds.
- 355 ELEMENTARY QUALITATIVE ORGANIC ANALYSIS 2 credits**
Prerequisite: Chemistry 131, 354, and 353 or concurrent. Identification and characterization of organic compounds.
- 396 a, b, c HONORS TUTORIAL 2 to 5 credits each.**
- 399 SEMINAR IN CHEMISTRY 1 credit**
Prerequisite: 25 credits in chemistry and permission of instructor. The presentation and discussion of papers in chemistry.
- 400 PROJECT IN CHEMISTRY 1 to 3 credits**
Prerequisite: permission of instructor. Individual projects under supervision.
- 435 INSTRUMENTAL ANALYSIS 3 credits**
Prerequisite: Chemistry 453 or permission of instructor. Theory of optical, electrical, and other physical measurements applied to chemical analysis.
- 436 INSTRUMENTAL ANALYSIS LABORATORY 2 credits**
Prerequisite: Chemistry 435. Experimental techniques of instrumental analysis and analytical separation.
- 441 INORGANIC CHEMISTRY 3 credits**
Prerequisites: Chemistry 233 and 353. Emphasis on the fundamental unity of inorganic chemistry by a study of the periodic relationships among the elements.
- 454 ADVANCED ORGANIC SYNTHESIS 3 credits**
Prerequisites: Chemistry 353 and 354. The use of preparative organic reactions involving advanced techniques of synthesis.
- 455 ADVANCED QUALITATIVE ORGANIC ANALYSIS 3 credits**
Prerequisites: Chemistry 353 and 355. The separation, identification, and characterization of organic compounds involving some use of instrumental techniques.
- 461, 462, 463 PHYSICAL CHEMISTRY 4, 4, 3 credits respectively**
Prerequisite: one year of college physics, Mathematics 222, and Chemistry 233 or concurrent, or permission of instructor. Atomic and molecular structure, states of matter, solutions, chemical thermodynamics and equilibria, chemical kinetics, and electro-chemistry.
- 464, 465 PHYSICAL CHEMISTRY LABORATORY 2 credits each**
Prerequisite: 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 credits**
Prerequisites: Chemistry 353 and Biology 104. The chemistry of some fundamental life processes.
- 472 BIOCHEMISTRY LABORATORY 2 credits**
Prerequisites: Chemistry 233, 354, and Chemistry 471 (or concurrent). Laboratory techniques for the study of the chemical life processes.
- 482 NUCLEAR CHEMISTRY 3 credits**
Prerequisites: Chemistry 131 and Physics 233, or permission of instructor. Theoretical and applied nuclear and radio-chemistry.

- 483 NUCLEONICS LABORATORY 3 credits**
Prerequisite: Chemistry 482 (or concurrent) or permission of instructor. Experimental techniques of nuclear chemistry.
- 492 HIGH SCHOOL CHEM STUDY 3 credits**
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 credits each**
- 498 RESEARCH PROJECT IN CHEMISTRY 6 credits**
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.
- 551 PHYSICAL ORGANIC CHEMISTRY 3 credits**
Prerequisites: Chemistry 353 and 463 or equivalent. The methods of modern physical organic chemistry and their application to the elucidation of reaction mechanisms and structural determinations.

DEPARTMENT of
ECONOMICS and BUSINESS

FACULTY

Professors: Mayer (Chairman), Palmer

Associate Professors: Haglund, Mischaikow, Mitchell

Assistant Professors: Faulkner, McAllister, Spratlen, Walter

CONCENTRATIONS IN ECONOMICS

Teacher Education

MINOR 24 credits

(For secondary teachers other than Business Education majors.)

Economics 101, 201, 251.

10 credits in upper division courses.

Arts and Sciences

MAJOR (Economics—Business Administration) 64 credits, plus Supporting Courses

Substitute Mathematics 220 for Mathematics 151 in the general education requirements.

Economics 201, 202, 251, 252, 253, 271, 301, 302, 311, 352 or 353, 375, 408

Two courses from Economics 322, 333, 335, 411

Additional courses selected under departmental advisement

Supporting Courses: Geography 207; History 350; Mathematics 220, 240 and 241
(Political Science 101 and Sociology 201 also recommended)

MAJOR (Economics—General) 50 credits, plus Supporting Courses

Substitute Mathematics 220 for Mathematics 151 in the general education requirements.

Economics 201, 202, 251, 252, 253, 301, 302, 311, 375, 403

Additional upper division courses selected under departmental advisement

Supporting Courses: Geography 207; History 341, 360; Math 220, 240 and 241
(Political Science 101, Sociology 201, Philosophy 201 also recommended)

MINOR 25 credits

Economics 201, 202

Additional courses under advisement. (At least 10 hours must be at upper division level.)

Departmental Honors

In addition to the general requirements for all Honors students (see page 107) a major in Economics-Business Administration or Economics-General 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.

CONCENTRATIONS IN BUSINESS EDUCATION

Teacher Education

MAJOR (secondary) 45 credits (To be accompanied by minor which follows)

Business Education 116, 117, or 215; 120, 121, 122, 201, 223,
241 or 242, 319, 321, 322, 323

Economics 101, 201

Electives under departmental advisement

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

MINOR IN ECONOMICS (to accompany above major) 25 credits

Economics 202, 251, 252, 271, 408

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

MINOR (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

COURSES IN ECONOMICS

101 INTRODUCTION TO BUSINESS 5 credits

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

200 GENERAL ECONOMICS 3 credits

American economic institutions; basic economics as a foundation for study in other areas; not open to students who have had Economics 201.

201 INTRODUCTION TO ECONOMICS 5 credits

Organization and operation of the American economy; the basic problems of economics; the role of business, labor, and government; money and the banking system, and problems of inflation and deflation.

- 202 PRINCIPLES OF ECONOMICS 5 credits**
Prerequisite: Economics 201. Theory of price and income distribution with particular application to the structure of American industry; problems of the world economy and alternative economic systems.
- 206, 207 THE AMERICAN ECONOMY 4 credits each**
Economics for social studies teachers; the organization and operation of the American economy.
- 250 INCOME TAX FOR THE EMPLOYEE AND SMALL PROPRIETOR 3 credits**
For wage earners, small businessmen, and students who do not plan to major in economics. Fundamental principles of the federal income tax law. Simple returns are completed.
- 251 PRINCIPLES OF ACCOUNTING 4 credits**
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 3 credits**
Prerequisite: Economics 251. Emphasis on depreciation, the voucher system, partnership and corporation accounting.
- 253 PRINCIPLES OF ACCOUNTING 3 credits**
Prerequisite: Economics 252. Manufacturing accounting, financial analysis, and interpretation of accounting data.
- 271 BUSINESS LAW I 5 credits**
Legal principles of use in everyday business dealings, with emphasis upon contracts, agency and negotiable instruments.
- 291 PERSONAL FINANCE AND INVESTMENTS 3 credits**
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 credits**
Prerequisite: Economics 201, 202. Determinants of the level of income, employment, and output in the economic system.
- 302 INTERMEDIATE ECONOMIC THEORY 4 credits**
Prerequisites: Economics 201 and 202. The theory of price under conditions of competition and of monopolistic competition; relation of prices and costs, and the functional distribution of income.
- 311 MONEY AND BANKING 5 credits**
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 credits**
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 credits**
Prerequisite: Economics 201. The problems of labor organizations in their relation to the total economy and to industry in particular.
- 333 PRINCIPLES OF PRODUCTION 5 credits**
Prerequisite: 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 credits**
Prerequisite: Economics 101 or 201. Institutions, functions, problems, and policies in the distribution of industrial and consumer goods; pricing, costs, and governmental regulations.

- 341 PRINCIPLES OF TRANSPORTATION 5 credits**
Prerequisite: Economics 201. Economic principles and problems relative to the transportation and communication system of the United States.
- 350 INCOME TAX ACCOUNTING 3 credits**
Prerequisite: Economics 251 or permission of instructor. Legal requirements and practical problems in connection with the preparation of individual and partnership income tax returns.
- 352 COST ACCOUNTING 5 credits**
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 credits**
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 credits**
Prerequisite: Economics 253. Analysis and interpretation of financial statements; advanced theory of inventories; depreciation, and the application of funds.
- 355 ADVANCED ACCOUNTING 5 credits**
Prerequisite: Economics 354. The application of accounting theory to partnerships, branch accounting, installment sales, and other problems.
- 361 INTERNATIONAL ECONOMICS 5 credits**
Prerequisite: Economics 201 and 202. Theory of international trade: the theory of balance-of-payments equilibrium, and economic policies, including customs unions.
- 371 BUSINESS LAW II 5 credits**
Prerequisite: Economics 271. Sales, conditional sales, personal property, partnership, and corporation law.
- 375 STATISTICAL METHODS 3 credits**
Prerequisite: Mathematics 240 or equivalent. The concepts of sampling, statistical inference, and statistical decision-making as they apply to problems in economics and business.
- 396 a, b, c HONORS TUTORIAL 2 to 5 credits each**
- 400 SPECIAL PROBLEMS IN ECONOMICS 1 to 5 credits**
Prerequisite: 20 credits in economics and prior consultation with the instructor.
- 401 PRINCIPLES OF BUSINESS MANAGEMENT 5 credits**
Prerequisite: Economics 253 or permission of instructor. The role of the board of directors, committees, and the functions of top management in organizing, staffing, directing, planning, and controlling company operations.
- 403 THE HISTORY OF ECONOMIC THOUGHT 5 credits**
Prerequisite: Economics 201 and 202 or senior standing and permission of instructor. Development of economic thought with major emphasis upon the period following Adam Smith.
- 405 COMPARATIVE ECONOMIC SYSTEMS 5 credits**
Prerequisite: Economics 201 or permission of instructor. Economic systems of the leading nations of the world.
- 406 ECONOMIC GROWTH IN UNDERDEVELOPED COUNTRIES 5 credits**
Prerequisite: Economics 201 and 202, or permission of instructor. Conditions necessary for and the progress of economic development in underdeveloped countries.
- 408 THE ROLE OF BUSINESS IN AMERICAN SOCIETY 3 credits**
Development of American capitalism and its legal, philosophical, and ethical foundations.

- 409 CONTEMPORARY ISSUES OF ECONOMIC POLICY 3 credits**
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 credits**
Prerequisites: 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 credits**
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 5 credits**
Prerequisites: Economics 201 and 275 (or 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 credits**
Governmental expenditures, budgets, taxation, and borrowing; local, state, and federal.
- 421 PROBLEMS IN PERSONNEL ADMINISTRATION 3 credits**
Problems of wage and salary administration, employee rating, and employee selection.
- 426 LABOR RELATIONS AND THE LAW 3 credits**
Prerequisite: Economics 325 or permission of instructor. A non-technical course in the elements of labor law.
- 442 GOVERNMENT AND BUSINESS 5 credits**
Prerequisites: Economics 202, or permission of instructor. Public policy and business enterprise; anti-trust laws and their interpretation.
- 485 EUROPEAN INTEGRATION AND WORLD TRADE 3 credits**
Regional development of Western Europe in its economic and political aspects. Summer only.
- 491H HONORS SEMINAR 3 credits**
- 496 a, b, c HONORS TUTORIAL 2 to 5 credits each**

COURSES IN BUSINESS EDUCATION

- 115 BEGINNING TYPEWRITING 2 credits**
For those with no previous instruction in typewriting. Offered by extension only.
- 116 INTERMEDIATE TYPEWRITING 2 credits**
Prerequisite: Business Education 115 or equivalent, or one year of high school typewriting.
- 117 ADVANCED TYPEWRITING 2 credits**
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 credits**
Fundamentals of Gregg Shorthand Simplified, including development of skill in reading and writing from printed shorthand.
- 121 INTERMEDIATE SHORTHAND 3 credits**
Prerequisite: Business Education 120 or equivalent. Continued development of skill in reading and writing more advanced forms of shorthand.

- 122 **ADVANCED SHORTHAND I 3 credits**
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 credits**
Theory and practice of bookkeeping and accounting, with emphasis on both cash and accrual systems.
- 201 **BUSINESS CORRESPONDENCE 3 credits**
Prerequisite: English 100 or equivalent. Development of skill in the use of correct English for business purposes.
- 215 **BUSINESS TYPEWRITING 2 credits**
Prerequisite: Business Education 117 or equivalent. An advanced course for the development of proficiency in speed and control.
- 222 **ADVANCED SHORTHAND II 3 credits**
Prerequisite: Business Education 122 or equivalent of two years of high school shorthand. Intensive dictation and transcription practice on business correspondence; the development of a comprehensive business vocabulary.
- 223 **SHORTHAND TRANSCRIPTION 3 credits**
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 credits**
Prerequisite: Business Education 223 or equivalent. Further development of transcription skills, office techniques, and the duties and problems of the secretary.
- 241 **OFFICE MACHINES 3 credits**
Prerequisite: Business Education 115 or equivalent. Operation of rotary and key-driven calculators, duplicating machines, adding machines, transcribing and recording machines, and electric typewriters; filing.
- 242 **SPECIALIZED OFFICE MACHINES 3 credits**
Prerequisite: Business Education 241, or equivalent. Advanced training on selected office machines.
- 319 **BUSINESS EDUCATION IN THE SECONDARY SCHOOL 3 credits**
Curriculum planning with consideration of philosophy, scope, and objectives.
- 321 **TEACHING BOOKKEEPING AND BASIC BUSINESS SUBJECTS 3 credits**
Analysis of objectives, materials, and method of presentation.
- 322 **METHODS OF TEACHING TYPEWRITING 3 credits**
The use of the newest instructional aids and equipment for the development of skill in typewriting.
- 323 **METHODS OF TEACHING SHORTHAND AND TRANSCRIPTION 3 credits**
Lesson planning, grading, demonstrations, and dictation techniques.
- 400 **DIRECTED STUDY IN BUSINESS EDUCATION 1 to 3 credits**
Prerequisites: senior standing and consent of instructor. Individual instruction.
- 471 **CURRENT TRENDS IN THE TEACHING OF TYPEWRITING 3 credits**
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 credits**
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 credits**
The organization and integration of economic and consumer education courses in school programs.

- 481 **PROBLEMS AND ISSUES IN BUSINESS EDUCATION** 3 credits
Trends in the business programs of secondary schools. Summer only.
- 501 **SPECIAL PROJECTS IN BUSINESS EDUCATION** 2 to 3 credits
Supervised planning and development of practical creative projects in business education.
- 502 **IMPROVEMENT OF INSTRUCTION IN SECRETARIAL STUDIES** 3 credits
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.

DEPARTMENT of **EDUCATION**

FACULTY

Professors: Hanson, Ross, Skeen, Thompson

Associate Professors: D. Brown, Corroll, Casanova, Feringer, Ferris, Haubrich (Chairman), Higbee, Johnson, Karason, Kaufman, McCracken, D. McDonald, McInnes, Nicol, Panches, Starbird, Watrous, Williams

Assistant Professors: Anderson, Conquest, Gadzello, Grave, Hansford, Hodges, H. Jones, Kim, Klein, Margaritis, Nichelson, Riddles, Van Wingerden

Lecturers: C. Brown, Crawford, Lilja, Vitt

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

1. Acceptance for the teacher education program by the Selection Committee (see page 33).
2. Completion of all General Education requirements.
3. Completion of Education 301, 385, and Psychology 261, 355.
4. Completion of a minimum of 128 credits, including at least one half of the academic major.
5. Attainment of a cumulative grade average (at Western Washington State College) of at least 2.00 (to be raised in September of 1965 to 2.10, and 2.20 in 1966).
6. A chest X-ray in compliance with State law.

Application

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

8 credit courses—Education 493-498—three and one-half morning hours daily

* in the Fall Quarter only, special sections are offered commencing with the opening of the public schools in September. The student will be involved full-time daily until College opens, then full-time several days and half-time the remainder of the week to the close of the quarter. These sections are in addition to the sections scheduled regularly to correspond with the College calendar.

Departmental Honors

In addition to the general requirements for all Honors Students (see page 107), a student who wishes to graduate with Departmental Honors in Education must complete:

Education 336efg — Honors Tutorial 2-5 credits

Education 335h — Summer Readings 2-5 credits

Education 337h — Seminar in Research 2 credits

Education 436efg — Honors Tutorial 2-5 credits

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 150-152 for courses in Educational Psychology)

- 301 AMERICAN EDUCATION AND THE TEACHER 3 credits**
Prerequisite: sophomore status. The development of the American school system and the role of the teacher; teaching as a profession. This course is prerequisite to the other courses in the professional sequence.
- 315 SOCIAL FOUNDATIONS OF EDUCATION 3 credits**
Sociological and anthropological concepts and their relation to the field of education; cultural change 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 credits**
Significant works in the history of educational thought as an analytical framework for evaluating statements of school purposes and curriculum; the derivation of educational objectives from basic philosophic premises.

- 326 INTRODUCTION TO EXCEPTIONAL CHILDREN 3 credits
Prerequisite: junior status and permission of department. Problems and methods of identifying and teaching children who are handicapped or gifted.
- 336efg HONORS TUTORIAL 2 to 5 credits
- 336h SUMMER READINGS 2 to 5 credits
- 337h SEMINAR IN RESEARCH 2 credits
- 373 ELEMENTARY STATISTICAL INFERENCE 3 credits
Prerequisite: Mathematics 240 or permission of instructor. Statistical procedures and informed reading for original research. Also offered as Psychology 373.
- 385 FOUNDATIONS OF TEACHING READING 2 credits
History of reading instruction in the United States; basic principles and current practices in the teaching of reading in various grade levels; review of major research and controversial issues.
- 400 SPECIAL PROJECTS IN EDUCATION 2 to 6 credits
Prerequisite: senior status or teaching experience; permission of department. Special supervised projects.
- 410 SEMINAR IN FOUNDATIONS 5 credits
Prerequisite: admission to the special program for degree holders. The social, historical, and philosophical bases of education.
- 413 HISTORY OF AMERICAN EDUCATION 5 credits
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 credits
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 credits
A critical examination of 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 credits
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.
- 421 CURRICULUM DEVELOPMENT 3 credits
Prerequisite: student teaching or teaching experience. Theory and structure of curriculum, including procedures for the selection, organization, and evaluation of school experiences at different levels.
- 422a,b,c,d INSTRUCTIONAL PROBLEMS 3 credits each
Prerequisites: student teaching or teaching experience and Education 421. The application of curriculum theory to instructional practice; choice of problems dependent upon background and interest of those enrolled. (a-primary; b-intermediate; c-junior high; d-senior high.)
- 423 THE JUNIOR-COMMUNITY COLLEGE 3 credits
Prerequisite: senior or graduate status. The history, objectives, organization, and role of the public community college, with special attention to the expanding junior college system in the State of Washington.
- 424 LANGUAGE ARTS IN THE CURRICULUM 3 credits
Prerequisite: student teaching, teaching experience, or permission of department. Functions and programs of the language arts in the curriculum.

- 428 KINDERGARTEN EDUCATION 3 credits**
Prerequisites: senior status and student teaching or teaching experience. Historical background, recent trends, and organization of the kindergarten program; facilities and materials needed for the full development of the kindergarten child.
- 436efg HONORS TUTORIAL 2 to 5 credits**
- 441 SCHOOL LAW 3 credits**
Prerequisite: senior status or teaching experience. The 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 credits**
Social, educational, and administrative implications of continuing education. Summer only.
- 462 METHODS, CURRICULUM, AND MATERIALS FOR EXCEPTIONAL CHILDREN 3 cr.**
Prerequisite: senior or graduate status. Objectives, organization, facilities, and materials needed for teaching exceptional children.
- 473 ADVANCED STATISTICAL INFERENCE 3 credits**
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 to 5 credits**
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 credits**
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 cr.**
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 4 credits**
Natural history with emphasis on biology and ecology, geography, local history, geology and mineralogy, forestry and conservation.
- 484 PRACTICUM IN OUTDOOR EDUCATION 4 credits**
Methods and techniques of working with children in the natural environment; supervised teaching of intermediate grade children.
- 486 INDIVIDUALIZING READING INSTRUCTION 3 credits**
Techniques for an individualized reading program; techniques of remedial reading; survey of children's trade books; designing, making, and programming materials for self-instruction.
- 487 IMPROVEMENT OF INSTRUCTION IN READING 3 credits**
Prerequisite: teaching experience. Analysis of current reading texts and programs; measurement of achievement; use of an informal reading inventory.
- 489 AUDIO-VISUAL INSTRUCTION 3 credits**
Types of audio-visual aids, technical processes, operational procedures, and the administration of audio-visual instruction; the operation of motion picture, opaque, and slide-film projectors, tape recorders and other sound and visual apparatus.

Supervised Teaching

(See pages 67-68 for prerequisites, applications, procedures, and amount of time required in all supervised teaching courses — Education 491-498.)

- 491 SUPERVISED TEACHING—ELEMENTARY 16 credits**
Prerequisites: Social Studies Education 425, Mathematics 251 and 481, Education 486 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 credits**
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 credits each**
Prerequisites: Social Studies 425, Mathematics 251 and 481, Education 486 and a course in science education. Supervised teaching experience providing opportunities to develop and demonstrate teaching competence at the primary and/or intermediate level.
- 495, 496 SUPERVISED TEACHING—SECONDARY 8 credits each**
Supervised teaching experience providing opportunities to develop and demonstrate teaching competence at the junior high and/or senior high school level.
- 498 SUPERVISED TEACHING—EXCEPTIONAL CHILDREN 8 credits**
Prerequisites: Education 326 and 462 and teaching experience. Supervised teaching experience providing opportunities to develop and demonstrate teaching competence for exceptional children.
- 500 SPECIAL PROJECTS IN EDUCATION 3 to 5 credits**
Prerequisite: permission of department. Special projects under supervision.
- 501 INTRODUCTION TO GRADUATE STUDY 4 credits**
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 credits**
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 credits**
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 credits**
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 credits**
Critical analysis of theoretical positions in educational philosophy; emphasis on modern and contemporary discussions of educational theory. Also offered as Philosophy 515.
- 516 EDUCATIONAL CLASSICS 3 credits**
Works of Plato, Aristotle, Quintilian, Comenius, Locke, Rousseau, Dewey and others.

- 521a,b,c,d SEMINARS IN CURRICULUM 4 credits each**
Prerequisites: teaching experience and Education 421 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.)
- 522 SEMINAR IN CURRICULUM FOR THE INTERMEDIATE GRADES 6 credits**
Prerequisite: teaching experience and permission of department. The investigation of research literature and the methodology involved in teaching subject matter to children in grades four through six; lectures, observation, and discussion.
- 528 SEMINAR IN EARLY CHILDHOOD EDUCATION 6 credits**
Prerequisite: teaching experience in kindergarten or primary grades and permission of department. Critical study of current literature and research concerning the child from kindergarten through grade three; objectives, instructional practices, appreciation and content areas for this grade level.
- 541 PUBLIC SCHOOL ORGANIZATION AND ADMINISTRATION 3 credits**
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 credits**
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 credits**
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 credits**
Prerequisite: Education 489 or permission of department. Basic problems and principles in establishing and directing an audio-visual service center; co-ordinating, staffing, financing, housing, and evaluating the service.
- 545 PUBLIC SCHOOL FINANCE 3 credits**
Prerequisite: Education 541. Problems involved in school finance including budgetary and accounting procedures.
- 546 PUBLIC SCHOOL BUILDINGS AND FACILITIES 3 credits**
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 to 5 credits**
For applicants for the principals' credential who have been admitted to candidacy for the master's degree. See Graduate Bulletin for details.
- 549 SEMINAR IN SCHOOL PERSONNEL ADMINISTRATION 3 credits**
Professional relationships among certified employees, and other school personnel; the development and implementation of policies. Summer only.
- 560 SEMINARS IN SPECIAL EDUCATION 2 to 5 credits**
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 only.
- 561S ADVANCED PROBLEMS IN SPECIAL EDUCATION 3 to 5 credits**
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 credits**
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 credits

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 credits

Prerequisite: Education 385 or 487 or permission of department. An intensive review of reading research and the application of this research 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 credits

Prerequisite: Education 594E, 594F. Development and execution of a research design in reading education.

594E, F, G PRACTICUM IN READING DIAGNOSIS AND REMEDIATION 10 credits

Prerequisite: Education 487 or its equivalent, or concurrent enrollment in Education 487, and permission of department. E, F, and G must be taken in sequence.

E. Introduction to standard diagnostic tests and supervised practice in their administration. 3 credits.

F. Individual case study diagnosis of children with reading problems. 4 credits.

G. Remedial instruction for children with reading problems. 3 credits.

DEPARTMENT of **ENGLISH**

FACULTY

Professors: Cederstrom, Clapp (Choirman), Hicks, Van Aver

Associate Professors: Finder, Hovde, Larsen, O'Brien, Odom, Peters

Assistant Professors: Abel, Bennett, Huff, Hunt, Lawyer, Lee, Muldrow,
Ryan

Instructors: Allan, Baskett, Fredeman, Hitchcock, Johnson, Lewis,
McLeod, Merrill, Mulligan, Olson, Ralfe, Standley

Lecturer: Skinner

CONCENTRATIONS

Teacher Education

MAJOR (secondary) 45 credits

English 202, 261, 262, 263, 343, 490, 496

Two courses from: English 321, 322, 323, 324, 325, 326

Two courses from: English 331, 332, 333

Electives under departmental advisement

MAJOR (elementary) 45 credits

English 202, 261, 262, 263, 343, 490, 495

Two courses from: English 321, 322, 323, 324, 325, 326

Two courses from: English 331, 332, 333

Electives under departmental advisement

Students electing the alternate program in elementary education (see page 35) will obtain departmental approval for a 28-credit selection from the above.

MINOR (secondary) 25 credits

English 202, 261, 262, 263, 343, 496 or 497

Electives under departmental advisement

Arts and Sciences

MAJOR 60 credits, plus Supporting Courses

English 202, 261, 262, 263, 341, 343, 487

Three courses from: English 321, 322, 323, 324, 325, 326

(At least one of these from English 321, 322, 323)

Two courses from English 331, 332, 333

At least one course from both the English 349 and 359 series

Electives under departmental advisement

Supporting Courses: 24 credits or the equivalent in one foreign language

MINOR 25 credits

English 202, 261, 262, 263, 343

Electives 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 and 410.

Departmental Honors

In addition to the general requirements for all Honor students (see page 107) an English major who wishes to graduate "with honors" must complete:

1. English 460 and 487
2. An upper-division course in philosophy or in comparative literature or in literature read in a foreign language.

Graduate Study

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

COURSES

- 100 FRESHMAN READING AND WRITING 3 credits**
Prerequisite: satisfactory performance on English placement tests or second-quarter standing. The comprehension and communication of expository materials.
- 101 FRESHMAN READING AND WRITING 3 credits**
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 credits**
Prerequisite: satisfactory completion of English 101 or equivalent. For students requiring a full year of college English.
- 202 SOPHOMORE EXPOSITION 3 credits**
Prerequisite: English 101 or equivalent. Intended primarily for majors and minors. Materials drawn from literature, literary history, and criticism.
- 210 NEWS WRITING 3 credits**
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 credit each**
Prerequisite: English 210 or permission of instructor. Practice in writing or editing copy for the college newspaper.
- 261, 262, 263 CRITICAL INTRODUCTION TO LITERATURE 2 credits each**
Prerequisite: English 100 or equivalent; intended primarily for majors and minors. Form and function, meaning and value in fiction, drama, poetry.

* Not more than six credits in staff courses may be counted toward the English major.

- 281, 282, 283 WESTERN WORLD LITERATURE 3 credits each
Readings 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 credits
Prerequisite: English 202 or permission of department. Opportunity for writing on a mature level looking toward publication.
- 303 CREATIVE WRITING 3 credits
Prerequisite: English 202 or permission of department. Opportunity for disciplined expression in poetry and/or fiction.
- 311, 312, 313 ADVANCED NEWSPAPER STAFF* 2 credits each
Prerequisite: English 211, 212, 213 or permission of instructor. Practice in advanced assignments in writing or editing copy for the college newspaper.
- 321, 322, 323 ENGLISH LITERATURE TO 1780 5 credits each
Historical and critical survey of English literature, with emphasis upon the greater poets and non-fiction prose writers: Anglo-Saxon, medieval, and early Renaissance; Elizabethan and early seventeenth century; Restoration and eighteenth century.
- 324, 325, 326 ENGLISH LITERATURE SINCE 1780 5 credits each
The greater romantic, Victorian, and modern writers.
- 331, 332, 333 AMERICAN LITERATURE 3 credits each
An historical and critical survey of American literature, with emphasis upon the greater poets and non-fiction prose writers: 1800-1860; 1860-1900; since 1900.
- 341 CHAUCER 3 credits
Chaucer's language and poetry, with emphasis upon The Canterbury Tales.
- 343 SHAKESPEARE 5 credits
A survey of the principal plays. Also offered as Speech 320.
- 349 MAJOR ENGLISH WRITERS 2 credits each
Different writers of eminence will be treated from year to year in this series.
In 1964-65: 349c Milton, 349d Arnold
- 359 MAJOR AMERICAN WRITERS 2 credits each
Different writers of eminence will be treated from year to year in this series.
In 1964-65: 359a Twain, 359d Eliot
- 399a,b,c HONORS TUTORIAL 2 to 5 credits each
- 403 SENIOR WRITING WORKSHOP 1 to 5 credits
Prerequisite: English 302 or 303 or permission of instructor. Individual writing projects.
In 1964-65: 403a The Magazine Article 3 credits
- 410 ADVISING THE SCHOOL NEWSPAPER 3 credits
Prerequisite: English 210. Preparation of the secondary school newspaper; principles and techniques of journalism with emphasis upon responsible reporting and writing; planning and staffing; duplicated and printed papers.
- 440 PERIOD STUDIES 2 to 5 credits
Since different literary periods and movements will be treated from year to year in this series, the course may be taken more than once for credit.
- 443 STUDIES IN SHAKESPEARE 3 credits
Prerequisite: English 343. Seminar in selected plays. Also offered as Speech 420.
- 460 STUDIES IN FORM AND TEMPER 2 to 5 credits
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. The course may therefore be taken more than once for credit.
In 1964-1965: 460a Comedy

*Not more than six credits in staff courses may be counted toward the English major.

- 461, 462, 463 DEVELOPMENT OF ENGLISH DRAMA 3 credits 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 credits each**
Historical and critical survey of the English novel, with emphasis upon the greater writers: from the beginnings through the eighteenth century; romantic and Victorian; late nineteenth and early twentieth centuries.
- 470 CONTEMPORARY POETRY 3 credits**
Prerequisite: English 326 and 333 or permission of instructor. Selected representative English and American poets of stature.
- 473 MODERN AMERICAN DRAMA 3 credits**
The American theater beginning with O'Neill and concluding with World War II.
- 474, 475, 476 DEVELOPMENT OF THE AMERICAN NOVEL 2 credits each**
Historical and critical survey of the American novel, with emphasis upon the greater writers: from the beginnings to the Civil War; the later nineteenth century; the twentieth century to World War II.
- 477 THE CONTEMPORARY NOVEL 3 credits**
The English and American novel since World War II.
- 480 INTRODUCTION TO ORIENTAL LITERATURE 5 credits**
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 credits**
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 credits**
Also offered as Philosophy 483 and Sociology 483.
- 487 HISTORY OF LITERARY CRITICISM 5 credits**
Prerequisite: fifteen credits in literature or permission of the instructor. The theory of literature: analysis of critical principles and problems from ancient to modern times.
- 488 MODERN LITERARY CRITICISM 3 credits**
Prerequisite: English 487. Tendencies in recent and contemporary criticism with emphasis upon the work of English and American critics of distinction.
- 490 THE STRUCTURE OF ENGLISH 3 credits**
The traditional and "new" grammars as descriptions of modern American English.
- 491 HISTORY OF THE ENGLISH LANGUAGE 3 credits**
The development of the English language: morphology, syntactical relationships, semantics.
- 495 ENGLISH FOR THE ELEMENTARY SCHOOL 3 credits**
Teaching the language arts, reading, writing, speaking, and listening; formal and informal methods; textbooks and materials.
- 496 GRAMMAR AND COMPOSITION FOR THE SECONDARY SCHOOL 3 credits**
Prerequisite: English 490 or permission of instructor. Motivating and evaluating composition at junior and senior high school levels, incorporating grammar in the writing program, and recent research in linguistics.
- 497 LITERATURE FOR THE SECONDARY SCHOOL 2 credits**
Methods appropriate to the formal English class and to the integrated core approach in senior and junior high school.
- 498 WORKSHOP IN THE TEACHING OF ENGLISH 5 credits**
498a Methods of Inquiry in Language, Literature, and Composition (Summer, 1964).
- 499 a, b, c HONORS TUTORIAL 2 to 5 credits each**

Graduate Courses

Registration in the following courses requires departmental approval. An adequate background (normally an undergraduate major or minor in English) and the ability to do independent work are prerequisites. Attention will ordinarily be given a limited topic: one or two writers, selected works, a single form. A representative group of topics will be available each year.

- 503 **WRITING SEMINAR** 1 to 3 credits
Prerequisite: English 302 or 303 or equivalent.
- 521 **SEMINAR IN MEDIEVAL LITERATURE** 3 credits
- 522 **SEMINAR IN SIXTEENTH-SEVENTEENTH CENTURY LITERATURE** 3 credits
- 523 **SEMINAR IN EIGHTEENTH CENTURY LITERATURE** 3 credits
523a Defoe, Fielding, and Sterne
- 524 **SEMINAR IN ROMANTIC LITERATURE** 3 credits
- 525 **SEMINAR IN VICTORIAN LITERATURE** 3 credits
- 526 **SEMINAR IN CONTEMPORARY LITERATURE** 3 credits
526b The Irish Playwrights
- 531 **SEMINAR IN AMERICAN LITERATURE: 1800-1860** 3 credits
531b Whitman
- 532 **SEMINAR IN AMERICAN LITERATURE: 1860-1920** 3 credits
- 543 **SEMINAR IN SHAKESPEARE** 3 credits
Prerequisites: English 343 or equivalent.
- 560 **SEMINAR IN A LITERARY FORM** 3 credits
- 587 **SEMINAR IN LITERARY CRITICISM** 3 credits
Prerequisite: English 487 or equivalent.
- 589 **DIRECTED INDIVIDUAL STUDY** 1 to 3 credits
Research on topics not included in formal courses.
- 590 **STRUCTURAL LINGUISTICS** 3 credits
Prerequisite: English 490 or equivalent.
- 591 **STUDIES IN THE DEVELOPMENT OF THE ENGLISH LANGUAGE** 3 credits
The changes in phonology, morphology, syntax, and vocabulary from Old English to Shakespeare with selective readings in the original writings of each period.
- 595 **BIBLIOGRAPHY AND METHODS OF GRADUATE STUDY IN ENGLISH** 2 credits
To be taken as soon as possible after the student's admission to graduate degree status.
- 598 **RESEARCH IN THE TEACHING OF ENGLISH** 1 to 3 credits
Prerequisite: teaching experience.
- 599 **THESIS** 5 to 9 credits
Prerequisite: English 595. Credit for the individual project is to be determined by the Department.

DEPARTMENT of FOREIGN LANGUAGES
FACULTY

Associate Professor: King

Assistant Professors: Bouniol, Moerschner, Robinson, Seigneuret, Young

Instructors: Adam, Ball, Elbaz, Elmendorf, Milicic, Shiebert

Lecturers: Fober, Mairenc

CONCENTRATIONS
Teacher Education

(Students majoring in one foreign language may elect a minor in a second language.)

MAJOR (elementary) 45 credits

Offered in French, German, Russian, or Spanish

A. For students who begin their study of the language at the college level.

Required courses: 101, 102, 103, 201, 202, 203, 210, 211 in a given language.

Seventeen additional credits selected under advisement.

Foreign Language Education 432 is a recommended elective.

B. For students with two years of high school credit in the language.

Required courses for majors in French, German, or Spanish: 201, 202, 203, 210, 211, 310, 311, 312

Required courses for majors in Russian: 201, 202, 203, 210, 211

Foreign Language Education 432

Twenty-three additional credits (29 credits in Russian) selected under advisement.

C. For students with three years of high school credit in the language.

Required courses: 210, 211, 310, 311, 312

Foreign Language Education 432

Thirty-two additional upper division credits selected under advisement.

Elementary teachers electing the alternate program (see page 35) should complete at least 28 quarter hours of the major under department advisement.

MAJOR (secondary) 45 credits

Offered in French, German, Latin, Russian, or Spanish.

A. 45 credits in one language if begun at the college level.

Required courses: 201, 202, 203, 210, 211 and 17 credits in upper division courses in the language selected. Students majoring in French, German, or Spanish will include courses 310, 311, 312 and one 400 numbered literature course.

Foreign Language Education 432 or 433 recommended as an elective.

B. For students with two or more years in high school French, German, Latin, Russian, or Spanish:

40 credits in the language studied in high school (including 310, 311, and 312 in French, German, or Spanish) plus Foreign Language Education 432 or 433.

MINOR 24 credits

Courses in one language to be selected under departmental advisement.

Arts and Sciences

MAJOR 45 to 60 credits, plus Supporting Courses

45 credits beyond the first year in one modern foreign language, or a classics major to consist of 30 credits in Greek and 30 credits beyond the first year in Latin. For majors in French, German, or Spanish: 310, 311, 312 and one 400 numbered course required.

Supporting Courses: additional courses appropriate to each language, selected under advisement; one year of college Latin strongly recommended for students majoring in French or Spanish.

MINOR 24 credits in one foreign language

Include, in the case of French, German, or Russian: 320 or 330; in Spanish: 330A or 330B

Departmental Honors

In addition to the general requirements for all Honors students (see page 107) 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 LANGUAGE EDUCATION

432 METHODS AND MATERIALS FOR THE TEACHING OF MODERN FOREIGN LANGUAGES 3 credits

Prerequisite: nine credits of one modern foreign language beyond the second year.

433 METHODS AND MATERIALS FOR THE TEACHING OF LATIN 3 credits

Prerequisite: eight credits beyond Latin 203. Practice with tapes and other teaching aids; appraisal of textbooks; reports and projects.

COURSES IN FRENCH

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

100S FUNDAMENTALS OF THE FRENCH LANGUAGE 3 to 5 credits

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 credits each

Fundamentals of the French language: pronunciation, grammar, aural comprehension, reading, and speaking.

201, 202, 203 SECOND YEAR FRENCH 3 credits each

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

210, 211 SECOND YEAR CONVERSATION AND COMPOSITION 2 credits each

Prerequisites: French 103, or two years of high school French, or equivalent; French 210 prerequisite to 211. Speaking, understanding and writing French. French 210 should be taken concurrently with French 201, 211 with 202.

- 301 INTRODUCTION TO NINETEENTH CENTURY FRENCH LITERATURE 3 credits
Prerequisites: French 320 or permission of department. Major works and movements.
- 302 INTRODUCTION TO EIGHTEENTH CENTURY FRENCH LITERATURE 3 credits
Prerequisites: French 320 or permission of department. The Age of Enlightenment represented in various genres.
- 303 INTRODUCTION TO SEVENTEENTH CENTURY FRENCH LITERATURE 3 credits
Prerequisites: French 320 or permission of department. The classical period represented in various genres.
- 310, 311, 312 THIRD YEAR COMPOSITION AND CONVERSATION 2 credits each
Prerequisites: French 211, or the equivalent; each course prerequisite to the next. Written and oral composition and vocabulary building, *explication de texte*.
- 320 INTRODUCTION TO FRENCH LITERATURE 3 credits
Prerequisite: nine credits in second year French or equivalent. Selected works of major French authors, with emphasis on reading improvement and methods of textual interpretation.
- 330 CIVILIZATION OF FRANCE 3 credits
Prerequisite: nine credits in second year French or equivalent. Significant elements of French civilization presented through French texts.
- 340 THE FRENCH NOVEL 3 credits
Prerequisite: French 203, or the equivalent. Interpretations and discussion of selected readings.
- 341 FRENCH DRAMA 3 credits
Prerequisite: French 203 or the equivalent. Interpretation and discussion of selected readings.
- 342 FRENCH POETRY 3 credits
Prerequisite: French 203, or the equivalent. Interpretations and discussion of selected readings.
- 367 FRENCH LITERATURE IN TRANSLATION 3 credits
Selected major works in French literature read and discussed in English. Not applicable to a major or minor in French.
- 396 a, b, c HONORS TUTORIAL 2 to 5 credits
- 401 SURVEY OF MEDIEVAL FRENCH LITERATURE 3 credits
Prerequisite: nine credits in upper division French. Masterpieces of the Middle Ages.
- 402 SURVEY OF FRENCH RENAISSANCE LITERATURE 3 credits
Prerequisite: nine credits in upper division French. Masterpieces of the sixteenth century.
- 403 SURVEY OF CONTEMPORARY FRENCH LITERATURE 3 credits
Prerequisite: nine credits in upper division French. Masterpieces of the twentieth century.
- 410 PHONETICS 3 credits
Prerequisites: French 210, 211, 310, 311. Phonetic transcription and intensive oral practice to attain a mastery of good pronunciation.
- 411 COURS DE STYLE 2 credits
Prerequisite: French 312 or permission of instructor. Advanced conversation and intensive training in *dissertation littéraire*.
- 450 STUDIES IN FRENCH LITERATURE 3 credits
Prerequisite: nine credits in upper division French or equivalent, and permission of department. Major authors and movements; since topics vary the course may be taken more than once for credit.
- 496 a, b, c HONORS TUTORIAL 2 to 5 credits each

COURSES IN GERMAN

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

- 1005 FUNDAMENTALS OF THE GERMAN LANGUAGE 3 to 5 credits**
Prerequisite: some background experience in German; not open to students with the equivalent of fundamentals, 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 credits each**
Fundamentals of the language: pronunciation, grammar, aural comprehension, reading and speaking.
- 201, 202, 203 SECOND YEAR GERMAN 3 credits each**
Prerequisites: German 103, or two years of high school German, or the equivalent. Review of fundamentals, reading, aural comprehension, and speaking.
- 210, 211 SECOND YEAR CONVERSATION AND COMPOSITION 2 credits each**
Prerequisites: German 103, or two years of high school German, or equivalent; German 210 is prerequisite to 211. Speaking, understanding, and writing German. German 210 should be taken concurrently with German 201; 211 with 202.
- 301 NINETEENTH CENTURY GERMAN LITERATURE I 3 credits**
Prerequisite: German 320 or permission of department. Emphasis on the Romantic Movement.
- 302 NINETEENTH CENTURY GERMAN LITERATURE II 3 credits**
Prerequisite: German 320 or permission of department. Emphasis on realism and naturalism.
- 303 EIGHTEENTH CENTURY GERMAN LITERATURE 3 credits**
Prerequisite: German 320 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 CONVERSATION 2 credits each**
Prerequisite: German 211 or equivalent; each course prerequisite to the next. Written and oral composition and vocabulary building.
- 320 INTRODUCTION TO GERMAN LITERATURE 3 credits**
Prerequisite: nine credits of second year German or the equivalent. Selected literary works of major German authors, with emphasis on reading improvement and methods of textual interpretation.
- 330 CIVILIZATION OF GERMANY 3 credits**
Prerequisite: nine credits of second year German or equivalent. Significant elements of German civilization, presented through German texts.
- 340 THE GERMAN NOVELLA 3 credits**
Prerequisite: German 203, or the equivalent. Interpretation and discussion of selected readings.
- 341 THE GERMAN DRAMA 3 credits**
Prerequisite: German 203 or the equivalent. Interpretation and discussion of selected readings.
- 342 GERMAN POETRY 3 credits**
Prerequisite: German 203 or the equivalent. Interpretation and discussion of selected readings.
- 367 STUDIES IN GERMAN LITERATURE IN TRANSLATION 3 credits**
Selections from eminent German authors read and discussed in English. Not applicable to a major or minor.

- 396 a, b, c HONORS TUTORIAL 2 to 5 credits each
- 401 EARLY GERMAN LITERATURE 3 credits
Prerequisite: nine credits in upper division German. Monuments of literature from pagon times through the development of New High German.
- 402 GERMAN LITERATURE FROM THE SEVENTEENTH CENTURY THROUGH THE ENLIGHTENMENT 3 credits
Prerequisite: nine 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 credits
Prerequisite: nine credits in upper division German. Selections reflecting the development of recent German literature.
- 450 STUDIES IN GERMAN LITERATURE 3 credits
Prerequisite: nine credits in upper division German, or equivalent, and permission of department. Major authors and movements. Since topics may vary, the course may be taken more than once for credit.
- 496 a, b, c HONORS TUTORIAL 2 to 5 credits each

COURSES IN GREEK

All students enrolling for the first time in Greek at this College and having previous knowledge of this language, however acquired, must take a Greek placement test prior to registration. In some cases student's may be granted advanced placement credit.

- 101, 102, 103 FIRST YEAR GREEK 5 credits 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 credits 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 credits
The nature of mythical thought, its development among the Greeks, and its influence on Western literature; selected readings in English. Not applicable to a classics major or minor.
- 367 GREEK LITERATURE IN TRANSLATION 3 credits
Selected readings from epic, lyric, drama, history, and oratory and their influence on Western literature. Not applicable to a classics major or minor.

COURSES IN LATIN

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

- 1005 FUNDAMENTALS OF THE LATIN LANGUAGE 3 credits
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 credits 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 credits 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 credits**
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 credits**
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 credits**
Prerequisite: Latin 203 or equivalent. Selected readings with emphasis on the Stoics and Epicureans.
- 304 POST-CLASSICAL LATIN 3 credits**
Prerequisite: Latin 203 or equivalent. Selected prose and poetry from the post-classical period.
- 305 SILVER LATIN LITERATURE 3 credits**
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 credits**
Prerequisite: Latin 203 or equivalent. Readings from Sallust, Livy, Tacitus, and Cicero's orations.
- 310 LATIN COMPOSITION 2 to 3 credits**
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 credits**
The principles governing the formation of English words derived from Latin and Greek. (No knowledge of these languages is required.) Not applicable to a major or minor.
- 396 a, b, c HONORS TUTORIAL 2 to 5 credits each**

COURSES IN RUSSIAN

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

- 101, 102, 103 FIRST YEAR RUSSIAN 5 credits each**
Fundamentals of the language; pronunciation, grammar, aural comprehension, reading and speaking.
- 201, 202, 203 SECOND YEAR RUSSIAN 3 credits each**
Prerequisite: Russian 103 or two years of high school Russian, or equivalent; Review of fundamentals, reading, aural comprehension, and speaking.
- 210, 211 SECOND YEAR CONVERSATION AND COMPOSITION 2 credits each**
Prerequisite: Russian 103 or two years of high school Russian, or equivalent; Russian 210 is prerequisite to 211. Speaking, understanding and writing Russian. Russian 210 should be taken concurrently with 201; 211 with 202.
- 301 NINETEENTH CENTURY LITERATURE I 3 credits**
Prerequisite: nine credits of second year Russian, or equivalent. An introduction to Pushkin, Lermontov, Gogol, and Turgenev.

- 302 NINETEENTH CENTURY LITERATURE II 3 credits
Prerequisite: nine credits of second year Russian, or equivalent. An introduction to Dostoevski, Tolstoy, and Chekhov.
- 303 TWENTIETH CENTURY LITERATURE 3 credits
Prerequisite: nine credits of second year Russian, or equivalent. The Symbolists, Acmeists, and Futurists; Russian formalism; Soviet Russian literature; versification.
- 320 INTRODUCTION TO RUSSIAN LITERATURE 3 credits
Prerequisite: nine credits of second year Russian or equivalent. Selected works of major Russian authors, with emphasis on reading improvement and methods of textual interpretation.
- 330 CIVILIZATION OF RUSSIA 3 credits
Prerequisite: nine credits or the equivalent in Russian. Significant elements of Russian civilization presented through Russian texts.
- 367 RUSSIAN LITERATURE IN TRANSLATION 3 credits
Selections from eminent Russian authors read and discussed in English. Not applicable to a major or minor in Russian.
- 396 a, b, c HONORS TUTORIAL 2 to 5 credits each
- 400 SPECIAL STUDIES 3 credits
Prerequisite: nine credits in upper division Russian and permission of department.
- 470 STRUCTURE OF RUSSIAN I 2 credits
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 credits
Prerequisite: Russian 470 or permission of the instructor. Morphology of the verb.
- 472 STRUCTURE OF RUSSIAN III 2 credits
Prerequisite: Russian 470 or permission of instructor. Morphology of the noun.
- 496 a, b, c HONORS TUTORIAL 2 to 5 credits each

COURSES IN SPANISH

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

- 100S FUNDAMENTALS OF THE SPANISH LANGUAGE 3 to 5 credits
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 credits each
Fundamentals of the language; pronunciation, grammar, aural comprehension, reading and speaking.
- 201, 202, 203 SECOND YEAR SPANISH 3 credits each
Prerequisite: Spanish 103 or two years of high school Spanish or the equivalent. Review of fundamentals, reading, aural comprehension, and speaking.
- 210, 211 SECOND YEAR CONVERSATION AND COMPOSITION 2 credits each
Prerequisite: Spanish 103 or two years of high school Spanish, or the equivalent; Spanish 210 prerequisite to 211. Speaking, understanding and writing Spanish. Spanish 210 should be taken concurrently with Spanish 201; 211 with 202.
- 301 INTRODUCTION TO SPANISH LITERATURE 3 credits
Prerequisite: nine credits of second year Spanish, or equivalent. Selected masterpieces of Spanish prose and poetry.

- 302 **NINETEENTH CENTURY SPANISH LITERATURE 3 credits**
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 credits**
Prerequisite: Spanish 301, 330A, or permission of department. Novels, drama, essays of Baroja, Valle-Inclán, Azorín, Unamuno, Ortega y Gasset, and Benavente.
- 304 **INTRODUCTION TO SPANISH-AMERICAN LITERATURE 3 credits**
Prerequisite: nine credits of second year Spanish or equivalent. Prose and poetry from the Colonial period to the present studied in an historical and sociological framework.
- 305 **THE SPANISH-AMERICAN NOVEL 3 credits**
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 credits**
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 COMPOSITION 2 credits 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 credits**
Prerequisite: nine credits of second year Spanish or equivalent. Significant elements of Spanish civilization presented through Spanish texts.
- 330B **CIVILIZATION OF SPANISH AMERICA 3 credits**
Prerequisite: nine credits of second year Spanish or equivalent. Significant elements of Spanish-American civilization presented through Spanish texts.
- 340 **READINGS IN CONTEMPORARY SPANISH DRAMA 3 credits**
Prerequisite: Spanish 203 or the equivalent. Interpretation and discussion of selected readings.
- 341 **THE CONTEMPORARY SPANISH NOVEL 3 credits**
Prerequisite: Spanish 203 or the equivalent. Interpretation and discussion of selected readings.
- 342 **SPANISH POETRY 3 credits**
Prerequisite: Spanish 203 or the equivalent. Interpretation and discussion of selected readings.
- 367 **SPANISH AND SPANISH-AMERICAN LITERATURE IN TRANSLATION 3 credits**
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.
- 396 a, b, c **HONORS TUTORIAL 2 to 5 credits**
- 401 **SURVEY OF SPANISH LITERATURE FROM 1492-1554 3 credits**
Prerequisite: nine credits in upper division Spanish or equivalent. Selections from the chief works of the Renaissance.
- 402 **SURVEY OF SPANISH LITERATURE FROM 1554-1681 3 credits**
Prerequisite: nine credits in upper division Spanish or equivalent; the literature of the Baroque period and some masterpieces of the Golden Age.
- 403 **THE GOLDEN AGE OF DRAMA 3 credits**
Prerequisite: nine credits in upper division Spanish or equivalent. Masterpieces of Golden Age drama from Lope de Vega to Calderón.
- 450 **STUDIES IN SPANISH LITERATURE 3 credits**
Prerequisite: nine credits in upper division Spanish and permission of department. Major authors and movements. Since topics vary the course may be taken more than once for credit.

INTERDEPARTMENTAL OFFERINGS in

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 31.

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.

A number of courses are given as departmental offerings:

Biology 101 or 104	Mathematics 151
Chemistry 101	Physical Education activities
English 100, 101	Physics 101
Geography 101	Speech 100
Geology 101	

See the respective departmental sections of the Catalogue for descriptions.

Those which are interdepartmental and designated by General Education course numbers follow:

- 101 MATTER AND ENERGY**, discontinued and replaced by Chemistry 101 or Physics 101.
- 102 EARTH SCIENCE**, discontinued and replaced by Geography 101 or Geology 101.
- 105 BEHAVIORAL SCIENCE 4 credits**
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 credits 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, discussions, readings.
- 121 The Ancient and Medieval World; the Near East, Greece, Rome, Medieval and Renaissance Europe.
- 122 The Early Modern World; the Reformation, the Age of Reason, the Enlightenment, Revolutions, and early Romanticism.
- 123 The Modern Period; the 19th and 20th centuries; Romanticism, Liberalism, Nationalism, and the Technological Revolution.
- 200 AN INTRODUCTION TO ECONOMIC AND POLITICAL INSTITUTIONS 4 credits**
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 credits**
Prerequisite: 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
(See page 155)

DEPARTMENT of **GEOGRAPHY**

FACULTY

Professor: Critchfield (Chairman)

Associate Professors: Miller, Monahan

Assistant Professors: Kariel, Mookherjee

Lecturer: Young

CONCENTRATIONS

Teacher Education

MAJOR (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 quarter hours of the above under advisement.

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.

MINOR (secondary) 20 credits

Geography 201, 207, 470

Electives under advisement

Arts & Sciences

The program of the undergraduate major or minor in geography should include fundamental courses in both the natural sciences and the social studies. The department will recommend supporting courses related to the student's career objectives. The student contemplating graduate work toward the Ph.D degree is advised to acquire a reading knowledge of a foreign language and competence in statistics during his undergraduate years. Departmental advisers should be consulted at an early date for assistance in program planning.

Concentrations in 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.

MINOR 25 credits

Geography 100 or 201

Electives under advisement

Concentrations in 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 481 or 490)

Economics 200 (or 201)

Mathematics 240

Political Science 253, 420 (or Geography 421), and 421

Sociology 366, 413

Electives under advisement from Geography 353, 452, 453; Biology 447; Economics 202, 408, 410; Industrial Arts 240; Mathematics 270; Sociology 431, 441

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 107) a geography major who wishes to graduate "with honors" must complete:

5 credits from Geography 480, 481, 490

15 credits in a foreign language

Satisfactory performance on an oral examination in geography

Graduate Study

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

COURSES

- 100 WORLD REGIONAL GEOGRAPHY 5 credits**
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 credits**
Principles and techniques in the analysis of areal distributions in the natural environment; landforms, hydrography, climate, soils, and vegetation.
- 201 HUMAN GEOGRAPHY 3 credits**
Interrelations of man and his natural environment, emphasizing cultural influences on world geographic patterns.
- 207 ECONOMIC GEOGRAPHY 5 credits**
World resources, industries, commodities, and commerce.
- 251 MAP READING AND ANALYSIS 2 credits**
Construction of maps and charts based on sources in the natural and social sciences.
- 311 GEOGRAPHY OF ANGLO-AMERICA 5 credits**
Prerequisite: General Education 102 or three credits in geography. Physical environments, resources, settlement and economies of Canada and the United States.
- 313 GEOGRAPHY OF CARIBBEAN AMERICA 3 credits**
Prerequisite: General Education 102 or three 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 credits**
Prerequisite: General Education 102 or three credits in geography. South American nations, emphasizing their cultural backgrounds, natural environment, economic activities and regional differences, the increasing importance of South America in the economy of the United States.
- 315 GEOGRAPHY OF ASIA 5 credits**
Prerequisite: General Education 102 or three credits in geography. Asia's settlement, population, economic resources and activities, and associated problems.
- 316 GEOGRAPHY OF EUROPE 5 credits**
Prerequisite: General Education 102 or three credits in geography. Economic, political, and cultural problems of Europe treated regionally.
- 318 GEOGRAPHY OF THE PACIFIC 3 credits**
Prerequisite: General Education 102 or three credits in geography. Physical environment, resources, and settlement of the Pacific Islands, Australia, and New Zealand.
- 319 GEOGRAPHY OF AFRICA 3 credits**
Prerequisite: General Education 102 or three credits in geography. Resources, settlement, peoples, and development of Africa treated regionally.
- 320 GEOGRAPHY OF THE U. S. S. R. 3 credits**
Prerequisite: General Education 102 or three 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 credits**
Prerequisite: General Education 102 or equivalent. Elements of climate, climatic regions, and climate as an environmental factor.
- 333 BIOGEOGRAPHY 3 credits**
Prerequisite: General Education 102 or equivalent. Origin, distribution, and adaptation of plant and animal associations; examination of representative plant and animal forms in relation to their physical environment and to man.

- 341 URBAN GEOGRAPHY 3 credits**
Prerequisite: General Education 102 or Geography 201. Geographic relations of the modern city with emphasis upon the development, functions, and problems of American cities.
- 351 CARTOGRAPHY 5 credits**
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 credits**
Reading and interpretation of maps and aerial photos; techniques used to identify geographic features of the landscape; field work.
- 396 a, b, c HONORS TUTORIAL 2 to 5 credits each**
- 400 SPECIAL PROBLEMS IN GEOGRAPHY 2 to 5 credits**
Prerequisite: permission of instructor. Individual projects under supervision.
- 401 GEOGRAPHY OF THE PACIFIC NORTHWEST 3 credits**
Prerequisite: General Education 102 or three credits in geography. Pacific Northwest resources and industries and problems in resource development.
- 415 GEOGRAPHY OF INDIA AND PAKISTAN 3 credits**
Prerequisite: Geography 100 or 201. Natural and cultural regions of India and Pakistan with special reference to the significance of their resources, population, and economic activities in the modern world.
- 421 CONSERVATION OF NATURAL RESOURCES 5 credits**
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 credits**
Prerequisite: General Education 102 or three credits in geography. Principles and practices in water use and water conservation; the distribution of water resources and the problems of water conservation in the United States.
- 423 GEOGRAPHY OF SOILS 3 credits**
Prerequisite: General Education 102 or equivalent. Properties, formation, classification, distribution and management of the world's soils.
- 430 RURAL AND URBAN PLANNING 5 credits**
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 credits**
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 credits**
Prerequisite: Geography 201. Distribution of population density and composition; patterns of migration and settlement in selected world areas.
- 452 ADVANCED CARTOGRAPHY 3 to 5 credits**
Geography 351 and permission of instructor. Advanced problems and laboratory projects in map and chart construction.
- 453 FIELD METHODS IN GEOGRAPHY 3 credits**
Prerequisite: Geography 351 or permission of instructor. Recording, mapping, and analysis of physical and cultural features.
- 454 ANALYSIS OF AREAL DATA 4 credits**
Prerequisite: Mathematics 240. Statistical and cartographic techniques in the solution of geographic problems.
- 460 THE TEACHING OF GEOGRAPHY 3 credits**
Prerequisite: ten credits in geography. Source materials and methods of geographic instruction in the public schools.

- 470 **GEOGRAPHY AND WORLD AFFAIRS 3 credits**
Prerequisite: three 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 credits**
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 credits**
Prerequisite: twenty 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 credits**
Prerequisite: twenty credits in geography. Source materials and techniques of geographic research; selected topics investigated in detail as a basis for written papers.
- 496 a, b, c **HONORS TUTORIAL 2 to 5 credits each**
- 501 **SEMINAR IN HISTORY AND PHILOSOPHY OF GEOGRAPHY 4 credits**
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 credits**
Application of bibliographic, cartographic, statistical, and field techniques in geographic investigation.
- 520 **SEMINAR IN REGIONAL GEOGRAPHY 5 credits**
Methods of regional analysis applied in the detailed study of a world region.
- 521 **SEMINAR IN PHYSICAL GEOGRAPHY 5 credits**
Advanced topics in biogeography, climatology, landforms, or soil geography.
- 522 **SEMINAR IN CULTURAL GEOGRAPHY 5 credits**
Advanced topics in social, economic, historical, or political geography.
- 550 **GEOGRAPHY IN THE SOCIAL SCIENCES 2 credits**
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 credits**
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 credit**
Prerequisite: Geography 460, taken previously or concurrently. Current trends in geographic instruction at all educational levels.
- 560 **PROBLEMS IN SYSTEMATIC GEOGRAPHY 5 credits**
Prerequisite: Geography 510 and 521 or 522. Directed research on a selected topic in physical or cultural geography.

DEPARTMENT of **GEOLOGY**

FACULTY

Associate Professor: Christman (Chairman)
 Assistant Professors: Easterbrook, Ellis, Rass

CONCENTRATIONS

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

Biology 383 or Physical Science 382 (select one in addition to courses taken in elementary concentration).

Electives under advisement from Geology 316, 317, 407, 410, 412, 413, 414; Geography 333, 353, 421, 422, 423; Physics 321, 322.

Elementary teachers electing the alternate program will plan with the department for 28 credits of the above.

MAJOR Earth Science (secondary) 45 credits

Geology 211, 212, 305, 306, 310

Geography 331, 421; Physics 105

Electives from: Geology 316, 317, 319, 400, 407, 410, 412, 413, 414, 430
 Geography 333, 353, 422, 423
 Physics 321, 322

MINOR Geology (secondary) 20 credits

Geology 211

15 credits under advisement of the department

Arts and Sciences

MAJOR 50 credits, plus Supporting Courses

Geology 211, 212, 305, 306, 310, 316, 317, 407

14 credits under advisement from: Geology 300, 319, 399, 400, 410, 416, 418, 423, 424, 425, 430, with no more than 3 credits from Geology 412, 413, 414

Substitutions in biology may be made for paleontology emphasis.

Supporting Courses:

10 credits in chemistry

20 credits under advisement in biology, mathematics, or physics

Additional electives recommended: Chemistry 131, Geography 351, 353, one year of French, German, or Russian

(A general science foundation is essential, and the student should take the supporting courses in chemistry, mathematics, and physics as early as possible.)

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 107) a geology major who wishes to graduate "with honors" must include:

Geology 399

Satisfactory performance on a comprehensive examination in geology

Those graduating after 1965 — 24 credits or a demonstrated reading knowledge of French, German, or Russian.

COURSES IN GEOLOGY

101 GENERAL GEOLOGY 4 credits

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 credits

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 credits

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 to 5 credits

Prerequisite: 10 credits in geology and permission of department. Special projects under supervision.

305 PRINCIPLES OF MINERALOGY 4 credits

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

306 DESCRIPTIVE MINERALOGY 5 credits

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

310 GEOMORPHOLOGY 5 credits

Prerequisites: General Education 102 or Geology 211 or permission of department. Landscape features, the sculpturing of mountains, hills, plains, and plateaus by surface processes.

- 311 **COMMON ROCKS AND MINERALS 4 credits**
Prerequisite: Geology 101 (or Gen Ed 102) or Geology 211, and high school or college chemistry. More detailed work with rocks and minerals than is afforded in General Education 102 or Geology 211; the origin, occurrence, and identification of minerals and rocks.
- 316 **PRINCIPLES OF PALEONTOLOGY 5 credits**
Prerequisites: Geology 212 or permission of department. Life on the earth as revealed by its inhabitants, past and present.
- 317 **STRUCTURAL GEOLOGY 5 credits**
Prerequisite: Geology 211, 212. Description, classification, and interpretation of earth structures; laboratory solution of structural problems by use of geologic maps.
- 319 **ECONOMIC GEOLOGY 3 credits**
Prerequisite: Geology 306. Economic minerals and ore deposits, their genesis and occurrence.
- 384 **EARTH SCIENCE FOR THE ELEMENTARY SCHOOL 3 credits**
Prerequisite: Geol 101 or Geog 101 (or Gen Ed 102). Concepts, experiences, and materials from the earth sciences adaptable to the elementary and junior high school classroom.
- 396 a, b, c **HONORS TUTORIAL 2 to 5 credits each**
- 397 **SUMMER INSTITUTE COURSES, 1964**
- 397a **COMMON MINERALS 3 credits**
Prerequisite: General Education 102 or Geology 211 or equivalent. Principles of mineralogy and identification of rock forming and other common minerals.
- 397b **COMMON ROCKS 3 credits**
Prerequisite: General Education 102 or Geology 211 or equivalent, and some work with minerals. Classification, identification, and origin of common igneous, sedimentary, and metamorphic rocks.
- 397c **ORIGIN OF LANDFORMS 3 credits**
Prerequisite: General Education 102 or Geology 211 or equivalent. Principles of geomorphology with emphasis on the development of landscape features.
- 399 **SEMINAR IN GEOLOGY 1 credit**
Prerequisite: permission of department. Geological reports, papers, and discussion.
- 400 **SPECIAL PROJECTS IN GEOLOGY 2 to 5 credits**
Prerequisite: permission of department. Special projects under supervision.
- 407 **PETROLOGY 3 credits**
Prerequisite: Geology 306. Comprehensive course for geology majors and minors; non-majors should take Geology 311. Origin, occurrence, and classification of igneous, sedimentary, and metamorphic rocks, and hand specimen identification.
- 410 **FIELD GEOLOGY 3 or 5 credits**
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 credits**
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 credits**
Prerequisite: Geology 101 (General Education 102), or Geology 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 credits
Prerequisites: Geology 311 or permission of department. The significant geologic features of Washington State; field studies.
- 416 **STRATIGRAPHY** 5 credits
Prerequisite: Geology 316. Analysis of physical and biological characteristics of stratified rock sequences; principles of correlation, determination of geologic age and facies relationships.
- 418 **OPTICAL MINERALOGY** 5 credits
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** 3 credits
Prerequisite: Geology 407 and 418. Origin, occurrence, and classification of igneous rocks and minerals and use of thin sections in identifying igneous minerals.
- 424 **SEDIMENTARY PETROGRAPHY AND PETROLOGY** 3 credits
Prerequisites: Geology 407 and 418 and preferably Geology 423. Origin, occurrence, and classification of sedimentary rocks and minerals, and use of thin sections in identifying sedimentary minerals.
- 425 **METAMORPHIC PETROGRAPHY AND PETROLOGY** 3 credits
Prerequisites: Geology 407, 418, 423, and preferably 424. Origin, occurrence, and classification of metamorphic rocks and minerals, and use of thin sections in identifying metamorphic minerals.
- 430 **MAP AND AERIAL PHOTOGRAPH INTERPRETATION** 3 credits
Prerequisite: Geology 310. Identification and interpretation of geologic features using topographic maps and aerial photographs.
- 496 a, b, c **HONORS TUTORIAL** 2 to 5 credits each

GERMAN

(See page 82)

GOVERNMENT

(See Political Science, page 145)

GREEK

(See page 83)

HEALTH EDUCATION

(See page 138)

HEALTH SCIENCE

(See page 154)

DEPARTMENT of **HISTORY**

FACULTY

Professor: Murray (Chairman)

Associate Professors: Boylan, Hiller, McAree, Radke, Schuler

Assistant Professors: Horn, Roe, Thomas, Watts

Instructor: Benowitz

CONCENTRATIONS

Teacher Education

MAJOR 45 credits (all levels)

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 399

Additional courses under advisement

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

MINOR 20 credits

History 203-204. Additional courses, including one upper division course, under advisement.

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

History 399

Additional courses under advisement

Supporting Courses: Political Science 251 and one or more basic courses in other fields of the social sciences; 24 credits or the equivalent in one appropriate foreign language.

MINOR 25 credits

History 203-204, with 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 107). He should consult the department chairman regarding special requirements.

Graduate Study

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

COURSES

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, 399, 400, 408, 497, 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 credits 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 credits**
American history from the European background to the end of the Civil War.
- 204 AMERICAN HISTORY SINCE 1865 5 credits**
American history from the end of the Civil War to the present.
- 270 HISTORY OF THE WESTERN HEMISPHERE 5 credits**
Western Hemisphere history from European origins to the present.
- 280 HISTORY OF THE FAR EAST 5 credits**
The Far East from 1500 to the present.
- 336 FRANCE IN THE MODERN WORLD 3 credits**
Leading political, social and intellectual trends in 19th and 20th century French history. Summer only.
- 341 EUROPEAN ECONOMIC HISTORY 5 credits**
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 credits**
Development of the European mind from the seventeenth century to the present.
- 360 AMERICAN ECONOMIC HISTORY 5 credits**
American economic development from colonial times to the present with particular emphasis upon the later periods.
- 367 AMERICAN INTELLECTUAL HISTORY 5 credits**
The development of the American mind from colonial times to the present.
- 385 HISTORY OF AFRICA 5 credits**
African history from the sixteenth century to the present.
- 388 HISTORY OF THE BRITISH EMPIRE 5 credits**
The development of the overseas empire of Great Britain from Elizabethan times to the present.
- 391 HISTORY AND GOVERNMENT OF WASHINGTON 3 credits**
The general history of the Pacific Northwest, state development, samples of local history, and state and local government. This course meets the requirement for state teacher certification.

- 399 HISTORICAL RESEARCH 3 credits**
Introduction to historical research methods; analysis of a particular historical field; an assigned special project.
- 400 SPECIAL PROBLEMS IN HISTORY 1 to 5 credits**
Prerequisite: permission of department.
- 408 WORLD WARS OF THE TWENTIETH CENTURY 5 credits**
A 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 5 credits**
Prerequisite: History 105 or General Education 121. The genesis of Western civilization: our cultural debt to the ancient Mesopotamians, Egyptians, Hittites, Phoenicians, Aramaeans, Hebrews, Assyrians, and Persians.
- 411 GREECE 5 credits**
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 credits**
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 I (395 A. D.) and the division of the Empire.
- 415 WESTERN MEDIEVAL EUROPE 5 credits**
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 5 credits**
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 credits**
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 credits**
Development of the modern state system and the conflict between the monarchs and the growing middle class.
- 426 MODERN EUROPE, 1789-1850 5 credits**
Political, economic, social, and diplomatic developments between the French Revolution and mid-19th century.
- 427 MODERN EUROPE, 1850-1914 5 credits**
From the age of "Realpolitik" to the First World War.
- 428 MODERN EUROPE, 1914-1945 5 credits**
Results of World War I, attempts at world organization, the Succession States of Central Europe, World War II.
- 429 EUROPE SINCE 1945 3 credits**
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 HISTORY OF GERMANY 5 credits**
From the Thirty-years War to the present; the rise of Brandenburg-Prussia and the role of Germany in the international state system.

- 432 HISTORY OF RUSSIA, 1689-1905 3 credits**
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 HISTORY OF RUSSIA, 1905 TO THE PRESENT 5 credits**
Political, social, economic, and diplomatic history with emphasis on the period since the Bolshevik Revolution.
- 434 HISTORY OF RUSSIA SINCE 1917 3 credits Summer only**
- 435 HISTORY OF FRANCE SINCE 1815 5 credits**
Political, social, and economic development of France since Napoleon.
- 436 HISTORY OF ENGLAND, 1485-1688 5 credits**
Political, social, economic, and constitutional history of England from the end of the Wars of the Roses to the Glorious Revolution.
- 437 HISTORY OF ENGLAND, 1688-1815 5 credits**
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 HISTORY OF ENGLAND, 1815-1906 5 credits**
Political, social, economic, and diplomatic history of England from Waterloo to the Liberal government of 1906; the development of parliamentary institutions.
- 439 HISTORY OF ENGLAND SINCE 1906 5 credits**
The role of England in the World Wars of the twentieth century; the impact of these wars on English politics, economics, and society.
- 450 AMERICAN COLONIAL HISTORY 5 credits**
The colonial period from the discovery of America to the end of the Revolution.
- 451 THE EARLY NATIONAL PERIOD 5 credits**
The development of political parties, partisan conflict concerning issues, constitutional adoption and interpretation, and foreign policies of the United States from the Confederation period to 1816.
- 452 THE AGE OF JACKSON 5 credits**
The United States from 1816 through the Mexican War.
- 453 THE CIVIL WAR AND RECONSTRUCTION 5 credits**
The development of rival nationalisms; problems of war in North and South; the efforts toward reunion; the new problems in 1877.
- 454 HISTORY OF THE UNITED STATES 1877-1900 5 credits**
Social, economic, and political development of the American nation after Reconstruction.
- 455 THE PROGRESSIVE MOVEMENT 5 credits**
Economic, social, and political protest in America from the Civil War to 1920; growth and decline of the Progressive Party between 1900 and 1916.
- 457 THE UNITED STATES IN THE TWENTIETH CENTURY 5 credits**
Political, economic, social, and intellectual development in the United States from 1900 to 1945.
- 459 THE UNITED STATES SINCE 1945 3 credits**
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 credits**
The relationship of the United States to world politics from colonial times to the present.
- 463 AMERICAN CONSTITUTIONAL HISTORY 5 credits**
Prerequisite: History 203 or equivalent. Constitutional development from the Revolutionary era to the present.

- 465 **HISTORY OF THE WEST 5 credits**
The Westward Movement from the Allegheny Mountains to the Pacific Ocean with special emphasis upon the Far West.
- 467 **HISTORY OF THE SOUTH 5 credits**
From the development of a distinctive Southern culture in late eighteenth century America to the present.
- 471 **HISTORY OF CANADA 5 credits**
From the period of French colonization to the present.
- 473 **HISTORY OF LATIN AMERICA 5 credits**
From the period of early Spanish and Portuguese colonization to the present.
- 481 **HISTORY OF CHINA 5 credits**
Chinese history from the Ming Dynasty to the present.
- 482 **HISTORY OF INDIA 5 credits**
Modern India in its political, social, economic, and cultural development.
- 483 **ASIA IN THE TWENTIETH CENTURY 3 credits**
Impact of the Western World on the Orient in the light of Asiatic development since 1900.
- 484 **CONTEMPORARY CHINA AND JAPAN 3 credits**
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 credits**
European imperialism in Africa in the late nineteenth and the twentieth century with emphasis on the recent development of African nationalism.
- 487 **HISTORY OF THE NEAR EAST 5 credits**
The cultural and historical background of Arab and Turkish lands of North Africa and the Near East; the decline of Islamic influence in early times and its revival in the twentieth century.
- 497 **THE HISTORY OF AMERICAN SCIENCE AND TECHNOLOGY 3 credits**
Major figures in American science and technology from Colonial days to the twentieth century. Summer, 1964, only.
- 501 **HISTORIOGRAPHY 5 credits**
Analysis of historians and historical literature to the 19th century.
- 502 **HISTORIOGRAPHY 5 credits**
A continuation of History 501. Analysis of historians and historical literature of the 19th and 20th centuries.
- 503 **WRITING SEMINAR IN HISTORY 5 credits**
Prerequisites: 36 credits in history or permission of department. Materials and methodology of historical research.
- 504 **WRITING SEMINAR IN HISTORY 5 credits**
Prerequisite: History 503. Continuation of research begun in History 503. Not offered in summers.
- 505 **WRITING SEMINAR IN HISTORY — THESIS 5 credits**
Prerequisite: History 504. Not offered in summers.
- 510 **FIELD COURSE — ANCIENT HISTORY 10 credits**
Prerequisites: 36 credits in history or permission of department. Greece (special prerequisite: an upper division course in Greek history) or Rome (special prerequisite: an upper division course in Roman history).
- 530 **FIELD COURSE — ENGLISH HISTORY 10 credits**
Prerequisites: 36 credits in history or permission of department. Historical literature from English history.
- 540 **FIELD COURSE — MODERN EUROPEAN HISTORY 10 credits**
Prerequisites: 36 credits in history or permission of department. Historical literature from modern European history.

- 550 FIELD COURSE — AMERICAN HISTORY 10 credits**
Prerequisites: 36 credits in history or permission of department. Historical literature from American history.
- 570 FIELD COURSE — WESTERN HEMISPHERE HISTORY 10 credits**
Prerequisites: 36 credits in history, including the corresponding undergraduate course, or permission of department. Historical literature from Canadian or Latin American history. The corresponding undergraduate course may be taken concurrently with the first quarter of the field course.
- 580 FIELD COURSE — AFRO-ASIAN HISTORY 10 credits**
Prerequisites: 36 credits in history or permission of department. Historical literature from African or Asian history.

DEPARTMENT of HOME ECONOMICS

FACULTY

Associate Professor: Ramsland (Chairman)

Assistant Professor: Larrabee

Instructors: Nielsen, Lena

CONCENTRATIONS

Teacher Education

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

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 260, 261; Economics 201

Students anticipating vocational certification should include Chemistry 125, 251

MINOR (secondary) 20 credits

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

Arts and Sciences

MAJOR 49 credits, plus Supporting Courses

Home Economics 100, 120, 150, 164, 253, 260, 272, 334, 338, 353, 370, 375, 420, 424, 430, and one course from Home Economics 362, 363, 460, or 475

Supporting Courses: Art 260, 261; Economics 201; Sociology 201, 351

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

100 INTRODUCTION TO HOME ECONOMICS 1 credit

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 credits**
Intellectual, physical, social, and emotional development of the pre-school child, with emphasis upon the relationship of the child to the family.
- 150 HUMAN NUTRITION 3 credits**
Basic nutrition principles, the cultural aspects of food and food habits, nutritive needs of people and nutrition education.
- 161 BEGINNING CLOTHING CONSTRUCTION 3 credits**
Prerequisite: Home Economics 164 recommended but not required; not open to those majoring in home economics. Beginning sewing techniques in the construction of clothing.
- 164 TEXTILES FOR THE CONSUMER 3 credits**
Prerequisite or concurrent: Art 260. Fabrics used for clothing and household purposes; sources of textiles and the manufacture, finishes, identification, selection, and care of fabrics.
- 166 CLOTHING SELECTION 2 credits**
Prerequisite: Art 260. Home Economics 164 recommended but not required, not open to those majoring in home economics. The selection of clothing from aesthetic and consumer aspects, wardrobe planning guided by fashion color, design, texture, personality, occasion, and income.
- 250 NUTRITION 2 credits**
Fundamental principles of human nutrition and the study of modern dietary standards as applied to normal conditions of everyday living; nutrition education.
- 252 MEAL PREPARATION (Men) 2 credits**
Basic principles of food preparation and service.
- 253 FOOD PREPARATION PRINCIPLES 3 credits**
Prerequisites: for majors, Home Economics 150; for non-majors, Home Economics 150 or 250. Basic principles of food preparation, including laboratory experience, and demonstration.
- 260 CLOTHING SELECTION AND CONSTRUCTION 5 credits**
Prerequisite: Home Economics 164, Art 260, sophomore status; open to home economics majors or minors only. Selection of clothing from the aesthetic and consumer aspects; wardrobe planning guided by color, design, texture, and personality; new construction techniques and methods.
- 261 INTERMEDIATE CLOTHING CONSTRUCTION 3 credits**
Prerequisite: Home Economics 161; Home Economics 164 recommended but not required; not open to those majoring in home economics. Pattern adaptation principles of fitting, advanced techniques, and manipulation of present-day fabrics stressed in the construction of garments.
- 267 WEAVING 3 credits**
Weaving taught through the use of a variety of looms and materials. Also offered as Industrial Arts 201.
- 272 HOUSEHOLD EQUIPMENT 3 credits**
Modern household equipment: its selection, operation, and care.
- 300 SPECIAL PROBLEMS IN HOME ECONOMICS 1 to 5 credits**
(See Home Economics 400.)
- 334 FAMILY FINANCE 3 credits**
Prerequisites: General Education 105 and Economics 201. Management of family income and expenditures in the changing family cycle.
- 338 CONSUMER ECONOMICS 2 credits**
Prerequisites: General Education 105 and Economics 201. The consumer in the economy; the understanding of his responsibilities and protections.
- 340 DEMONSTRATION TECHNIQUES 2 credits**
Prerequisite: 20 credits in prescribed courses in home economics. Basic demonstration techniques in various areas of home economics.

- 341 HOME ECONOMICS EDUCATION 3 credits
Prerequisite: 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 credits
Prerequisites: Home Economics 150 and 153. Significant problems in human nutrition.
- 353 FAMILY MEAL MANAGEMENT 3 credits
Prerequisites for majors: Home Economics 150 and 253. Managerial, buying, and preparation techniques within the patterns of meal service for the family.
- 362 FAMILY CLOTHING 2 credits
Prerequisite: Home Economics 161 or 260, or permission of instructor. The selection of clothing for the family and the construction of children's garments.
- 363 FLAT PATTERN AND DRAPING 3 credits
Prerequisite: Home Economics 161 or 260 or 261. Laboratory course work with basic theory and principles of pattern making and draping technique.
- 365 NEW FABRICS AND FINISHES 2 credits
Prerequisite: Home Economics 164 recommended but not required. Chemical and physical properties, special finishing processes, identification, selection, use, and care of the newer fabrics. Summer only.
- 368 HISTORY OF COSTUME 3 credits
Prerequisite: Art 260. From the Egyptian period to the present day, emphasizing influence on modern fashions.
- 370 THE HOUSE: ITS PLANNING AND ARCHITECTURE 5 credits
Prerequisite: Art 261. The history of architecture and housing problems; planning in terms of construction, space, equipment, and family cycle.
- 375 HOME FURNISHINGS 5 credits
Prerequisite: Art 261; Home Economics 164 recommended but not required. Principles of design in relation to the selection and arrangement of home furnishings.
- 400 SPECIAL PROBLEMS IN HOME ECONOMICS 1 to 5 credits
Prerequisite: permission of department chairman. Advanced students who have a creditable record in home economics may work on a special problem by conference arrangement.
- 410 SEMINAR IN HOME ECONOMICS 1 to 5 credits
Prerequisites: 36 credits in home economics and permission of the 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 credits
Prerequisites: Educational Psychology 355; additional prerequisite for majors: Home Economics 120. Child development for pre-natal through pre-school years; family guidance; the teaching of child development in the home economics curriculum. Observation of children and participation in the laboratory.
- 424 FAMILY RELATIONSHIP 3 credits
Prerequisites: General Education 105, Home Economics 120 and 420, and Sociology 351 recommended but not required. Fundamental principles and attitudes which underlie satisfactory family life and the adjustment to personal, economic, and social problems which concern the family; the teaching of family life education.
- 430 HOME MANAGEMENT 2 credits
Prerequisites: junior standing, General Education 105 or equivalent. Philosophy and theory of management and decision-making in the family.
- 432 HOME MANAGEMENT RESIDENCE 3 credits
Prerequisites: General Education 105, Home Economics 353, 430. Application of the concepts and principles of home management to group and home living.

- 441 HOME ECONOMICS EDUCATION 2 credits**
Prerequisites: 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 credits**
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 credits**
Prerequisites: Home Economics 153, Chemistry 125 or 251. Application of scientific principles and experimental procedure to the food processes.
- 460 TAILORING 3 credits**
Prerequisite: Home Economics 260 or 261; Home Economics 164 recommended but not required. Laboratory work in modern tailoring techniques applied to the construction of garments.
- 469 SPECIAL PROBLEMS IN CLOTHING CONSTRUCTION 3 credits**
Prerequisite: Home Economics 161 or 260. Construction and fitting problems, designer patterns, and tailoring techniques; new methods in the teaching of clothing construction and the use of sewing machines. Summer only.
- 475 ADVANCED HOME FURNISHINGS 3 credits**
Prerequisites: Home Economics 164 and 375. Traditional and contemporary furniture and furnishings with emphasis on fabrics, wall covering, floor coverings, accessories, color, and arrangement.
- 476 SURVEY OF CONTEMPORARY DESIGN IN HOME FURNISHINGS 2 credits**
Prerequisite: Home Economics 375. American, European, and Oriental influences on contemporary design in home furnishings with attention to new developments in materials, fabrics, and finishes used in decorative and useful objects.
- 497 FITNESS FOR WORK AND LEISURE 2 credits**
A workshop in the relationship of daily living in contemporary society to fitness designed for personal use or as teaching materials. Summer 1964, only.
- 500 SPECIAL PROBLEMS IN HOME ECONOMICS 1 to 5 credits**
(See Home Economics 400.)

INTERDEPARTMENTAL COURSES in **HONORS**

These courses are restricted to students who are enrolled in the Honors Program (see page 39).

In order to graduate "with honors," a student must:

- a. be recommended by the Honors Board
- b. have completed at least six quarters of Honors work
- c. have completed at least 20 credits of Honors courses, 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, Psychology, Sociology-Anthropology.

- 151a,b,c TUTORIAL 2 credits each
- 161 SCIENCE COLLOQUIUM I 2 credits
- 162 HUMANITIES COLLOQUIUM I 2 credits
- 163 SOCIAL SCIENCE COLLOQUIUM I 2 credits
- 251a,b,c TUTORIAL 2 credits each
- 261 SCIENCE COLLOQUIUM II 2 credits
- 262 HUMANITIES COLLOQUIUM II 2 credits
- 263 SOCIAL SCIENCE COLLOQUIUM II 2 credits
- 290 SUMMER READINGS I 2 credits
- 300 INDEPENDENT STUDY Variable credit
- 361 SCIENCE COLLOQUIUM III 2 credits
- 362 HUMANITIES COLLOQUIUM III 2 credits
- 363 SOCIAL SCIENCE COLLOQUIUM III 2 credits
- 390 SUMMER READINGS II 2 credits
- 400 INDEPENDENT STUDY Variable credit
- 461 SCIENCE COLLOQUIUM IV 2 credits
- 462 HUMANITIES COLLOQUIUM IV 2 credits
- 463 SOCIAL SCIENCE COLLOQUIUM IV 2 credits
- 490 SUMMER READINGS III 2 credits

DEPARTMENT of **INDUSTRIAL ARTS**

FACULTY

Professors: Atteberry (Chairman), Schwalm

Associate Professors: Channer, Rice

Assistant Professors: Olsen, Porter

Instructor: Schleusener

CONCENTRATIONS

Teacher Education

MAJOR (secondary) 45 credits

Industrial Arts 101, 102, 103, 491, 493

Choice of 30 credits under departmental advisement divided as follows:

20 credits in one technology and 10 in a second

or

15 credits in two technologies

or

10 credits in each technology

A. Graphics Technology

B. Mechanical and Electrical Technology

C. Materials and Process Technology

MINOR 25 credits

Industrial Arts 101, 102, 103, 493

Thirteen credits selected under departmental advisement

Arts and Sciences

MAJOR 65 credits

Industrial Arts 210, 233, 240, 270, 280, 310, 360

Choice of one of the following plans:

40 credits in one area

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

A. Graphic Technology

B. Mechanical and Electrical Technology

C. Materials and Processes Technology

D. Industrial Design

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

- 101, 102, 103 **INTRODUCTION TO INDUSTRIAL ARTS TECHNOLOGY 3 credits**
The problems, human and mechanical, related to scientific principles and knowledge, and their significance in the industrial complex and culture.
101 — Graphics Technology
102 — Mechanical and Electrical Technology
103 — Materials and Processes Technology
- 201 **WEAVING DESIGN 3 credits**
Weaving design taught through the use of a variety of looms and materials.
- 210 **ENGINEERING DRAWING 3 credits**
Use of drafting instruments and the art of freehand lettering, geometrical construction, and technical sketching; orthographic projection, selection, isometric and oblique pictorial drawing, and duplication methods.
- 211 **ENGINEERING DRAWING 3 credits**
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 credits**
Prerequisites: Industrial Arts 211. Theory and problems with practical application and the projection of points, lines surfaces, and solids.
- 215 **INDUSTRIAL DESIGN 3 credits**
Survey of design theory, design procedure and evaluation.
- 223 **GENERAL METALS 5 credits**
Introductory course to the following metal areas: art metal, bench metal, sheet metal, forging, pattern making, foundry, welding, and machining.
- 231 **GENERAL WOODS 3 credits**
Experiences in problems related to materials, processes, production, tool maintenance, shop management and demonstrations.
- 240 **VISUAL COMMUNICATION AND GRAPHIC ARTS 5 credits**
Techniques and methods of the graphic arts and their relation to a more effective visual communication medium.
- 270 **APPLIED ELECTRICITY 3 credits**
Theory and practice in electricity; projects and related studies involving the principles of electricity, electrical construction, repair, and maintenance.
- 280 **POWER MECHANICS 3 credits**
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 credits**
Prerequisite: permission of the instructor. Special projects under supervision.
- 301 **CRAFTS 3 credits**
Design and construction in crafts, including experiences in weaving, carving, puppetry, bookbinding, and the use of wood and clay.
- 302 **JEWELRY AND LAPIDARY 3 credits**
Stonemasonry 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 credits**
Design and construction of jewelry in various metals with emphasis on silver; the setting of stones. Also offered as Art 304.
- 305 **INDUSTRIAL CERAMICS 3 credits**
Techniques in working with clay, experimenting with glazes, and operating a kiln.

- 310 TECHNICAL ILLUSTRATION 3 credits**
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 credits**
Prerequisite: Industrial Arts 211. Problems in machine drawing, pattern drafting, and boat lofting.
- 313 ARCHITECTURAL DRAWING AND HOUSE PLANNING 3 credits**
Historical development; considerations of design; analysis of needs; utilization of sites; preparation of plans.
- 314 GRAPHIC GEOMETRY 3 credits**
Prerequisites: Industrial Arts 211. Problem solving in drafting technical solutions through the use of descriptive geometry techniques.
- 315 INDUSTRIAL DESIGN 3 credits**
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 GENERAL METALS 3 credits**
A continuation of Industrial Arts 223.
- 331 ADVANCED WOODS 3 credits**
Prerequisite: Industrial Arts 231. Development of further skills and knowledge in the broad area of woodworking.
- 333 PLASTICS 3 credits**
The materials, products and processes of the plastics industry.
- 340 GENERAL GRAPHIC ARTS I 5 credits**
Prerequisite: Industrial Arts 240
- 341 GENERAL GRAPHIC ARTS II 5 credits**
Prerequisite: Industrial Arts 340. Reproduction processes and techniques of the graphic arts industry relative to packaging, advertising, color, paper, and publishing.
- 350 INDUSTRIAL ARTS FOR ELEMENTARY SCHOOLS 3 credits**
Experience in working with materials and processes basic to home and industry which contribute to the elementary school curriculum.
- 351 INDUSTRIAL ARTS FOR THE ELEMENTARY SCHOOL 5 credits**
Experience in planning and organizing activities based on contemporary industrial technology, with emphasis on process and materials.
- 352 SPECIAL INDUSTRIAL ARTS FOR ELEMENTARY SCHOOLS 3 credits**
Open only to experienced teachers who have had work in industrial arts.
- 360 PHOTOGRAPHY 3 credits**
Composition, operation of cameras; development of negatives, prints and enlargements; special toning, intensification, and reduction of negatives.
- 370 ELECTRON TUBES AND SEMI-CONDUCTORS 4 credits**
Prerequisite: Industrial Arts 270, Physics 155, or permission of instructor. Theory and application; circuitry using these components.
- 371 BASIC ELECTRONIC CIRCUITS 4 credits**
Prerequisites: Industrial Arts 370 or permission of instructor.
- 372 INDUSTRIAL ELECTRONICS 4 credits**
Prerequisites: Industrial Arts 371 or permission of instructor. Industrial uses of electronics, including electron tubes, control devices, relays and closed loop systems.
- 375 MOTORS AND GENERATORS 3 credits**
Prerequisites: Industrial Arts 270 or permission of instructor. Theory and practical uses of motors and generators.

- 381 ADVANCED POWER MECHANICS 5 credits**
Prerequisites: Industrial Arts 280 or permission of instructor. Function and operating principles of hydraulic, pneumatic, refrigeration machines and heat engines.
- 382 AUTOMOTIVE ELECTRICITY 2 credits**
Prerequisites: 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 credits**
Study and experimentation in stress, strain, torsion, shear-bending, pure bending, plane stress, and engine design of members.
- 391 DRIVER EDUCATION FOR INSTRUCTORS 3 credits**
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.
- 400 SPECIAL PROBLEMS 1 to 5 credits**
Prerequisite: permission of instructor. Open only to industrial arts majors. Specialized advanced study through individual instruction.
- 403 FINISH PRINCIPLES AND PRACTICE 3 credits**
Applying modern finishes.
- 406 PRINCIPLES OF OCCUPATIONAL ANALYSIS 3 credits**
Analysis, selection and organization of occupational content for instruction in industrial education classes.
- 411 PRACTICAL LETTERING TECHNIQUES 3 credits**
Development of skill in hand lettering:
- 413 ARCHITECTURAL PROBLEMS 3 credits**
Prerequisites: Industrial Arts 313. Advanced residential planning, cost estimating; FHA standards; building codes; individual research.
- 419 ADVANCED UNITS IN DRAFTING 1 to 3 credits**
Prerequisite: Industrial Arts 211. Sheet metal drafting, architectural drafting, furniture design, machine and other drafting units.
- 429 ADVANCED UNITS IN METALS 1 to 3 credits**
Prerequisite: Industrial Arts 223 and 320.
429a Advanced General Metals
429b Machine Tools
429c Foundry
429d Sheet Metal
429e Machine Maintenance
- 439 ADVANCED UNITS IN WOODS 1 to 3 credits**
Prerequisite: Industrial Arts 231 and 331
439a Advanced Wood Technology
439b Furniture Design and Construction
439c Machine Maintenance
- 440 GRAPHIC DESIGN 6 credits**
Prerequisite: Industrial Arts 240. Principles of layout, design, and printing in relation to their commercial applications. Also offered as Art 408.
- 441 GRAPHIC ARTS MANAGEMENT 5 credits**
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 5 credits**
Prerequisite: Industrial Arts 240 or permission of instructor. Experiences in design and layout, composition, general and process photography, and presswork in the production of publications.
- 448 SEMINAR; GRAPHIC ARTS AND VISUAL COMMUNICATION 2 credits**
Prerequisites: Industrial Arts 240 and 340 or permission of instructor. Development of a critical understanding of graphic design and improvement of literacy in an age increasingly dependent upon perceptual awareness. Summer only.
- 449 ADVANCED UNITS IN GRAPHIC ARTS 1 to 3 credits**
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 credits**
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.
- 461 ADVANCED PHOTOGRAPHY 3 credits**
Prerequisite: Industrial Arts 360 or equivalent. Selected problems in advanced photographic techniques.
- 469 ADVANCED UNITS IN PHOTOGRAPHY 1 to 3 credits**
Prerequisite: Industrial Arts 360. A selection from photographic retouching, manual of coloring of photographs, the production and use of visual teaching materials, and other units.
- 477 THEORY AND OPERATION OF ELECTRONIC TEST EQUIPMENT 4 credits**
Prerequisites: 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 credits**
Prerequisites: Industrial Arts 371 or permission of instructor. Theory of radio and television transmitters and receivers.
- 479 ADVANCED UNITS IN ELECTRICITY 1 to 3 credits**
Prerequisites: 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 credits**
Planning, completion, and reporting of problems in power mechanics.
- 491 SELECTION AND ORGANIZATION OF SUBJECT MATTER IN INDUSTRIAL ARTS 3 credits**
Curriculum development for teachers of industrial education; problems, techniques, and procedures.
- 493 THE TEACHING OF INDUSTRIAL ARTS 3 credits**
Principles and procedures of organizing students, laboratories and instructional materials in teaching industrial type classes.
- 494 INDUSTRIAL TOURS 1 to 5 credits**
Visitation to selected plants in the Pacific Northwest to acquire first-hand understanding of regional industry, with opportunity for thorough analysis of processes, product design, and materials. Summer only.
- 495 PRODUCT DESIGN AND SELECTION 5 credits**
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 credits**
The interrelationships of industrial arts, industrial-vocational education, adult education, technical education, and apprentice training.

- 498 INDUSTRIAL DESIGN 3 to 5 credits**
Prerequisite: Industrial Arts 215 or permission of instructor. The 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 credits**
Prerequisite: an undergraduate concentration in graphic arts. The technological changes in the graphic arts industry and the responses.
- 541 THEORIES OF COLOR SEPARATION 3 credits**
Prerequisite: an undergraduate concentration in graphic arts. The newer concepts and techniques of color separation as applied to the graphic arts industry.
- 542 INFORMATION FORMS DESIGN AND PRODUCTION 3 credits**
Prerequisite: an undergraduate concentration in graphic arts. The differentiation and necessity for integrating information forms design into more productive systems.
- 543 PRINCIPLES OF COLOR & QUALITY CONTROLS 3 credits**
Prerequisite: an undergraduate concentration in graphic arts. The principles and devices for maintaining control of color and quality.
- 544 SEMINAR: CURRENT GRAPHIC ARTS TOPICS 3 credits**
Prerequisite: an undergraduate concentration in graphic arts. Research and discussion concerning pertinent problems in the graphic arts industry.
- 590 CURRICULUM PROBLEMS OF INDUSTRIAL EDUCATION 3 credits**
Problems involved in teaching industrial arts in the elementary and secondary schools.
- 591 INDUSTRIAL TECHNOLOGY 3 credits**
The development of trade, technical, and industrial technology; motivating forces, philosophical concepts, issues and trends.
- 592 SUPERVISION AND ADMINISTRATION IN INDUSTRIAL TECHNOLOGY 3 credits**
The organization of men and equipment for work.
- 594 SEMINAR IN INDUSTRIAL ARTS 1 to 5 credits**
Research in special problems.

LATIN
(See page 84)

DEPARTMENT of **LIBRARY SCIENCE**

FACULTY

Professor: McGaw

Associate Professors: Hearsey, Herrick, Mathes

Assistant Professors: Frazier, Scott

Instructors: Allen, Hanna, Paeglis

CONCENTRATIONS

Teacher Education

MAJOR (elementary) 42 credits

Library Science 305, 306 or 309, 307, 401, 402, 403, 404

Education 421, 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 (see page 35) will select 28 credits of the above under advisement.

MINOR (junior high school) 24 credits

Library Science 305, 307, 401, 402, 403, 404

Education 421, 489

MINOR (senior high school) 24 credits

Library Science 307, 308, 401, 402, 403, 404

Education 421, 489

State Standards — 18 credits for preparation of librarians in schools with less than 400 enrollment: Library Science 305, 307, 308 (whichever appropriate), 401, 402, 403, 404; Education 489. A library school degree is required in larger schools. Students planning to transfer to the School of Librarianship, University of Washington, are advised to take Library Science 308, 402, 403, 404.

COURSES

125 LIBRARY RESEARCH 2 credits

Techniques in the use of a college library for term paper research, and in the use of standard reference tools.

305 BOOKS FOR ELEMENTARY SCHOOLS 3 credits

Examination, reading, and discussion of the books most generally useful in work with boys and girls, with emphasis on standards for the 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 credits

Prerequisite: Library 305. More intensive reading and discussion of books appropriate for primary and intermediate grade boys and girls, with emphasis on preparation of bibliographies, and methods of arousing interest in books.

- 307 BOOKS FOR JUNIOR HIGH SCHOOLS 3 credits**
Examination and discussion of books most generally useful in work with boys and girls in the junior high school, with emphasis on standards for the 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 BOOKS FOR SENIOR HIGH SCHOOLS 3 credits**
Examination, reading, and discussion of books most suitable for use in the secondary schools, with emphasis on development of appreciation and methods of arousing interest in reading, and on standards for selection of books, book lists, reviews, and the relation of books to the curriculum.
- 309 STORYTELLING 2 credits**
Prerequisite: Library 305. The selection, adaptation, and presentation of stories for elementary school children.
- 401 THE LIBRARY IN THE SCHOOL 3 credits**
The importance of the library as a materials center in the modern elementary and secondary school; the organization and maintenance of effective library service.
- 402 ORGANIZATION OF MATERIALS 3 credits**
Principles of classification and cataloging; making unit cards, adapting printed cards, and organizing a shelf list dictionary catalogue.
- 403 BASIC INFORMATION SOURCES 3 credits**
Evaluation of basic information sources and practice in their use.
- 404 THE LIBRARY IN THE SOCIAL ORDER 3 credits**
The social, educational, and cultural implications of the role of the library in society.

DEPARTMENT of **MATHEMATICS**

FACULTY

Professors: Hashisaki (Chairman), Young

Associate Professors: Abel, Gelder, Hildebrand, Lister, McFarland,
Rygg, Witter

Assistant Professors: Chaney, Laffer, Reay, Sanderson, Wu

Lecturer: Gray

The study of college level mathematics should begin with Mathematics 122 for the student who has a command of:

- one and one-half years of algebra
- one year of geometry
- one-half year of trigonometry
- 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.

CONCENTRATIONS

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 481 in lieu of the mathematics requirement in general education.

Mathematics 121, 122, 222, 241, 251, 304, 305 and 310

13 credits from: Mathematics 223, 270, 301, 304, 305, 311, 322.

Students electing the alternate program for elementary teachers (see page 35) will complete 28 quarter hours of the above program under departmental advisement.

MAJOR (secondary) 45 credits

Mathematics 483 in lieu of the Mathematics requirement in general education.

Mathematics 121, 122, 222, 223, 224, 301, 322 or 325, 304 or 401

Two courses from: Mathematics 310, 311, 410, 411

Approved upper division electives

MINOR 25 credits

Mathematics 481 or 483 in lieu of the mathematics requirement in general education.

Mathematics 121, 122, 222

Selected courses from: Mathematics 223, 224, 241, 301, 304, 305, 310, 322, as advised

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.

(a) The upper division courses must include either the one year sequence in Advanced Calculus (325, 425, 426) and 6 credits from Modern Algebra (301, 401, 402) or 6 credits from the Advanced Calculus sequence and the one year sequence of Modern Algebra.

(b) The remaining courses are to be selected from Mathematics 305, 331, 332, 361, 370 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 of Mathematics. Language competency in French, German, or Russian is required.

MINOR 25 credits

Mathematics 121, 122, 222, 223, and selections from Mathematics 224, 241, 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 301, 325, 331, 401, 402, 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 G. P. A. in the courses taken for a and b, and a 3.0 G. P. A. 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 (mathematics concentration)

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 G. P. A. in the courses taken for a and b, and a 3.0 G. P. A. 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 Program—Combined Physics-Mathematics Concentration (Arts and Sciences)

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 the minor in requirements for the B. A. degree.

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

8 upper division credits selected from: Mathematics 361, 370 and approved courses numbered 400 or above. (At least 12 credits of the above must be 400 or higher.)

Physics: Physics 231, 232, 233, 341, 342, 343, 355, 356, 357, 381

13 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.

Graduate Study

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

COURSES

100 ALGEBRA 4 credits

Prerequisite: one year of high school algebra. For students who do not have sufficient preparation for college level mathematics.

105 TRIGONOMETRY 3 credits

Prerequisite: one and one-half years of high school algebra or Mathematics 100. Angles and angle measurement, logarithms, trigonometric functions, identities, conditional equations, inverse functions, solution of plane triangles, complex numbers.

111 ENGINEERING PROBLEMS 3 credits

Prerequisite: Mathematics 121 or 105, or advanced placement. Methods of analyzing and solving engineering problems in the field of elementary dynamics.

112 ENGINEERING PROBLEMS 3 credits

Prerequisite: Mathematics 111. The fundamental principles of statics; mathematical and graphical analysis of simple force systems, stresses, trusses, and simple mechanics.

121 INTRODUCTION TO COLLEGE MATHEMATICS 5 credits

Prerequisite: 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 credits

Prerequisite: Mathematics 121 or equivalent. (See introductory statement, page 117) 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 credits

Logic, sets, and the real number system. Not open to those who have credit in Mathematics 121.

- 220 INTRODUCTION TO CALCULUS 5 credits**
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 122.
- 222, 223, 224 ANALYTIC GEOMETRY AND CALCULUS 5, 4, 4 credits respectively**
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; Math 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 credits**
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 credits**
Prerequisite: Mathematics 100 or 121. An introduction to probability with applications.
- 251 THEORY OF ARITHMETIC 4 credits**
Prerequisite: Mathematics 151 or 121. Systems of numeration, sets, relations and number systems, and the integration of these concepts.
- 270 DIGITAL COMPUTER PROGRAMMING 3 credits**
Prerequisite: Mathematics 220, 222, or 240. An introduction to machine language, compiler language, and elementary numerical methods; laboratory experience at the Computer Center*.
- 301 LINEAR ALGEBRA 4 credits**
Prerequisite: Mathematics 224 or 304. Vector space, linear transformations, matrices, and determinants.
- 304 ELEMENTS OF ABSTRACT ALGEBRA 4 credits**
Prerequisite: Mathematics 222. An introduction to algebraic systems, groups, rings, integral domains fields.
- 305 NUMBER THEORY 3 credits**
Prerequisite: Mathematics 222. The properties of integers, Euclid's algorithm, Diophantine equations, congruences, continued fractions and residues.
- 310 COORDINATE AFFINE GEOMETRY 3 credits**
Prerequisite: Mathematics 222. The 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 credits**
Prerequisite: Mathematics 310. Projective geometry; the postulates of incidence, models, duality, perspectivities, projectivities, figures, quadrangular and harmonic sets, coordinate systems, transformations, lines, and conics.
- 322 INTERMEDIATE ANALYSIS 3 credits**
Prerequisite: Mathematics 222. Properties of real numbers, with emphasis on order and completeness; a study of the theory of limits.
- 325 ADVANCED CALCULUS 4 credits**
Prerequisite: Mathematics 224. Real number system; limits, continuity, differentiations of functions of one variable; limits, continuity, differentiation of function of more than one variable; implicit function theorems.

*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.

- 331 **DIFFERENTIAL EQUATIONS** 5 credits
Prerequisite: Math 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 credits
Prerequisite: Math 331. Partial differential equations and boundary value problems; Fourier Series and orthogonality; Dirichlet-Fourier theorem and Sturm Liouville theorem.
- 361 **VECTOR ANALYSIS** 4 credits
Prerequisite: Mathematics 224. The algebra of vectors, vector spaces, vector calculus, line integrals, divergence curl, Stokes' Theorem, the application of vectors to the study of work, potential theory, and fluid flow.
- 370 **NUMERICAL ANALYSIS** 3 credits
Prerequisites: Mathematics 224 and 270, or permission. Numerical methods involving the study of interpolation with divided differences, Lagrangian methods, finite-difference methods, least-square approximation, and Gaussian quadrature; laboratory experience at the Computer Center.
- 381 **INFORMAL GEOMETRY** 4 credits
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 credits each
Prerequisite: permission of department.
- 400 **MATHEMATICS SEMINAR** 1 to 3 credits
Prerequisite: Mathematics 224. An opportunity to present and discuss topics which are extensions of the content of the undergraduate program in mathematics.
- 401, 402 **INTRODUCTION TO ABSTRACT ALGEBRA I, II** 4 credits each
Prerequisite: Mathematics 301. Introduction to algebraic structures, groups, rings, integral domains, fields, and field extensions.
- 410, 411 **MODERN GEOMETRY I, II** 4 credits each
Prerequisite: Mathematics 301. Synthetic projective planes; collineations, dilations, translations and similitudes; non-Desarguean planes, non-Fano planes; vertex preserving endomorphisms; introduction of coordinates; Veblen Wedderburn systems, alternative division rings; the fundamental theorem of projective and affine geometry.
- 415 **CONVEXITY** 4 credits
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 credits each
Prerequisite: Mathematics 325. Point set theory; continuity; Riemann integral, multiple integrals, Riemann-Stieltjes integral; infinite series; uniform convergence; power series; Fourier series.
- 427 **INTRODUCTION TO TOPOLOGY AND ANALYSIS** 4 credits
Prerequisite: Mathematics 426. Metric spaces, topological space and concepts.
- 441, 442, 443 **MATHEMATICAL STATISTICS** 3 credits each
Prerequisites: Mathematics 301, 325, 425 (or concurrent). Probability theory; development of distributions, generating functions; averages, moments, regression, correlation, variance, and statistical inference.
- 470 **NUMERICAL METHODS IN DIFFERENTIAL EQUATIONS** 3 credits
Prerequisites: Mathematics 270 and 331. Forward integration, error analysis; Milne, Runge Kutta, and difference methods; systems of equations; laboratory experience at the Computer Center.

- 481 MATHEMATICS IN GRADES 1 THROUGH 8 4 credits**
Prerequisite: Mathematics 251 or permission. The teaching of mathematics in terms of objectives and methods of presentation.
- 483 MATHEMATICS IN THE SECONDARY SCHOOL 3 credits**
Prerequisite: Mathematics 304 or 301 or 310. Mathematics content of the advanced high school courses from the point of view of the teacher; the major experimental programs.
- 495 EXPERIMENTAL MATHEMATICS IN THE ELEMENTARY SCHOOL 3 credits**
Prerequisite: Mathematics 251. Experimental elementary school mathematics projects with emphasis on the mathematical context of such programs.
- 496 a, b, c HONORS TUTORIAL 2 credits**
Prerequisite: permission of department.
- 500 ADVANCED TOPICS 3 credits**
Prerequisite: advanced standing and permission of instructor.
- 501, 502, 503 ADVANCED ABSTRACT ALGEBRA 3 credits each**
Prerequisite: Mathematics 402 or equivalent. 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 credits**
Prerequisite: permission of instructor. Properties of the natural numbers, divisibility, the Euclidean algorithm, congruences, primitive roots, quadratic residues, and diophantine equations.
- 511, 512, 513 TOPOLOGY 3 credits each**
Prerequisite: Mathematics 425. Topological spaces, metric spaces, convergence, connectedness, compactness, product and quotient spaces, function spaces.
- 525, 526, 527 ANALYSIS 3 credits each**
Prerequisite: Mathematics 426. Convergence and continuity, functional convergence, bounded variation, Riemann-Stieltjes integral, introduction to measure, Lebesgue integral, function spaces.
- 531, 532, 533 COMPLEX VARIABLES 3 credits 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 credits**
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 credit**
Prerequisite: admission to the Master-Teacher program. The mathematics curriculum in the public schools.
- 599 RESEARCH Variable credit**

DEPARTMENT of **MUSIC**

FACULTY

Professor: D'Andrea (Chairman)

Associate Professors: Glass, Regier, Schaub, Stoner, Walter

Assistant Professors: Osborn, Simon

Instructors: Hinds, Sackrison

Affiliated: Burrier, Cloud, D'Andrea, M., Salter, Stonehouse, Thal

Music Performance and Concert Attendance

All music majors are required to participate in a choral and/or instrumental organization, to attend a specified number of concerts and recitals throughout their music study, and to perform in student recitals sometime during the year.

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 student 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.

CONCENTRATIONS

Teacher Education

MAJOR (vocal and/or instrumental; all grade levels) 67 credits

Structure and Musicianship: Music 131, 132, 133, 231, 232, 233

History: Music 240, 241, 242

Music Education: Music 351, 462 or 464, 463

Performance

a. Music 310, 311, 312

b. piano and voice, minimum 4 credits

c. major instrument or voice, 6 credits

Electives: 12 credits in music other than musical organizations.

MAJOR (vocal and/or instrumental; grades 1-8) 45 credits

Structure and Musicianship: Music 131, 132, 133

History: Music 240, 241, 242

Music education: Music 351

Performance: Music 310, piano—6 credits, voice—3 credits

Electives: 12 credits in music other than music organizations.

Students electing the alternate program for elementary teachers (see page 35) will complete 28 quarter hours of the above under departmental advisement.

MINOR A (strings) 25 credits

Music 131, 132, 133, 301, 302, 303, 310, 462

Applied strings, 4 credits

Piano, 3 credits

MINOR B (general) 25 credits

Music 131, 132, 133, 240, 241, 242, 310

Major instrument or voice, 4 credits

Arts and Sciences

MAJOR 67 credits

Music 131, 132, 133, 231, 232, 233, 240, 241, 242, 310, 311, 312, 331, 332, 333, 440

Major instrument, minimum of 12 credits

Piano or secondary instrument, minimum of six credits

Voice, minimum of one credit

MINOR 25 credits

Music 131, 132, 133, 240, 241, 242, 309

Major instrument or voice, minimum of 4 credits

Departmental Honors

In addition to the general Honors requirements (see page 107) a student planning to graduate "with honors" must complete:

Music 396 a, b, c

Music 401

Music 496 a, b, c

Philosophy 405

A comprehensive examination in music

Students qualifying for the Departmental Honors Program may elect either of two areas:

1. Music History and Criticism

or

2. 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 the Master of Education degree, see **Graduate Bulletin**.

COURSES

- 101, 102, 103 CLASS PIANO FOR MUSIC MAJORS 1 credit each
Fundamental keyboard techniques with stress upon sight-reading, improvisation, and other skills.
- 105, 106, 107 CLASS VOICE 1 credit each
Tone production, song repertoire and interpretation for those students who have had little or no previous vocal instruction.
- 120 COED CHORALE 1 credit
Open to all women students who are interested; no audition.
- 121 WESTERN STATESMEN 1 credit
Open to all men; no audition.
- 122 CHAMBER ORCHESTRA 1 credit
Open to all students who can qualify.
- 123 VIKING BAND 1 credit
Open to all students with previous band experience.
- 126 CHAMBER MUSIC 1 credit
Participation in small string and wind ensembles; string trio, quartet, brass, and woodwind ensembles; opportunity for performance on and off campus.
- 127 VOCAL ENSEMBLE 1 credit
Participation in small vocal ensembles such as trios, quartets, and madrigal groups; opportunity to perform at college functions and in the community.
- 131 ELEMENTARY HARMONIC PRACTICE 3 credits
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 3 credits
Prerequisite: Music 131. Diatonic harmony in root position; phrase structure and chord grouping; analysis.
- 133 ELEMENTARY HARMONIC PRACTICE 3 credits
Prerequisite: Music 132. Triad inversion; figured bass; analysis; intervallic counterpoint in three voices.
- 140 THE ART OF LISTENING TO MUSIC 3 credits
A non-technical basis for enjoyable listening to music; performance practices related to symphony orchestras, instrumental ensembles, opera, choral groups and solo performance.
- 142 INTRODUCTION TO CONCERT MUSIC 3 credits
The style, form, and historical background of concert repertoire from 1700 to the present.

Individual Instruction

Music majors and minors are provided individual lessons free of additional fees to the extent of requirements. Others pay a fee of \$36.00 in addition to regular enrollment fees. (See Music Awards, page 122.)

- 210 PIANO 1 credit
211 ORGAN 1 credit
213 STRINGS 1 credit
214 BAND INSTRUMENTS 1 credit
215 VOICE 1 credit

- 221 **CONCERT CHOIR 1 credit**
A selected group — experience, vocal ability, reading skill, musicianship, and interest in serious choral music considered for membership.
- 222 **SYMPHONY ORCHESTRA 1 credit**
Prerequisite: permission of instructor. Open to all students who can qualify.
- 223 **WIND ENSEMBLE 1 credit**
Prerequisite: permission of instructor. Open to all students who can qualify.
- 224 **OPERA PRODUCTION 1 to 3 credits**
Preparation and presentation of a major musical production.
- 231 **ADVANCED HARMONIC PRACTICE 3 credits**
Prerequisite: Music 133. Seventh chords; irregular resolution; sequence; introduction to accented dissonances; analysis.
- 232 **ADVANCED HARMONIC PRACTICE 3 credits**
Prerequisite: Music 231. Modulation; secondary dominants; introduction to chromatic harmony; the period form; analysis.
- 233 **ADVANCED HARMONIC PRACTICE 3 credits**
Prerequisite: Music 232. Chromatic harmony; modulation; relationship of harmony to larger formal units; analysis.
- 240 **MUSIC TO 1600 3 credits**
Musical styles and literature in ancient, medieval, and Renaissance centuries.
- 241 **MUSIC FROM 1600 TO 1800**
Musical styles and forms of the baroque and classical periods.
- 242 **MUSIC SINCE 1800 3 credits**
19th and 20th century composers; literature, and musical styles; the principal trends and schools of thought in Europe and America.
- 250 **MUSIC FOR ELEMENTARY TEACHERS 3 credits**
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.
- 301, 302, 303 **STRING CLASS 1 credit each**
Principles and techniques of playing and teaching string instruments.
- 304 **PERCUSSION CLASS 1 credit**
- 305, 306 **BRASS CLASS 1 credit each**
Principles and techniques of playing and teaching brass instruments.
- 307 **CLARINET CLASS 1 credit**
Principles and techniques of playing and teaching the clarinet.
- 308 **WOODWIND CLASS 1 credit**
Principles and techniques of playing and teaching the woodwinds other than the clarinet.
- 309, 310 **CONDUCTING 3 credits each**
The necessary baton technique, interpretive analysis, and score reading ability needed for work with school instrumental and choral groups.
- 311 **INSTRUMENTAL CONDUCTING 3 credits**
Prerequisite: Music 310. Application of techniques in Music 309 and 310 to the conducting of full works in orchestral and band literature.
- 312 **CHORAL CONDUCTING 3 credits**
Prerequisite: Music 310. An extension of conducting techniques particularly related to various styles of choral music, with emphasis upon conducting contemporary literature.
- 331, 332, 333 **COUNTERPOINT 2 credits each**
Prerequisite: Music 233. Vocal and instrumental counterpoint from the 16th through the 18th centuries in theory and practice.

- 351 ELEMENTARY MUSIC EDUCATION 3 credits**
Prerequisite: Music 133 and music major. Teaching techniques, materials, and organization of the elementary music program; observation and laboratory experience.
- 396 a, b, c HONORS TUTORIAL 2 to 5 credits each**
Prerequisite: approval of department.
- 401 HONORS SEMINAR 3 credits**
- 424 SUMMER OPERA 1 to 3 credits**
Participation in a musical production offered for public performance.
- 430 HARMONY LABORATORY 3 credits**
Prerequisite: one year of college-level harmony or equivalent. Application of harmonic practice to aural, vocal, keyboard, and creative experience, with attention to harmonic and formal analysis.
- 431 ORCHESTRATION 3 credits**
Orchestration, with special reference to the needs of the instrumental director.
- 432 TWENTIETH CENTURY HARMONIC PRACTICE 3 credits**
Harmonic techniques since the period of Brahms, Wagner, and Franck; correlated sight-singing, dictation, and analysis.
- 433 ANALYTICAL TECHNIQUES 3 credits**
Prerequisite: Music 233. Practice and procedures applied to the basic musical structures from the small part-forms to the larger formal units; the function of harmony in the structure.
- 434 PHYSICS OF MUSICAL INSTRUMENTS 3 credits**
Production and transmission of musical tone and the acoustical problems of musical performance.
- 435 COMPOSITION 3 credits**
Prerequisite: Music 233. Writing pieces in part forms, variation form, and sonata form for solo instruments, voice, and small ensembles.
- 440 COLLEGIUM MUSICUM 1 credit**
Informal study and performance of neglected masterpieces of music from the more recent past with due regard for appropriate performance practices.
- 441 MUSIC HISTORY 3 credits each**
Prerequisite: Music 242. Advanced study of the chief vocal and instrumental forms in their historical and musical development. Summer only.
- 441A MUSIC IN THE ANCIENT AND MEDIEVAL PERIOD**
- 441B MUSIC IN THE RENAISSANCE**
- 441C MUSIC IN THE BAROQUE PERIOD**
- 441D MUSIC OF CLASSIC AND EARLY ROMANTIC PERIOD (1750-1825)**
- 441E MUSIC IN THE ROMANTIC PERIOD (1825-1890)**
- 441F CONTEMPORARY MUSIC (late 19th and 20th centuries)**
- 442 AMERICAN MUSIC 3 credits**
History and development of American music from colonial times to the present.
- 451 MUSIC LISTENING IN THE ELEMENTARY SCHOOL 3 credits**
Literature, activities, and teaching techniques; correlation with other classroom studies; out-of-classroom activities and programs.
- 452 MUSIC LITERATURE FOR ELEMENTARY SCHOOLS 3 credits**
Appropriate literature to be used in the elementary school music activities of singing, rhythms, outside reading, programs.
- 453 MUSIC WORKSHOP FOR ELEMENTARY TEACHERS 2 credits**
Techniques, activities, and materials in a program of music development for grades one through six. Summer only.
- 454 STRING TECHNIQUES AND MATERIALS 3 credits**
Summer only.

- 455 **BRASS AND PERCUSSION TECHNIQUES AND MATERIALS 3 credits**
Summer only.
- 456 **WOODWIND TECHNIQUES AND MATERIALS 3 credits**
Summer only.
- 458 **PIANO FOR THE CLASSROOM TEACHER 3 credits**
Piano course for the teacher with little or no previous piano background.
Summer only.
- 460 **MARCHING BAND TECHNIQUES 3 credits**
Marching band organization, parade marching, and show routine.
- 462 **INSTRUMENTAL METHODS AND MATERIALS 3 credits**
Problems, organization, techniques, and materials of an elementary and secondary program in instrumental music.
- 463 **THE GENERAL MUSIC PROGRAM 3 credits**
Organization, content, literature, and methods of teaching the general music class in the junior and senior high school.
- 464 **CHORAL METHODS AND MATERIALS 3 credits**
Problems, organization, techniques, and materials of the secondary program in choral music.
- 465 **SCHOOL MUSICAL PRODUCTIONS 3 credits**
Workshop experience encompassing a wide range of new ideas, materials, and techniques for all types of musical productions.
- 466 **ORCHESTRA MUSIC WORKSHOP 2 credits**
Summer only.
- 467 **BIRCH BAY BAND MUSIC WORKSHOP 2 credits**
Summer only.
- 468 **CHORAL MUSIC WORKSHOP 2 credits**
Summer only.
- 496 a, b, c **HONORS TUTORIAL 2 to 5 credits each**
Prerequisite: approval of department.
- 501 **INSTRUMENTAL CONDUCTING AND REHEARSAL TECHNIQUES 3 credits**
Advanced work in conducting school band orchestra music; baton technique, interpretation, score preparation, and rehearsal techniques.
- 502 **CHORAL LITERATURE AND INTERPRETATION 3 credits**
Established and recent literature, interpretative analysis of scores, conducting and rehearsal techniques, and laboratory rehearsal. Summer only.

Individual Instruction — Graduate Level

(Fee: \$36 per quarter, plus regular enrollment fees.)

- 510 **ADVANCED PIANO 1 credit**
- 511 **ADVANCED ORGAN 1 credit**
- 513 **ADVANCED STRINGS 1 credit**
- 514 **ADVANCED BAND INSTRUMENTS 1 credit**
- 515 **ADVANCED VOICE 1 credit**

- 531 **ARRANGING FOR SCHOOL INSTRUMENTAL GROUPS 3 credits**
Practical techniques in arranging and composing for large and small ensembles. Summer only.
- 532 **ARRANGING FOR SCHOOL CHORAL GROUPS 3 credits**
Practical techniques in arranging and composing for large and small ensembles. Summer only.
- 550 **ADMINISTRATION OF SCHOOL MUSIC 3 credits**
Reappraisal of music's place in today's schools; current philosophic issues, new curricular developments, problems of supervision and instruction, development of community and professional relations. Summer only.
- 551 **CHORAL TECHNIQUES 3 credits**
Methods, materials, and devices used in the development of choral groups. Summer only.
- 552 **SUPERVISION OF ELEMENTARY SCHOOL MUSIC 3 credits**
Advanced work in methods, materials, organization, and supervision of the music program. Summer only.
- 553 **PSYCHOLOGY OF MUSIC 3 credits**
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 credits**
Seminar discussion of areas of needed research in music education. To be taken concurrently with Education 501.
- 555 **COMPREHENSIVE INSTRUMENTAL CURRICULUM 3 credits**
The continuous development of wind instrumentalists from beginning classes through high school performing groups with emphasis on the integration of technical, musical, and aesthetic understanding in a developmental process. Summer only.

DEPARTMENT of **PHILOSOPHY**

FACULTY

Professor: Daugert (Chairman)

Associate Professor: Karason

Assistant Professors: Fleetwood, Lehman

Instructor: Putili

CONCENTRATIONS

Teacher Education

MINOR 25 credits

Three courses from Philosophy 304, 305, 306, 307

One course from Philosophy 102, 202, 302

Additional courses selected under departmental advisement.

Arts and Sciences

MAJOR 40 credits

Philosophy 202, 304, 305, 306, 307, 220 or 420 and 404

Additional courses selected under departmental advisement.

MINOR 20 credits

Courses to be 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 107) and consult the department chairman regarding special requirements.

COURSES

102 LOGICAL THINKING 2 credits

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

201 INTRODUCTION TO PHILOSOPHY 4 credits

The great recurrent philosophical problems and some of the answers developed through the ages.

202 INTRODUCTION TO LOGIC 4 credits

Rules of valid deduction from premises and methods of formulating valid generalizations from experience with particular emphasis upon the methods of the sciences.

220 INTRODUCTION TO THE PROBLEMS OF ETHICS 3 credits

The meanings of such key concepts as "goodness," "rightness," "evil," "duty," and "happiness."

250 PROBLEMS IN THE PHILOSOPHY OF RELIGION 3 credits

The definition of religion, the existence and nature of God, free will, and immortality, and such problems.

301 HISTORICAL INTRODUCTION TO PHILOSOPHY 4 credits

Prerequisite: fifth year or graduate status or permission of instructor. The types and problems of philosophy; for graduate students with limited training in philosophy; not open to those who have taken Philosophy 304, 305, or 306.

- 302 ADVANCED LOGIC 4 credits**
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 credits**
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 credits**
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 credits**
Great philosophical thinkers including Descartes and the rationalists, Locke and the empiricists.
- 307 HISTORY OF PHILOSOPHY: THE NINETEENTH AND TWENTIETH CENTURIES 4 credits**
Great philosophical thinkers from Kant to the present.
- 308 AMERICAN PHILOSOPHY 3 credits**
Main currents in American philosophical thought from Jonathan Edwards to the present.
- 350 ORIENTAL PHILOSOPHY AND RELIGION 3 credits**
Some of the major philosophical and religious traditions of the Orient.
- 400 CONFERENCE IN PHILOSOPHY 2 to 5 credits**
Prerequisite: permission of instructor. Special problems.
- 404 SEMINAR IN PHILOSOPHY 3 credits**
Prerequisite: permission of instructor. Concentration for a full quarter upon the thought of an individual philosopher, a particular problem, or a movement.
- 405 AESTHETICS 3 credits**
Philosophical study of beauty and of the creation, appreciation, and criticism of works of art.
- 406 PHILOSOPHY OF LITERATURE 2 credits**
The nature of literature and the relation of its aesthetic to its moral and cognitive values.
- 407 CONTEMPORARY PHILOSOPHY 4 credits**
Prerequisite: permission of instructor. A critical discussion of the "analytic" and "linguistic" trends; such figures as Moore, Wittgenstein, and J. L. Austin.
- 411 PHILOSOPHY OF SCIENCE 3 credits**
Prerequisite: permission of instructor. Varying theories as to the nature, pre-suppositions, limitations and interrelations of the sciences; special emphasis on problems in biology and psychology.
- 420 ETHICAL THEORY 3 credits**
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 credits**
Prerequisite: seven 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, among others.
- 483 SOCIAL CHANGE AND THE MORAL ORDER IN LITERATURE 4 credits**
Also offered as English 483 and Sociology 483.
- 515 PHILOSOPHY OF EDUCATION 3 credits**
Critical analysis of theoretical positions in educational philosophy; emphasis on modern and contemporary discussions of educational theory. Also offered as Education 515.

DEPARTMENT of

PHYSICAL EDUCATION, HEALTH EDUCATION, and RECREATION

FACULTY

Men's Department of Physical Education and Athletics

Associate Professors: Lappenbusch, LePrutti, Lounsbury,
Tamaras (Chairman)

Assistant Professor: Wisemon

Instructor: Randall

Women's Department

Associate Professors: Aitken (Chairman), Kilby, Weythman

Assistant Professors: Gutchow, Hansen

Instructor: Ames

Lecturer: Arnett

The departmental programs encompass: (a) activity courses to meet general education requirements; (b) activity courses as electives; (c) professional study in fields of physical education, health education, and recreational leadership; (d) intramural sports and dance; (e) inter-collegiate 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.

For 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 — Physical Education 102w

Aquatics* — 1 credit

Sports and Dance — 1 credit. (P.E. 120, 152 and 153 do not satisfy this requirement.)

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

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

*Aquatics — 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.

For Men:

Students may select one course from three activity categories: aquatics*, developmental, dance, team sports, individual sports, dual sports, or varsity sports.

Developmental — Students who fail to meet minimum standards on the physical fitness test are required to enroll in a developmental course.

* **Aquatics** — 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.

CONCENTRATIONS

Teacher Education

MAJOR Physical Education (women) 45 credits, plus general education requirements

Physical Education 102w, 202w, 205, 208w, 209w, 302, 320, 405
and one of the following sequences:

Option A (to be accompanied by Health Science Minor, (see page 154)

Physical Education 201w, 203w, 207w, 305w, 306, 342w, 341w or 343w, 402w
and 404w

Recreation 201, 250

Three additional credits under departmental advisement

Option B (general, with choice of minor)

Physical Education 201w, 203w, 207w, 305w, 306, 342w, 341w or 343w, 404w

Health Education 252, 301

Zoology 243

Option C (dance, with choice of minor)

Physical Education 226, 228, 229, 305w, 306 or 326, 324, 325, 425

Zoology 241, 243

It is recommended that dance majors include also P. E. 134, an officiating course, and additional team sport courses.

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

MAJOR Physical Education (men) 45 credits

Seven activity courses, in addition to general education requirements, selected under departmental advisement from the following: P. E. 108m, 112 or 113, 120m, 122, 132, 136, 139m, 142, 144m, 145m, 147m, 150, 154m, 156m

Physical Education 204m, 205, 302, 303, 306, 308m, 351m, 404m, 405, 490

Health Education 301

Zoology 241

Two credits in courses selected under departmental advisement

MINOR Physical Education (men) 25 credits

Option A (for students who expect to teach physical education and coach) Six activities in addition to general education requirements selected from: P. E. 108m, 112 or 113, 120 or 122, 132, 136, 139m, 142m, 144m, 145m, 147m, 150, 154m, 156m

Physical Education 204m, 205, 306, 308m, 351m, 404m

Two additional credits selected under departmental advisement

Option B (for students who expect to coach only)

Physical Education 204m, 205, 302, 404m, and six additional credits selected from P.E. 217, 380m, 381m, 382m, 383m, 384m

Zoology 241

One credit selected under departmental advisement.

MINOR 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 in physical education advised

MINOR Dance (women) 25 credits

Physical Education 121, 123, 126, 226, 228, 229, 320, 324, 325, 425

Philosophy 405

Four additional credits under departmental advisement

MINOR Health Science (see page 154)

MINOR Recreation (men) 25 credits

Physical Education 306, 308m

Recreation 201, 250, 412, 450m, 451m, 452m

Industrial Arts 301

Four additional credits under departmental advisement

MINOR Recreation (women) 25 credits

Physical Education 201w or 203w, 305w, 306, 320

Recreation 201, 250, 412, 450w, 451w, 452w

Industrial Arts 301

Three additional credits under departmental advisement

Arts and Sciences

MAJOR Recreation (men) 45 credits

Physical Education 205, 306, 308m, 320, 351m, 405

Recreation 201, 250, 412, 450, 451, 452

Health Education 252

Industrial Arts 301

Zoology 241

MAJOR Recreation (women) 50 credits, plus general education and Supporting Courses
 Physical Education 102w, 113, 122, 136, 150, 152, 201w, 202w, 203w, 205, 305w,
 306, 320, 342w, 341w or 343w, 405
 Recreation 201, 250, 412, 450, 451, 452
 Health Education 252
 Biology 247, 447
 Supporting Courses: Industrial Arts 301; Speech 430; Psychology 261, 355, 440;
 Sociology 201

MINOR Health Science (see page 155)

MINOR Recreation (women) 25 credits

Physical Education 201w or 203w, 305w, 306, 320
 Recreation 201, 250, 450w, 451w, 452w
 Industrial Arts 301
 Three additional credits under departmental advisement

MINOR Physical Education — Dance (women) 25 credits

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

Graduate Study

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

COURSES IN PHYSICAL EDUCATION ACTIVITIES

(See also page 197 for intramural program)

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 ACTIVITIES (101-109) 1 credit each

102w MOVEMENT FUNDAMENTALS

106m BODY CONDITIONING

108m WEIGHT TRAINING

AQUATICS (110-119) 1 credit each

112 BEGINNING SWIMMING
(for non-swimmers)

113 INTERMEDIATE SWIMMING
Prerequisite: P. E. 112 or
swim twenty-five yards and
support self in deep water.

114 ADVANCED SWIMMING
Prerequisite: P. E. 113 or swim
100 yards with one stroke; ability
to use a variety of other strokes.

115 SYNCHRONIZED SWIMMING
Prerequisite: P. E. 214 or equivalent.

(See also P. E. 216, Lifesaving and Water Safety, and P. E. 217, Water Safety Instructor's Course.)

DANCE (120-129) 1 credit each

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

DUAL SPORTS (130-139) 1 credit each

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

TEAM SPORTS (140-149) 1 credit each

- | | |
|-------------------|-------------------------|
| 141w FIELD HOCKEY | 144m SPEEDBALL & SOCCER |
| 142m BASKETBALL | 144w SPEEDBALL & SOCCER |
| 142w BASKETBALL | 145m VOLLEYBALL |
| 143m SOFTBALL | 145w VOLLEYBALL |
| 143w SOFTBALL | 147m TOUCH FOOTBALL |

INDIVIDUAL SPORTS (150-159) 1 credit each

- 150 ARCHERY
- 151w GYMNASTICS, TUMBLING & REBOUND TUMBLING
- 151m APPARATUS STUNTS & 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
- *158 INTERMEDIATE SKIING
- *159 ADVANCED SKIING

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

VARSITY SPORTS (men) (180-189) 1 credit each

- | | |
|-------------------------|-----------------------|
| 180m VARSITY FOOTBALL | 185m VARSITY GOLF |
| 181m VARSITY BASKETBALL | 186m VARSITY TENNIS |
| 182m VARSITY BASEBALL | 187m VARSITY SKIING |
| 183m VARSITY TRACK | 188m VARSITY SWIMMING |
| 184m VARSITY WRESTLING | 189m VARSITY RUGBY |

PROFESSIONAL COURSES IN PHYSICAL EDUCATION

- 201w, 202w, 203w PROFESSIONAL ACTIVITIES 2 credits each**
Prerequisite: 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.
- 204m ATHLETIC INJURIES AND TRAINING 3 credits**
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 credits**
Historical backgrounds, the range of opportunities in the fields, essential qualifications, and professional preparation.
- 207w, 208w, 209w PROFESSIONAL ACTIVITIES 2 credits each**
Prerequisite: 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, golf.
- 216 LIFESAVING AND WATER SAFETY 2 credits**
(Applicable to the general education aquatics requirement.) Prerequisite: satisfactory performance in aquatics test. Instruction leading to qualification for the American Red Cross Lifesaving Certificate.
- 217 WATER SAFETY INSTRUCTOR'S COURSE 2 credits**
(Applicable to the general education aquatics requirement.) 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 credits**
Prerequisite: Physical Education 125. Inherent factors of rhythm; application of the rhythmic analysis to all forms of movement including sports, dance, aquatics, and stage techniques.
- 228 DANCE PRODUCTION 2 credits**
Prerequisite: Physical Education 125. Practical experience in formulating, developing, and presenting dance programs.
- 229 DANCE COMPOSITION 2 credits**
Prerequisite: Physical Education 125. Lectures and laboratory in the fundamentals of composition, emphasizing theme and development; preclassical dance forms, modern dance forms.
- 300 SPECIAL PROBLEMS IN THE AREA OF PHYSICAL EDUCATION 2 to 5 credits**
Prerequisite: permission of department chairman.
- 302 KINESIOLOGY 3 credits**
Prerequisite: Zoology 241. Important muscles of the body; origin, insertion, action and structure; principles of body mechanics; analysis of leverage in body movements; problems of readjustment in relation to posture and physical activities.
- 303 PHYSIOLOGY OF MUSCULAR EXERCISE 3 credits**
Prerequisite: Zoology 241. Application of physiological facts to the problem of conditioning; relation to physical activities.
- 305w METHODS AND MATERIALS FOR TEACHING SPORTS 4 credits**
Prerequisites: Physical Education 201w, 202w, 203w, 207w, 208w, 209w, or equivalent. Preparation for teaching individual and team sports to secondary school girls.
- 306 METHODS IN ELEMENTARY SCHOOL PHYSICAL EDUCATION 3 credits**
Prerequisite: Psychology 355. 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 credits**
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.
- 320 METHODS AND MATERIALS FOR TEACHING DANCE 3 credits**
Prerequisites: Physical Education 120, 122, 125, or equivalent. The teaching of modern, folk, social, and square dancing.
- 324 THEORY AND PRACTICE OF CONTEMPORARY DANCE TECHNIQUES 2 credits**
Prerequisites: Physical Education 125, 126, or equivalent. Backgrounds for various dance styles provided by professional schools of modern dance and progressive jazz techniques.
- 325 CONCERT DANCE 1 credit**
Prerequisites: Physical Education 125 or 126, or equivalent. Group and individual experience in dance as a theatre art; participation in the winter dance concert.
- 326 DANCE FOR CHILDREN 3 credits**
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 credit each**
Officiating techniques in volleyball, basketball, tennis, track and field.
- 351m TEACHING GYMNASTICS 1 credit**
Beginning and intermediate performance skills with opportunity for each student to teach several basic stunts and calisthenics.
- 380m COACHING FOOTBALL (men) 2 credits**
The theory and appreciation of football, with methods and materials of organization.
- 381m COACHING BASKETBALL (men) 2 credits**
- 382m COACHING BASEBALL (men) 2 credits**
- 383m COACHING TRACK (men) 2 credits**
Theory of track and field events and organization and administration of a track meet.
- 384m COACHING WRESTLING 2 credits**
Practical and theoretical aspects of teaching wrestling with special consideration to wrestling skills, methodology, class organization, equipment and officiating.
- 397 WORKSHOP IN COACHING ATHLETICS 2 credits**
Advanced study of theories, techniques and procedures in the coaching of inter-school sports. Summer, 1964 — Basketball.
- 400 SPECIAL PROJECTS IN PHYSICAL EDUCATION 2 to 5 credits**
Prerequisites: senior status and permission of instructor and department chairman. Individual instruction for students who wish to undertake special projects under supervision.
- 402 TEACHING OF BODY MECHANICS AND MOVEMENT FUNDAMENTALS 3 credits**
Prerequisites: Physical Education 302, Zoology 241. Methods and materials used in teaching body mechanics and movement fundamentals including a study of relaxation, conditioning, and testing.
- 404m ADMINISTRATION OF PHYSICAL EDUCATION IN SCHOOLS 3 credits**
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 credits**
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 credits**
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 credits**
Prerequisite: teaching experience. Summer only.
- 410w EXTRA-CLASS ACTIVITIES IN PHYSICAL EDUCATION FOR GIRLS 2 credits**
Intramural programs, tournaments, play days, sports days, and G. A. A. for secondary school girls. Summers only.
- 425 HISTORY AND PHILOSOPHY OF THE DANCE 3 credits**
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 credits**
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 credits**
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.
- 498 STRAIGHT LINE PHILOSOPHY 3 credits**
Administration of human conduct in activities on straight-line enclosures; not limited to those with athletic experience.
- 499 PHYSICAL FITNESS AND THE PUBLIC SCHOOL 3 credits**
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 credits**
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 credits**
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 credits**
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 credits**
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 credits**
A study of physical education programs based on the needs of boys and girls.
- 505 CURRENT DEVELOPMENTS IN PHYSICAL EDUCATION 3 credits**
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 credits**
First aid for common injuries and illnesses based on the American Red Cross Standard and Advanced first aid courses. Student qualifies for the American Red Cross Certificate.

- 301 **HEALTH EDUCATION IN THE PUBLIC SCHOOLS 3 credits**
The total school health program, including basic principles of health instruction, organization, methods and materials, and school health services.
- 352 **THE FIRST AID INSTRUCTOR 1 credit**
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.
- 401 **CURRENT INFORMATION ON HEALTH EDUCATION 1 credit**
The newest materials and discoveries in health education. Summers only.
- 500 **PROBLEMS IN HEALTH EDUCATION 2 to 5 credits**
For the graduate student concerned with a special problem in the field.

COURSES IN RECREATION

- 201 **RECREATION LEADERSHIP 2 credits**
Skills and leadership techniques for leaders of school, playground, and community recreation, stressing use of materials and methods in various activities.
- 250 **CAMPING AND OUTDOOR EDUCATION 3 credits**
Organization and program in private agency and school camps; qualifications and responsibilities of the camp counselor; camping techniques.
- 412 **ORGANIZATION AND ADMINISTRATION OF SCHOOL AND COMMUNITY RECREATION 3 credits**
Prerequisites: Recreation 201, 250. Development of programs for school and community recreation including personnel, finance, facilities, and activities.
- 450, 451, 452 **FIELD WORK IN RECREATION 1 to 2 credits each**
Prerequisites: Physical Education 306, Recreation 201, 412. Practical experience in a community recreation program.
- 500 **PROBLEMS IN RECREATION 2 to 5 credits**
For experienced recreation leaders; opportunity for individualized study of problems growing out of professional experience.

PHYSICAL SCIENCE

(See page 154)

DEPARTMENT of **PHYSICS**

FACULTY

Professors: Bender, Lahti

Associate Professors: Lindsay, McLeod (Chairman)

Assistant Professors: Dittrich, Rupaal, Veit

CONCENTRATIONS

Teacher Education

MAJOR 45 credits, plus Supporting Courses

Physics 231 to meet the general education requirement

Physics 232, 233, 341, 355, 398 (one credit), 431

Physical Science 492

Physics 407 or 408, or General Science 405

Additional electives in physics, 15 credits

Supporting Courses: 15 credits in mathematics

MINOR 25 credits, plus Supporting Courses

Physics 131 (or 231) to meet the general education requirement

Physics 132, 133, (or 232, 233) and 381

Physical Science 492

Electives in Physics

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, 355, 356, 357, 381, 431

One course from Physics 407, 408, General Science 405

Upper division electives, 8 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

MINOR 25 credits, plus Supporting Courses

Physics 231 to meet the general education requirement

Physics 232, 233, 341, 355, 381

Supporting Courses: 18 credits in mathematics through Mathematics 222

Special Honors Program—Combined Physics-Mathematics Concentration

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 the minor in requirements for the B.A. degree.

Mathematics: Mathematics 121, 122, 222, 223, 224, 301, 325, 331, 332, 425, 426
8 upper division credits selected from: Mathematics 361, 370, and approved courses numbered 400 or above.
(At least 12 credits of the above must be 400 or higher.)

Physics: Physics 231, 232, 233, 341, 342, 343, 355, 356, 357, 381
13 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

- 101 ELEMENTARY PHYSICS 4 credits**
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.
- 105 INTRODUCTION TO ASTRONOMY 3 credits**
Prerequisites: Mathematics 151, Physics 131. The real and apparent motion of stars; the solar system and its origin.
- 131 INTRODUCTION TO EXPERIMENTAL PHYSICS 5 credits**
Prerequisite: 1½ years of high school algebra or Mathematics 100 or 151. Classical topics from light, sound, electricity, magnetism, mechanics, and heat.
- 132, 133 GENERAL PHYSICS 5 credits each**
Prerequisite: Physics 131; Physics 132 is prerequisite to 133. Physics 132 unifies the ideas of motion and fields; Physics 133 unifies ideas of sound, light, and electromagnetism through the concept of waves.
- 155 ELEMENTARY ELECTRONICS 2 credits**
Prerequisite: 1½ years of high school algebra or Mathematics 100 or 151. Principles of electron tubes and electrical circuits; construction of circuits.

- 231, 232, 233 GENERAL AND ENGINEERING PHYSICS 5 credits each**
Prerequisite: Mathematics 222 (or concurrent) or permission of instructor. Basic concepts of physics using calculus; particle mechanics in Physics 231; rigid body mechanics, thermodynamics, and kinetic theory in Physics 232; electricity and magnetism in Physics 233.
- 300 PROJECTS IN PHYSICS 1 to 2 credits**
Prerequisite: 15 credits in physics and permission of instructor.
- 311 RADIATION BIOPHYSICS 2 credits**
Prerequisites: Physics 133 (or 233) and Mathematics 223 or permission of instructor. The physical and biological effects of penetrating radiations.
- 312 RADIATION BIOPHYSICS LABORATORY 2 credits**
Prerequisites: Physics 133 (or 233) and Mathematics 223 or permission. May be taken concurrently with Physics 311. Principles of radiation dosimetry and bioassay.
- 321 ATMOSPHERIC SCIENCE 3 credits**
Prerequisite: one year of college physics. Principles of meteorology applicable to weather analysis and forecasting.
- 322 ATMOSPHERIC SCIENCE 3 credits**
Prerequisite: Physics 321. Processes governing the distribution of atmospheric pollutants.
- 341, 342, 343 ANALYTICAL MECHANICS 3 credits each**
Prerequisite: Physics 233, Mathematics 222 for Physics 341; Mathematics 331 for 342. Vector treatment of the basic principles of particle mechanics, including statics of rigid bodies, dynamics of particles, the theory of small vibrations and the continuum theory of matter; the special theory of relativity and the Lagrangian and Hamiltonian formalisms.
- 351, 352 OPTICS AND SPECTROSCOPY 3 credits each**
Prerequisite: Physics 233 (or concurrent) and Mathematics 222 for Physics 351; Physics 351 prerequisite for 352. Geometric and physical optics and introduction to atomic spectroscopy.
- 355, 356, 357 ELECTRICITY AND MAGNETISM 3 credits each**
Prerequisite: Physics 233 and Mathematics 222 for Physics 355; Mathematics 331 an additional prerequisite for Physics 356 and 357. Elementary treatment of the classical theory of fields; basic principles of electrostatics, potential theory, magnetic properties of matter, electric currents and associated magnetic and electric fields; Maxwell's field equations, propagation of plane and spherical electromagnetic waves; introduction to microwave theory.
- 361, 362 THERMODYNAMICS AND STATISTICAL MECHANICS 3 credits each**
Prerequisites: Physics 233 and Mathematics 224 or permission for Physics 361; Physics 361 and Mathematics 331 for Physics 362. Kinetic theory, the laws of thermodynamics, classical statistical mechanics.
- 371, 372 ELECTRONICS 3 credits each.**
Prerequisites: Physics 233 and differential and integral calculus or permission; Physics 371 prerequisite for Physics 372. Physics of electron devices, basic electronic circuits.
- 381 ATOMIC PHYSICS 4 credits**
Prerequisite: Mathematics 222; Physics 133, or 233 (or concurrent), or permission of instructor. Kinetic theory; special theory of relativity; quantum theory; wave-particle duality; atomic structure.
- 382 NUCLEAR PHYSICS 4 credits**
Prerequisite: Physics 381. Nuclear systematics and structure; nuclear reactions.
- 398 LABORATORY INSTRUCTION 1 credit each quarter. (three credits maximum)**
Laboratory assistance and instructional practice in Physics 131, 132, 133 and 231, 232, 233 laboratories.

- 399 SEMINAR IN PHYSICS 1 credit.
Prerequisite: 25 credits in physics and permission of instructor.
- 400 PROJECTS IN PHYSICS 1 to 3 credits.
Prerequisite: permission of instructor. Special projects under supervision.
- 407, 408 FOUNDATIONS OF PHYSICS 3 credits each.
Prerequisite: one year of college physics; Physics 407 prerequisite to Physics 408. The development of concepts from the Greek period through the 18th century (407) and during the 19th and 20th centuries (408).
- 431, 432, 433 PHYSICS SENIOR LABORATORY 2 credits each
Experimentation in electricity and electrical circuits, optics, atomics, X-ray spectroscopy, radioactivity and nuclear physics.
- 481, 482, 483 INTRODUCTION TO QUANTUM MECHANICS 3 credits each
Prerequisites: Physics 343, 352, 357, 381; Mathematics 331, 332. The elementary theory of quantum mechanics including particles and waves, the Schrodinger theory, perturbation theory, multielectron atoms, magnetic moments, spin and relativistic effects, identical particles and the Pauli principle, X-rays, collision theory, and introduction to nuclear physics.
- 485, 486, 487 INTRODUCTION TO THEORETICAL PHYSICS 3 credits each
Prerequisites: Physics 343, 357; Mathematics 331, 332. Basic mathematical tools needed by the theoretical physicist; classical continuum theory of matter, Lagrangian and Hamiltonian formalisms, statistical mechanics, phase space, variational methods in mechanics, theory of linear transformations, theory of fields, relativity theory, and applications of partial differential equations.
- 497 MECHANICS AND ELECTROMECHANICS 3 credits
Prerequisites: two years of college mathematics including a complete calculus sequence, one year of college physics, or permission. The basic laws of mechanics and electromechanics with application. Offered only as a part of the Institute in Mathematics, Summer, 1964.
- 498 RESEARCH PROJECTS IN PHYSICS 6 credits.
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 credits each
Prerequisites: 45 credits in physics. Properties of solids and the experimental basis of the modern theory of solids.
- 541, 542, 543 ADVANCED MECHANICS 3 credits each
Prerequisite: 45 credits in physics including Physics 487. 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 credits each
Prerequisite: 45 credits in physics. Theory and experimental basis for the structure of the atomic nucleus and nuclear properties and reactions.
- 561, 562 PHYSICS OF PLASMAS 3 credits each.
Prerequisite: 45 credits in physics. The physics of fully ionized gases, fusion, gas dynamics, effects of simultaneous electric and magnetic fields, magneto-hydrodynamics, and current developments in plasma research.
- 571, 572 ELECTROMAGNETIC THEORY 3 credits each.
Prerequisite: 45 credits in physics. General properties of vector fields, electromagnetic field equations, and boundary value problems; topics in wave propagation.

581, 582 QUANTUM THEORY 3 credits each.

Prerequisite: 45 credits in physics including 483 and 487. 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 credits 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 credits.

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

 DEPARTMENT of **POLITICAL SCIENCE**

FACULTY

Professors: Vernon (Chairman), Wuest

Assistant Professors: Hebal, Payne

CONCENTRATIONS

Teacher Education

MAJOR (secondary) 45 credits

Political Science 101, 251, 252

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

Comparative Government: Political Science 301 and one from 401, 402, 404, 405

Political Dynamics and Public Administration: Political Science 320 or 340, and one from 420, 421, 440, 442, 450, 453

Political Theory: Political Science 460, 461, 462, 463

International Relations: Political Science 370 and one from 474, 475, 476

Electives under departmental advisement (Political Science 253 strongly recommended)

MINOR 25 credits

Political Science 101, 250, 370

Electives under departmental advisement.

Arts and Sciences

MAJOR 50 credits, plus Supporting Courses

Political Science 101, 251, 252

Eight credits from each of **four** of the following:

Comparative Government: Political Science 301 and one from 401, 402, 404, 405

Public Law: Political Science 310, 410, 411

Public Administration: Political Science 320 and one from 420, 421, 422

Political Dynamics: Political Science 340 and one from 420, 421, 440, 441, 442, 450, 453

Political Theory: Political Science 460, 461, 462, 463

International Relations: Political Science 370 and one from 474, 475, 476

Elective: 3 credits (Political Science 253 recommended)

Supporting Course: Economics 201

(Also recommended: History 203, 204; Psychology 440; Sociology 431; Geography 311, 320, 341)

MINOR 25 credits

Political Science 101, 251, 252

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

Comparative Government: Political Science 301, 401, 402, 404, 405

Public Law: Political Science 310, 410, 411

Public Administration: Political Science 320, 420, 421, 422

Political Dynamics: Political Science 340, 420, 421, 440, 442, 450, 453

Political Theory: Political Science 460, 461, 462, 463

International Relations: Political Science 370, 474, 475, 476

COURSES IN POLITICAL SCIENCE

- 101 **GOVERNMENT IN THE MODERN WORLD 5 credits**
Special areas of human interest and activity in political science and their relationship to government in the modern world.
- 250 **THE AMERICAN FEDERAL SYSTEM IN TRANSITION 5 credits**
A survey of national government for the general student, emphasizing political institutions, functions and processes. Not open for credit to students planning to take Political Science 251-252.
- 251 **AMERICAN NATIONAL GOVERNMENT I 5 credits**
The constitutional principles studied in relation to democracy; the judicial process; political dynamics.
- 252 **AMERICAN NATIONAL GOVERNMENT II 5 credits**
Prerequisite: Political Science 251. Role of the President and the executive departments; the legislative processes; impact of government on the economic order.
- 253 **AMERICAN STATE AND LOCAL GOVERNMENT 5 credits**
Prerequisite: Political Science 250 or 251-252 or permission of instructor. A survey of sub-national levels of government and inter-governmental relations, with reference to legislative, executive, and judicial authorities and the electoral process.
- 301 **COMPARATIVE GOVERNMENT: PRINCIPLES AND PROBLEMS 5 credits**
Prerequisite: Political Science 250 or 251-252. Similarities and dissimilarities between states with respect to constitutional and legal concepts, institutions and procedures of government, civil and administrative functions, political processes.
- 310 **AMERICAN CONSTITUTIONAL LAW 5 credits**
Prerequisite: Political Science 250 or 251-252. Supreme Court decisions from *Marbury v. Madison* to the present, interpreting major parts of the Constitution in practice.
- 320 **ADMINISTERING AN ORGANIZATIONAL SOCIETY 5 credits**
Prerequisite: Political Science 250 or 251-252, or one course from Sociology 201 or 301, or Psychology 201 or 440, or permission of instructor. An inter-disciplinary approach to the conduct of public business centered on the executive branch of government, with some treatment of other countries.
- 340 **POLITICAL PARTIES AND ELECTIONS 5 credits**
Prerequisite: Political Science 101 or 250 or 251-252 or 301, or permission of instructor. Nature and functions of political parties, their contrasting structure in the United States and abroad.
- 370 **CONTEMPORARY INTERNATIONAL POLITICS 3 credits**
Prerequisite: Political Science 250 or 251-252. National communities in the international society; factors of state power; the implementation of foreign policy; conflicts of national interest and their resolution; the present world order.
- 400 **SELECTED READINGS AND RESEARCH 2 to 6 credits**
Supervised readings and/or research in a selected area of political science.
- 401 **GOVERNMENTS AND POLITICS OF WESTERN EUROPE 3 credits**
Prerequisite: Political Science 301 or permission of instructor. Political systems of Great Britain, France, West Germany, and/or other countries.
- 402 **SOVIET RUSSIA AND THE COMMUNIST BLOC 3 credits**
Prerequisite: Political Science 301 or permission of instructor. An analysis of the political systems of the U.S.S.R. and Eastern Europe states with particular attention to the Communist Party; the constitutional systems in theory and practice; intraregional affairs.
- 404 **GOVERNMENTS AND POLITICS OF LATIN AMERICA 3 credits**
Prerequisite: Political Science 301 or permission of instructor. The governments and political systems of Latin American countries.

- 405 **GOVERNMENTS OF ASIA AND THE MIDDLE EAST 3 credits**
Prerequisite: Political Science 301 or permission of instructor. Selected governments and political systems of Asia and the Middle East.
- 410 **THE SUPREME COURT AND CIVIL RIGHTS 3 credits**
Prerequisite: Political Science 250 or 251-252. Leading Supreme Court decisions regarding First Amendment freedoms, procedural rights in trials, Fourteenth Amendment liberties, due process of law, and equal protection of the laws.
- 411 **THE LAW OF NATIONS 3 credits**
Prerequisite: permission of instructor. The relations of man to society as regulated by legal concepts and practices in domestic and international affairs.
- 420 **NATURAL RESOURCES: ADMINISTRATIVE AND POLICY PROBLEMS 3 credits**
Prerequisite: Political Science 320 or permission of instructor. Selected problems in forest policy, minerals, water and power, with emphasis on Western United States.
- 421 **METROPOLITICS: MEGALOPOLIS AND SUBURBIA 3 credits**
Prerequisite: Political Science 250, or 251-252, 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 credits**
Prerequisite: Political Science 320 or permission of instructor. A 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.
- 440 **THE LEGISLATIVE PROCESS 3 credits**
Prerequisite: Political Science 250 or 251-252, 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 credits**
Prerequisite: Government 340 or permission of instructor. Human action in political settings, with emphasis on social class analysis, voting, and legislative behavior.
- 450 **PARTY CONVENTIONS AND CAMPAIGNS 3 credits**
Prerequisite: Political Science 340 or permission of instructor. Campaigns and election administration at national, state, and local levels in the United States; comparison with other governments; field observation of an actual campaign.
- 453 **COMPARATIVE LOCAL GOVERNMENT 3 credits**
Prerequisite: Political Science 253 or 301 or permission of instructor. Principles, structures, and functions of local governments in relation to higher levels of government in the United States, Canada, Great Britain, and France.
- 460 **POLITICAL THEORY: ANCIENT AND MEDIEVAL 5 credits**
Prerequisite: General Education 121 or History 105 or permission of instructor. Origin and evolution of major concepts in Western political thought from the time of Pericles to that of Machiavelli.
- 461 **POLITICAL THEORY: RENAISSANCE AND MODERN 3 credits**
Prerequisite: General Education 122, or Political Science 460, or permission of instructor. Origin and evolution of major concepts in Western political thought from the time of Machiavelli to that of Edmund Burke.
- 462 **POLITICAL THEORY: CONTEMPORARY IDEOLOGIES 3 credits**
Prerequisite: General Education 123, or History 106, or Political Science 460, or permission of instructor. Origin and evolution of major concepts in Western political thought from the time of Edmund Burke to the present; development of modern conservatism, liberalism, Marxism, and Fascism or National Socialism.

- 463 **AMERICAN POLITICAL THEORY 3 credits**
Prerequisite: History 203, 204 or equivalent, or Political Science 250 or 251-252. Origin and evolution of major concepts in American political thought from the Colonial Period to the present.
- 474 **INTERNATIONAL ORGANIZATION 3 credits**
Prerequisite: Political Science 370 or permission of instructor. Development, organization, and activities of various types of international institutions, including the United Nations.
- 475 **FOREIGN POLICIES OF MAJOR POWERS 3 credits**
Prerequisite: Political Science 370 or permission of instructor. Analysis and evaluation of the foreign policies of major political states other than the United States.
- 476 **THEORY AND PRACTICE OF AMERICAN FOREIGN POLICY 3 credits**
Prerequisite: Political Science 370 or permission of instructor. Organization and management of American foreign policy and the conduct of diplomatic relations with other states; current issues and problems in foreign affairs.
- 499 **SENIOR SEMINAR: APPROACHES TO THE STUDY OF POLITICS 3 credits**
Prerequisite: 30 credits in political science and senior standing. Methods of studying political phenomena and application of systematic political theory.

DEPARTMENT of **PSYCHOLOGY**

FACULTY

Professors: Adam, Budd, Harwood (Chairman), Woodring

Associate Professors: Blood, Etzel, E. Jones, Mason, Nugent, Straughan

Assistant Professors: Carmean, Crow, Diers, Elich, Lindholm, MacKay,
Namikas, Thompson

CONCENTRATIONS

Teacher Education

MAJOR (elementary) 45 credits

In addition to the psychology courses in the general education and professional requirements:

Psychology 201, 373, 440, 452, 474

Courses selected under advisement—25 credits

Students electing the alternate program for elementary teachers will complete, in addition to the psychology courses in the general education and professional requirements, 28 quarter hours selected under advisement.

MINOR

Psychology 201

Twelve credits selected as follows:

(a) at least one course from Psychology 302,
402, 407, 409, 440, 452, 474

(b) additional courses selected from the above or from Psychology 320,
405, 406, 431, 453, 457, 464, 471

Other courses may be elected upon prior consultation with the departmental adviser.

Arts and Sciences

MAJOR 40 credits, plus Supporting Courses

Psychology 201, 373, 405, 474, and 17 credits from the following: 302, 355, 402, 406, 407, 408, 409, 440, and 452

Six credits in electives in psychology

Supporting Courses: Mathematics 240, Philosophy 201, Sociology 201, and at least one of the following sequences:

(a) Chemistry, 121, 122, 251

(b) Chemistry 125, 251, and one course from a sequence listed below

(c) Physics 131, 132, 133

(d) Mathematics 220, 241

(e) Either Zoology 248, 249, or Zoology 261, 262, together with one of the following: Biology 301, 371, Zoology 363, 366

Recommended additional courses: one year or more of a foreign language; Philosophy 441, Psychology 406, upper division courses in mathematics and the physical, biological, or social sciences.

MINOR 24 credits

Psychology 201

20 credits selected as follows:

- (a) at least two courses from Psychology 302, 373, 405, 406, 407, 408, 409, 440, 452, 473, 474
- (b) additional courses selected from the above or from Psychology 320, 355, 404, 453

Economics majors should include Psychology 320;

Biology majors should include Psychology 407, 409, 474.

Students planning to take advanced work in psychology at this college should consult the Graduate Bulletin.

Other courses may be elected upon prior consultation with departmental adviser.

Departmental Honors

In addition to the general requirements for all Honors students (see page 107) a psychology major who wishes to graduate "with honors" must complete:

Psychology 401

Satisfactory performance on a comprehensive examination in psychology

Beginning in 1966, 24 credits in French, German, or Russian, or a demonstrated reading knowledge of one of these languages.

Graduate Study

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

COURSES**201 GENERAL PSYCHOLOGY 4 credits.**

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

261 THE PSYCHOLOGY OF ADJUSTMENT 3 credits.

Prerequisite: General Education 105 or a course in general psychology. Adjustments in normal human life; the development of personality and its relation to the adequacy of adjustment.

302 COMPARATIVE PSYCHOLOGY 3 credits

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

320 INDUSTRIAL PSYCHOLOGY 3 credits.

Prerequisite: Psychology 201 or 261. Application of psychological principles to such industrial problems as personnel selection and appraisal, human relations, marketing, training and engineering psychology.

***355 HUMAN GROWTH AND DEVELOPMENT 4 credits.**

Prerequisites: Psychology 261 and Biology 104 or equivalent. Physical, social, and emotional growth and development from birth to adulthood; implications for curriculum and classroom procedures.

* Educational Psychology courses.

- *371 EVALUATION IN THE PUBLIC SCHOOL 3 credits.**
Prerequisite: junior status. 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 credits.**
Prerequisite: Mathematics 240 or permission of instructor. Statistical procedures and informed reading or original research. Also offered as Education 373.
- 396 a, b, c, HONORS TUTORIAL 2 to 5 credits each.**
- 400 SPECIAL PROBLEMS 1 to 3 credits.**
Prerequisite: permission of instructor. Opportunity for advanced students who wish to investigate problems.
- 401 HONORS SEMINAR 3 credits.**
- 402 MOTIVATION 3 credits**
Prerequisite: Psychology 201. Experimental findings, and theoretical interpretations of the biological and psychological aspects of motivation.
- 405 RECENT PSYCHOLOGICAL LITERATURE 3 credits.**
Prerequisite: 20 credits in psychology.
- 406 HISTORY AND SYSTEMS OF PSYCHOLOGY 3 credits.**
Prerequisite: 15 credits in psychology. Historical development of the systematic viewpoints of psychology.
- 407 SENSATION AND PERCEPTION 3 credits.**
Prerequisite: Psychology 201. An experimentally oriented course emphasizing the sensory processes and the necessary stimuli to perception; perceptual theory, classical and contemporary.
- 408 THE PSYCHOLOGY OF LEARNING 5 credits**
Prerequisite: Psychology 201 or equivalent. The major principles of learning, the empirical evidence underlying them, and their theoretical interpretation; lectures and laboratory.
- 409 PHYSIOLOGICAL PSYCHOLOGY 5 credits**
Prerequisites: Zoology 241 and 243, or 248, Psychology 201 and 10 additional credits in psychology. The biological foundations of behavior; lecture and laboratory.
- *431 INTRODUCTION TO GUIDANCE SERVICES 3 credits.**
Prerequisite: 15 hours of psychology and senior status. The roles of the teacher, principal, psychologist, counselor, and other specialists in an integrated program; guidance and counseling techniques.
- 440 SOCIAL PSYCHOLOGY 3 credits.**
Prerequisites: 10 credits in psychology, or Psychology 201 or 261, and 5 credits in sociology. The psychology of human institutions with special reference to the impact on individual behavior.
- *451 PRINCIPLES OF HUMAN LEARNING 3 credits**
Prerequisites: Educational Psychology 355 and student teaching. Application of the psychological principles of learning to classroom teaching.
- 452 THEORY OF PERSONALITY 5 credits.**
Prerequisite: 13 credits in psychology. Theoretical approaches to personality; major philosophic assumptions, historical position, and experimental data considered in evaluating personality theories.
- 453 INDIVIDUAL DIFFERENCES 3 credits.**
Behavioral differences among individuals.
- 457 PROGRAMMED LEARNING 2 credits.**
Principles and theories of learning upon which programmed learning (teaching machines, automated teaching) is based.

* Educational Psychology courses

- 464 ABNORMAL PSYCHOLOGY 3 credits.**
Prerequisite: Psychology 261 or permission of instructor. Psychoses, neuroses, and other forms of behavior deviation; conceptions regarding these conditions.
- *466 THE BRIGHT AND GIFTED CHILD 3 credits.**
Prerequisite: teaching experience or permission of instructor. Identification procedures, curriculum, and teaching methods suited to the education of children with superior and special abilities.
- *471 STANDARDIZED TESTS 3 credits.**
Prerequisite: Educational Psychology 371 or permission of instructor. The various standardized group tests which are commonly used in the public schools; selection of tests, their administration, and the interpretation of norms.
- 473 ADVANCED STATISTICAL INFERENCE 3 credits.**
Prerequisite: Psychology 373 or equivalent. More advanced methods for the analysis of research data. Also offered as Education 473.
- 474 EXPERIMENTAL PSYCHOLOGY 5 credits.**
Prerequisite: Psychology 201, 373, and permission of instructor. Participation in conducting experiments and in the interpretation of data.
- 475 EXPERIMENTAL PSYCHOLOGY IN PUBLIC SCHOOL SCIENCE INSTRUCTION 3 credits.**
Prerequisite: permission of instructor. Basic psychology as learning, motivation, perception, and animal behavior appropriate for inclusion in public school science courses. Summer only.
- 496a,b,c HONORS TUTORIAL 2 to 5 credits each**
- 500 SPECIAL PROBLEMS 1 to 3 credits.**
Prerequisite: permission of instructor. Opportunity for advanced students who wish to investigate special problems.
- 531a,b, SUPERVISED PRACTICE IN COUNSELING 3 credits.**
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 credits.**
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 credits**
Prerequisites: Psychology 452 and 536. The counseling and clinical interview with laboratory opportunity for the development of interviewing skills.
- *536 INTRODUCTION TO COUNSELING PSYCHOLOGY 3 credits**
Prerequisite: Psychology 431. The theories of psychological counseling as they relate to philosophical positions, social conditions, personality, and learning theory.
- 548 FIELD INTERNSHIP IN COUNSELING 0-3 credits**
Prerequisite: Psychology 578 and permission of department. Provision for an academic year of college-supervised work in counseling. Arrangements must be made in cooperation with the school administration involved.
- 555 ADVANCED CHILD PSYCHOLOGY 3 credits.**
Prerequisite: Educational Psychology 355 or equivalent. Research and theory in the field of child development and behavior.
- 556 PSYCHOLOGY OF ADOLESCENCE 3 credits.**
Prerequisite: Educational Psychology 355 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.

* Educational Psychology courses

- 571 **INDIVIDUAL APPRAISAL IN COUNSELING** 3 credits.
Prerequisite: Psychology 373 or equivalent and Psychology 431. The collection, evaluation, application, and interpretation of data available to the school counselor.
- 572 **INDIVIDUAL INTELLIGENCE TESTS** 5 credits.
Prerequisite: 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 to 5 credits.
Prerequisite: Psychology 572. Approaches to clinical appraisal with special attention to value and limitations of personality and interest measures.
- 578 **SUPERVISED PRACTICE IN SCHOOL PSYCHOLOGY** 3 credits.
Prerequisite: Psychology 577. Diagnostic and interpretive work with selected cases under direct supervision.
- 591 **PSYCHOLOGY OF OCCUPATIONS** 3 credits
Prerequisite: Psychology 431. Psychological and social factors in occupational choice; sources of occupational materials, interest and aptitude tests for occupational counseling.

RECREATION
See page 139)

RUSSIAN
(See page 84)

INTERDEPARTMENTAL OFFERINGS in **SCIENCE**

(General Science, Health Science, Physical Science, Science Education)

CONCENTRATIONS

Teacher Education

***GENERAL SCIENCE MAJOR** (elementary) 45 credits

Physics 131

Geology 211, 311

Biology 204

Physics 105 and/or Geography 331

One of the following: Geology 312, 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.

***GENERAL SCIENCE MAJOR** (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.

HEALTH SCIENCE MINOR (for physical education majors) 25 credits

Biology 447

Health Education 252, 301

Home Economics 250

Zoology 241, 243

Five credits from: Biology 245, 371, Zoology 261

***PHYSICAL SCIENCE MAJOR** (secondary) 45 credits

General Science 405

Chemistry 121, 122, 131, 251

Physics 231, 232, 233, (or 131, 132, 133), 381

Physical Science 492

***PHYSICAL SCIENCE MINOR** (junior high school) 25 credits

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

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

Arts and Sciences

HEALTH SCIENCE MINOR 22 credits

- Biology 447
- Health Education 301
- Home Economics 250
- Zoology 243
- Biology 371 or Zoology 261
- 3 additional credits under advisement

COURSES

General Science

- 405 HISTORY OF SCIENCE 3 credits.**
Prerequisite: 30 credits in biological and/or physical science. A seminar in the nature, methods, and development of science and the role of science in society. Recommended for all science majors.

Physical Science

- 382 PHYSICAL SCIENCE FOR THE ELEMENTARY SCHOOL 3 credits.**
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 credits.**
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

- 380 SCIENCE FOR THE ELEMENTARY SCHOOL 5 credits**
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 PROJECT IN SCIENCE FOR THE ELEMENTARY SCHOOL 2 to 5 credits.**
Prerequisites: Biology 104, and one course for the elementary school, or teaching experience; permission of instructor. Available to a few students who wish to undertake special projects under supervision.
- 490 SPECIAL PROJECTS IN SCIENCE TEACHING IN THE JUNIOR AND SENIOR HIGH SCHOOL 2 to 5 credits.**
Prerequisites: Physical Science 492 or Biology 493; permission of instructor. Special projects under supervision.
- 500 SPECIAL PROJECTS IN SCIENCE 2 to 5 credits.**
Prerequisite: permission of instructor. Special projects under supervision.
- 501 DEVELOPMENT OF A SCIENCE PROGRAM IN THE PUBLIC SCHOOL 3 to 5 credits.**
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 to 5 credits.**
Prerequisites: teaching experience and permission of instructor. Opportunity for teachers to work with 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 with organization of courses of study.
- 582 IMPROVEMENT OF SCIENCE INSTRUCTION IN THE ELEMENTARY SCHOOL 2 to 5 credits.**
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 to 5 credits.**
Prerequisites: permission of instructor and teaching experience. Special projects under supervision.
- 592 IMPROVEMENT OF SCIENCE INSTRUCTION IN THE JUNIOR AND SENIOR HIGH SCHOOL 2 to 5 credits.**
Developing a science program to meet the needs and circumstances of a specific school situation.

INTERDEPARTMENTAL PROGRAMS in

SOCIAL STUDIES EDUCATION

CONCENTRATION

Teacher Education

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

MAJOR (junior high school) 45 credits

Geography 201

5 credits from Geography 311, 313, 314, 315, or 316

History 203 or 204

Sociology or Anthropology 201

Political Science 250 or Economics 201

Social Studies Education 426

Courses under advisement:

14 credits concentrated in one of the following fields:

geography, history or sociology-anthropology

MAJOR (elementary) 45 credits

History 203, 204; Geography 201, 311; Sociology-Anthropology 201;

Political Science 250 or Economics 201

Seventeen additional credits under advisement in one of the following three fields: geography, history, or sociology-anthropology

Students electing the alternate program for elementary teachers may defer these 17 credits.

COURSES

- 425 SOCIAL STUDIES FOR THE ELEMENTARY SCHOOL 3 credits**
The incorporation of social science concepts in the social studies program.
- 426 SOCIAL STUDIES FOR THE SECONDARY SCHOOL 3 credits**
Choice and adaptation of materials of instruction to the junior and senior high school level.

DEPARTMENT of **SOCIOLOGY — ANTHROPOLOGY**

FACULTY

Professor: Taylor (Chairman)
Associate Professors: Anastasio, Mazur
Assistant Professors: Call, Douglas, Thamos
Instructors: Kobrinsky, Spaulding
Lecturers: Bowden, Eikaas

CONCENTRATION

Teacher Education

MAJOR 40 credits

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

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

MINOR 20 credits

Sociology-Anthropology 201. Additional courses under departmental advisement.

Arts and Sciences

MAJOR 50 credits, plus Supporting Courses

Sociology-Anthropology 201; either Anthropology 200 or Sociology-Anthropology 202, chosen under departmental advisement; Sociology-Anthropology 275, 370. 20 credits in upper division courses

Additional courses under advisement

Supporting Courses: two courses selected from Biology 371, Psychology 440 or 453; Geology 211, 316; Geography 435, 470, Economics 403.

Recommendations for graduate schools will be made only after the student has performed satisfactorily in Sociology-Anthropology 490.

MINOR 25 credits

Sociology-Anthropology 201; either Anthropology 200 or Sociology-Anthropology 202 chosen under departmental advisement.

Additional courses under departmental advisement.

Departmental Honors

In addition to the general requirements for all Honors students (see page 107) a sociology or 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

Satisfactory performance on a comprehensive examination in sociology-anthropology

Submission of a senior thesis

COURSES IN ANTHROPOLOGY

Several courses are listed as Sociology as well as Anthropology. Those having the same numbers are identical courses.

- 200 HUMAN ORIGINS 5 credits**
The development of man; human origins and prehistory; criteria and theories of race classification; human diffusion, contacts and problems.
- 201 CULTURE AND SOCIETY 5 credits**
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 credits**
Prerequisite: Sociology-Anthropology 201 or permission of instructor. Social behavior observable in selected contemporary societies, the concept "social system," the formulation of general propositions applicable to human behavior.
- 260 PEOPLES OF THE WORLD 5 credits**
A survey of the principal cultures and peoples of the world.
- 275 STATISTICAL METHODS 5 credits**
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.
- 201H HONORS SEMINAR 2 credits**
- 320 ECONOMIC ORGANIZATION 5 credits**
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 credits**
Prerequisite: Sociology-Anthropology 201 or permission of instructor. The "supernatural" as an institution and its relationship to other social and cultural phenomena.
- 340 POLITICAL ORGANIZATION 5 credits**
Prerequisite: Sociology-Anthropology 201 or permission of instructor. Political structure in selected areas (and societies) of the world and the relationship between political institutions and other aspects of the social system.
- 351 FAMILY AND KINSHIP ORGANIZATION 5 credits**
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 credits**
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 3 credits**
Native Indian culture and native cultural areas of the new world. Summer only.
- 362 PEOPLES OF EURASIA 3 credits**
European and Asian racial and cultural distribution.
- 363 PEOPLES OF AFRICA 3 credits**
Races and cultures of Africa with emphasis on the area south of the Sahara but including a brief ethnological survey of North Africa.
- 366 COMMUNITY ORGANIZATION 5 credits**
Prerequisites: 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 credits**
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 credits**
Prerequisite: 10 credits in sociology or anthropology, or permission of instructor. The development of social thought in Europe and America with major emphasis upon the period following Auguste Comte.
- 391 CONTEMPORARY SOCIAL THEORY 5 credits**
Prerequisite: 10 credits in sociology or anthropology or permission of instructor; Sociology-Anthropology 390 recommended. Major contemporary theories of society and social organization.
- 396a, b, c HONORS TUTORIAL 2 to 5 credits**
- 401A THE CHILD IN SOCIETY 3 credits**
Prerequisite: 10 credits in sociology or anthropology. The functions of childhood as viewed from a cross-cultural perspective.
- 401D INTERACTION THEORY AND GROUP DYNAMICS 3 credits**
Prerequisite: 10 credits in sociology or anthropology and permission of instructor. Group processes and the interaction base from which they stem. Major foci of interest include forms and functions of leadership, individuality vs. conformity, group identity and values.
- 401G PRIMATE BEHAVIOR 3 credits**
Prerequisite: Sociology-Anthropology 390 or 391. Concepts and processes fundamental to behavioral science theory within the context of the social behavioral characteristic of the Primate order.
- 401H HONORS SEMINAR 3 credits**
Prerequisite: permission of instructor.
- 430 THEORIES OF SOCIAL CHANGE 3 credits**
Prerequisite: 15 credits in sociology or 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.
- 462 INDIANS OF THE NORTHWEST COAST 3 credits**
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 credits**
Prerequisite: permission of instructor. For the student who wishes to investigate a problem through field or library research.
- 481 APPLIED ANTHROPOLOGY 3 credits**
Prerequisite: 10 credits in sociology or anthropology or permission of instructor. Utilization of anthropological theory in the practical problems of government, industry, education and social welfare; the administration of colonial and dependent peoples.
- 485 READING AND CONFERENCE IN CULTURAL ANTHROPOLOGY 1 to 5 credits**
Prerequisite: 15 credits in sociology or anthropology or permission of instructor. Selected readings in the major works in the fields of cultural and social anthropology. Discussion centers on a specific topic chosen for the quarter.
- 486 READING AND CONFERENCE IN PHYSICAL ANTHROPOLOGY AND ARCHAEOLOGY 1 to 5 credits**
Prerequisite: permission of instructor. Selected reading in the major works on human paleontology, morphology, genetics, prehistory and archaeological field techniques. The topic to be discussed in a given quarter will be determined by the instructor.

- 490 SEMINAR IN SOCIAL THEORY 3 credits**
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 credits each**

COURSES IN SOCIOLOGY

Several courses are listed as Sociology as well as Anthropology. Those having the same number are identical courses.

- 201 CULTURE AND SOCIETY 5 credits**
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 credits**
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.
- 275 STATISTICAL METHODS 5 credits**
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 credits**
- 311 WORLD DEMOGRAPHY 5 credits**
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 underdeveloped areas; elementary demographic techniques essential to understanding the components of population change.
- 320 ECONOMIC ORGANIZATION 5 credits**
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 credits**
Prerequisite: Sociology-Anthropology 201 or permission of instructor. The "supernatural" as an institution and its relationship to other social and cultural phenomena.
- 340 POLITICAL ORGANIZATION 5 credits**
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 credits**
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 credits**
Prerequisite: Sociology-Anthropology 201 or equivalent. The collective aspects of non-normative or nonconforming behavior as a product of the social system.
- 366 COMMUNITY ORGANIZATION 5 credits**
Prerequisites: 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 credits**
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 credits**
Prerequisite: 10 credits in sociology or anthropology, or permission of instructor. The development of social thought in Europe and America with major emphasis upon the period following Auguste Comte.
- 391 CONTEMPORARY SOCIAL THEORY 5 credits**
Prerequisite: 10 credits in sociology or anthropology or permission of instructor; Sociology 390 recommended. Major contemporary theories of society and social organization.
- 396a, b, c HONORS TUTORIAL 2 to 5 credits each**
- 401A THE CHILD IN SOCIETY 3 credits**
Prerequisite: 10 credits in sociology or anthropology. The functions of childhood from a cross-cultural perspective.
- 401D INTERACTION THEORY AND GROUP DYNAMICS 3 credits**
Prerequisites: 10 credits in sociology or anthropology and permission of instructor. Group processes and the interaction base from which they stem. Major foci of interest include forms and functions of leadership, individuality vs. conformity, group identity and values.
- 401H HONORS SEMINAR 3 credits**
- 413 POPULATION OF WASHINGTON STATE 3 credits**
Prerequisite: permission of instructor. Population growth, distribution and composition; a course for administrators, educators, and sociologists.
- 430 THEORIES OF SOCIAL CHANGE 5 credits**
Prerequisite: 15 credits in sociology or 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 5 credits**
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 credits**
Prerequisite: Sociology-Anthropology 201 or permission of the 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 credits**
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.
- 455 PENOLOGY — TREATMENT AND CORRECTION 3 credits**
Prerequisite: 10 credits in sociology or anthropology or permission of instructor. Reactions of society to criminal and delinquent behavior; juvenile and criminal courts; correctional institutions and correctional programs.
- 457 HISTORY OF SOCIAL WELFARE 3 credits**
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 credits**
The practice of social welfare in Washington State with particular emphasis upon legal aspects.
- 470 RESEARCH 2 to 6 credits**
Prerequisite: permission of instructor. An opportunity to investigate a problem through field or library research.

- 475 **INTERMEDIATE STATISTICS** 3 credits
Prerequisite: 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.
- 483 **SOCIAL CHANGE AND THE MORAL ORDER IN RECENT LITERATURE** 4 credits
Also offered as English 483 and Philosophy 483.
- 485 **READING AND CONFERENCE IN SOCIOLOGY** 1 to 5 credits
Prerequisite: 15 credits in sociology or anthropology or permission of instructor.
Selected readings in major works in the fields of sociology. Discussion on a specific topic chosen for the quarter.
- 490 **SEMINAR IN SOCIAL THEORY** 3 credits
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 credits each
Prerequisite: permission of instructor.

SPANISH
(See page 85)

DEPARTMENT of **SPEECH**

FACULTY

Professor: Carlile (Chairman)

Associate Professors: Brewster, Herbold, Schinske

Assistant Professors: Angelocci, Flanders, Sigler, Wadleigh

Instructors: Birner, Bright, Walda

CONCENTRATIONS

Teacher Education

MAJOR (elementary—general classroom) 45 credits

Speech 201 or 204 or 205, 233, 350, 355, 356, 373, 430, 461, and four credits in clinical practice

17 additional credits in speech selected under departmental advisement

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

MAJOR (speech therapist) 45 credits

Speech 201 or 204 or 205, 233, 350, 355, 373, 430, 461, six credits in clinical practice, plus additional credits selected under departmental advisement

Directed Teaching, under the supervision of a speech therapist

MAJOR (secondary) 40 credits

Speech 130, 201, 204, or 205, 233, 236, 350, 355, 373, 437, 485

3 credits selected from 421, 422, 423, 425, 426, 427

Additional courses selected under departmental advisement

MINOR (secondary) 20 credits

Option A: Speech 130, 201 or 204 or 205, 233, 236, 373, 437, 485

Option B: Speech 201, 202, 204 or 205, 206, 305, 480, 485, plus additional courses selected under departmental advisement

Arts and Sciences

MAJOR 50 credits

Speech 130, 201, 233 or 341, 355, and 373

20 credits in one of the areas listed below, plus 6 credits in each of the remaining two areas.

Theatre: Speech 230, 231, 232, 236, 237, 238, 320, 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

MINOR 25 credits

Speech 130, 201, 233, 340 or 341, 355, and 373, plus additional courses chosen under advisement from those listed in the three areas above

Graduate Study

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

COURSES

- 100 FUNDAMENTALS OF SPEECH 3 credits**
Functional approach to effective communication; application of principles to practical problems of speech.
- 105 VOICE AND ARTICULATION IMPROVEMENT 3 credits**
Laboratory work designed to improve voice and articulation patterns.
- 130 INTRODUCTION TO THE THEATRE 3 credits**
Appreciation of the art of theatre, cinema, and television; play analysis, play production, and dramatic criticism.
- 200 SPEECH ANALYSIS 3 credits**
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 EXTEMPORÉ SPEAKING 3 credits**
Theory and practice in an extemporaneous mode of speaking.
- 202 PARLIAMENTARY LAW 1 credit**
Parliamentary principles and procedures.
- 204 DISCUSSION AND CONFERENCE 3 credits**
Prerequisite: Speech 100. The fundamentals of effective participation in small problem-solving groups with topics of current interest.
- 205 ARGUMENTATION AND DEBATE 3 credits**
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 credits each**
Impromptu, extempore, and after-dinner speaking; oratory, debate, and other phases of forensics. Not more than 6 credits may be earned by participating in intercollegiate forensics.
- 230, 231, 232 THE ACTED DRAMA 1 to 3 credits 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 credits**
Practice in reading prose, poetry, and drama to help the student determine the logical and emotional meaning of a selection and to project that meaning to his listeners.
- 236 STAGECRAFT 3 credits**
Theory and practice of planning, building, and painting scenery.
- 237 STAGE LIGHTING 2 credits**
Concurrent enrollment in Speech 236 is recommended. Technical and artistic aspects of light and color as applied to stage productions.
- 238 STAGE MAKE-UP 1 credit**
Theory and practice in the actual application of make-up for students working in activities involving stage production.

- 305 **PERSUASION 3 credits**
Prerequisite: at least one 200 level course in public address. An advanced study of the principles that influence the belief and action of audiences and practice in application of these principles.
- 306 **ORGANIZING AND DIRECTING THE FORENSICS PROGRAM 2 credits**
Fundamentals of interscholastic debate, discussion, oratory, and extempore speaking. For non-majors or minors. Summer only.
- 320 **SHAKESPEARE 5 credits**
A survey of the principal plays. Also offered as English 343.
- 336 **DESIGN FOR THE STAGE 3 credits**
Prerequisite: Speech 236. Advanced study of the physical theatre with emphasis on creative stage and lighting design for various types of theatres and productions.
- 337 **ACTING 3 credits**
Prerequisite: Speech 233 or consent of the instructor. Interpretation and action on the stage; application of the basic techniques of acting.
- 338 **COSTUMING 3 credits**
The history of costume and its adaptation to the needs and limitations of the stage; opportunity for laboratory work on dramatic production.
- 340 **INTRODUCTION TO RADIO AND TELEVISION 3 credits**
Radio and television as media of communication, with emphasis on their social, economic, political, and educational roles.
- 341 **BROADCAST SPEECH 2 credits**
Prerequisite: Speech 340 (or concurrent). Laboratory practice before the microphone and camera; applying the methods of oral communication to the broadcast media.
- 350 **SPEECH SCIENCE 3 credits**
The speech and hearing mechanisms and the physical aspects of speech.
- 355 **INTRODUCTION TO SPEECH CORRECTION 3 credits**
Survey of speech disorders including identification, classification, and fundamentals of therapy. Concurrent enrollment in Speech 357 recommended.
- 356 **ARTICULATION AND VOICE DISORDERS 3 credits**
Prerequisite: Speech 355. Symptomatology, etiology, and therapy for voice and articulation disorders.
- 357 **OBSERVATION OF CLINICAL PRACTICE 2 credits**
Prerequisite: Speech 355 or concurrent. Directed observation and evaluation of the methods, materials, and techniques used in treating speech and/or hearing cases.
- 358, 359, 360 **CLINICAL PRACTICE IN SPEECH THERAPY 2 credits 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 credits**
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 credits**
Materials, organization, and production of assembly programs in the elementary and secondary schools.
- 400 **SPECIAL PROBLEMS 1 to 3 credits**
Prerequisite: permission of instructor. Investigation of special problems in the fields of speech.
- 404 **DRAMA IN THE SECONDARY SCHOOL 2 credits**
General dramaturgical background for teachers who supervise dramatic activities.

- 420 STUDIES IN SHAKESPEARE 3 credits**
Prerequisite: English 343 or Speech 320. Seminar in selected plays. Also offered as English 443.
- 421, 422, 423 DEVELOPMENT OF THE ENGLISH DRAMA 3 credits 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 credits**
The American theatre beginning with O'Neill and concluding with World War II. Also offered as English 473.
- 425 MODERN EUROPEAN DRAMA 3 credits**
Ibsen and Strindberg as the founders of the modern drama; selected plays from 1850 to 1920.
- 426 CONTEMPORARY DRAMA 3 credits**
Selected plays and significant trends in contemporary European and American drama.
- 427 AMERICAN DRAMA AND THEATRE: 1750-1890 3 credits**
Development of native theatre traced with reference to well-known actors, stock and touring companies, frontier theatres, plays and playwrights of the period. Summer only.
- 430 CREATIVE DRAMATICS 3 credits**
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 credits**
Various aspects of presenting plays with children as well as plays for children; play selection, play direction, and play production.
- 437 PLAY DIRECTION 3 credits**
Theory and practice of stage direction including play selection, casting, and blocking.
- 438 ADVANCED PLAY DIRECTION 3 credits**
Prerequisite: Speech 437. Continued study of the theory and practice of direction with special emphasis on working with the actor.
- 441 PRODUCING AND DIRECTING THE BROADCAST PROGRAM 3 credits**
Prerequisite: Speech 341. An introductory course in program production and directing for radio and television with emphasis on educational broadcasting.
- 442 WRITING FOR RADIO AND TELEVISION 2 credits**
Prerequisite: Speech 341. Practice in writing scripts for interpretation by producers, directors, and performers.
- 454 DISORDERS OF RHYTHM 3 credits**
Prerequisite: Speech 355 and 357. Stuttering, cluttering, and related disorders.
- 455 SPEECH THERAPY IN THE PUBLIC SCHOOLS 3 credits**
Prerequisite: Speech 355 and 357. The role of the clinician in organizing and directing a speech therapy program.
- 456 ORGANIC SPEECH DISORDERS 3 credits**
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 credits each**
Prerequisites: Speech 358 plus a minimum of 6 additional credits in the field. Supervised clinical practicum dealing with more complex cases.
- 461 INTRODUCTION TO HEARING 3 credits**
Prerequisite: 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 credits**
Prerequisite: Speech 461. Determining types and kinds of hearing loss: practice in testing the hearing function and interpreting the results.
- 463 HEARING REHABILITATION 3 credits**
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 credits**
Prerequisite: some background in American history. Historical and critical study of principal speakers and their relationship to American political, social, and intellectual life beginning with Jonathan Edwards and continuing to the present-day speakers.
- 485 TEACHING SPEECH IN THE SENIOR HIGH SCHOOL 3 credits**
Prerequisite: 15 credits in speech or permission of instructor. Examination of materials and methods useful in teaching drama, interpretation, and public address.
- 487 DISCUSSION TECHNIQUES FOR TEACHERS AND ADMINISTRATORS 3 credits**
The 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 credits**
The development of additional skill in meeting speech situations in the field of education; delivery, composition, audience analysis, and interests.
- 490 ANCIENT RHETORIC 3 credits**
Principles of rhetoric proposed by Aristotle, Quintilian, and Cicero, and the relationship of those principles to modern speech-making. Summer only.
- 500 SPECIAL PROBLEMS 1 to 3 credits**
Prerequisite: permission of instructor. For advanced students who wish to investigate special problems.
- 530 SEMINAR IN PLAY PRODUCTION 3 credits**
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.
- 551 SEMINAR IN SPEECH DISORDERS: THEORY AND THERAPY 3 credits**
Prerequisite: experience as a speech and/or hearing therapist and permission of instructor. Analysis and evaluation of recent concepts, issues, techniques, and methods applicable to speech disorders.
- 552 DIAGNOSTIC METHODS IN SPEECH THERAPY 3 credits**
Prerequisite: 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 credits**
Prerequisite: experience as a speech therapist and permission of instructor. Experimentation with new methods and materials, and clinical implementation of current practices; an opportunity for senior clinicians to plan, direct, and supervise the activities of speech clinicians.
- 562 SEMINAR IN HEARING DISORDERS: THEORY AND THERAPY 3 credits**
Prerequisite: experience as speech and/or hearing therapist and permission of instructor. Detailed study and research in the area of hearing.
- 573 ADVANCED PHONETICS 3 credits**
Prerequisite: Speech 373. The phonetic structure and symbolization of principal American and other English dialects and certain European languages.

ZOOLOGY

(See page 54)

FACULTY AND PERSONNEL

SPECIAL SERVICES

STUDENT PERSONNEL SERVICES

STUDENT LIVING

***STUDENT ACTIVITIES AND
ORGANIZATIONS***

SUMMARY OF ENROLLMENT

THE FACULTY AND ADMINISTRATIVE OFFICERS

Emeritus Faculty

- WILLIAM WADE HAGGARD** **President Emeritus of the College**
 B.A., Maryville College; M.A., University of Michigan; Ph.D., University of Chicago;
 Ed.D. (Honorary), Maryville College.
- EDWARD J. ARNTZEN** **Professor Emeritus of History**
 B.A., University of Washington; M.A., Columbia University; University of Wash-
 ington; Columbia University.
- HAZEL BREAKY** **Assistant Professor Emeritus of Art**
 B.S., graduate work, Teachers College, Columbia University; graduate 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 Ed-
 ucation, Kalamazoo; Western Washington State College.
- MIRA E. BOOTH** **Assistant Professor Emeritus of Music**
 B.A., University of Washington; M.A., Teachers College, Columbia University;
 University of Southern California.
- S. E. CARVER** **Associate Professor Emeritus of Physical Education**
 B.A., Stanford University; M.A., University of Iowa; University of California; Uni-
 versity of Oregon.
- LINDA COUNTRYMAN** **Associate Professor Emeritus of Home Economics**
 B.S., Milwaukee-Downer College; M.A., Teachers College, Columbia University; Uni-
 versity of Chicago.
- NORA B. CUMMINS** **Professor Emeritus of Political Science and History**
 B.A., University of Minnesota; M.A., Columbia University; Northern Normal and
 Industrial School.
- IRENE ELLIOTT** **Assistant Professor Emeritus of Education**
 B.S., M.A., Columbia University.
- GEORGIA P. GRAGG** **Instructor Emeritus of Commercial Studies and Handwriting**
 Western Washington State College; A.N., Palmer School of Penmanship.
- IRWIN A. HAMMER** **Professor Emeritus of Education**
 University of Toulouse, Toulouse, France; B.A., Park College; M.A., University of
 Colorado; University of Minnesota; University of Chicago; Ed.D., Teachers Col-
 lege, 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; Uni-
 versity of California.

- LUCY KANGLEYProfessor 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 PLATTAssociate Professor Emeritus of Zoology
B.S., M.S., University of Washington; University of California.
- HAZEL JEAN PLYMPTONAssociate Professor Emeritus of Art
Ph.B., University of Chicago; M.A., Teachers College, Columbia University; Reed College; Portland School of Art.
- LEONA M. SUNDQUISTProfessor Emeritus of Biological Science
B.A., M.S., University of Washington; Teachers College, Columbia University.
- ANNA ULLINAssistant Professor Emeritus of Foreign Languages
B.A., University of Washington; M.A., Teachers College, Columbia University; Certificate, Sorbonne, Paris; Oxford; University of Mexico.
- ELSIE WENDLINGAssistant Professor Emeritus of Education
B.S., M.A., Supervisors' Certificate, Teachers College, Columbia University; Northern Illinois State Teachers College, DeKalb; Western Washington State College, University of Washington; Continuation Center, University of Minnesota; Reading Clinic, Alameda, California.

The 1964-1965 Faculty and Administrative Officers

(The following list is complete as of June 10 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.

- PATRICIA A. ABEL (1962)Assistant Professor of English
A.B., University of South Dakota; Ph.D., University of Missouri.
- 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).....Instructor of German
B.A., M.A., University of California, Berkeley.
- HENRY L. ADAMS (1957)Professor of Psychology
B.A., M.A., University of Kentucky; Ph.D., University of Illinois.
- *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; Brown University.

* On leave, fall quarter, 1964.

- JOHN L. ALLEN (1964)Instructor of Library Science and Reference Librarian
A.B., University of Michigan.
- 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.
- HUDSON M. ANDERSON (1962)Assistant Professor of Education
B.A., University of Michigan; M.A. Michigan State University; Ed.D., University
of Oregon.
- ANGELO ANGELOCCI (1962)Assistant Professor of Speech
B.S., Eastern Michigan University; M.A., University of Michigan; Ph.D., Wayne State
University.
- CHAPPELLE ARNETT (1960)Lecturer in Physical Education
B.S., Centenary College; M.S. in Ed., Purdue University; University of Wash-
ington.
- P. H. ATTEBERRY (1954)Professor of Industrial Arts and
Chairman of the Department
B.S., M.S., Kansas State College; Ed.D., University of Missouri.
- BARCLAY BALL (1963)Instructor of German
B.A., Portland State College; M.A., University of Washington; University of
Minnesota.
- *DECLAN BARRON (1946)Associate Professor of Biological Science
B.A. in Ed., Western Washington State College; M.A., Yale University; Stanford
University.
- MEREDITH BASKETT (1964)Instructor of English
B.A., Central Missouri State College; M.A.L.S., University of Michigan; M.A., Mich-
igan State University.
- WILLIAM BENDER (1960)Professor of Physics
B.A., M.S., University of Colorado; Ph.D., Yale University.
- JAMES R. BENNETT (1962)Assistant Professor of English
B.A., M.A., University of Arkansas; Ph.D., Stanford University.
- ELIOT BENOWITZ (1964)Instructor of History
B.A., New York State College; M.S., University of Wisconsin.
- MARION BESSERMAN (1952)Associate Professor of Chemistry
B.S., University of Washington; M.S., Purdue University; Ph.D., University of Wash-
ington.
- WILLIAM B. BIRNER (1964)Instructor of Speech
B.A., Brooklyn College; M.A., University of Kansas.
- DON F. BLOOD (1951)Associate Professor of Psychology and
Director of Institutional Research
B.A. in Ed., Central Washington State College; M.A., Ph.D., State University of
Iowa.

* On leave 1964-1965.

- EILEEN C. BOUNIOL (1963)Assistant Professor of French
A.B., A.M., Indiana University; Ph.D., University of Missouri.
- EDGAR A. F. BOWDEN (1964)Lecturer in Sociology
B.Sc., Ph.D., University of London; University of British Columbia.
- BERNARD L. BOYLAN (1956)Associate Professor of History
B.A., M.A., University of Washington; Ph.D., University of Missouri.
- LAURENCE W. BREWSTER (1948)Associate Professor of Speech
B.A., Yankton College; M.A., Ph.D., State University of Iowa.
- PHILIP L. BRIGHT (1963)Instructor of Speech
B.A., Willamette University; M.A., University of Washington.
- ALFRED C. BROAD (1964)Professor of Biology and Chairman of the Department
B.A., M.A., University of North Carolina; Ph.D., Duke University.
- CLARK C. BROWN (1956)Lecturer in Education
B.A. in Ed., Western Washington State College; M.A., Columbia University.
- DON W. BROWN (1954)Associate Professor of Education
B.S., M.A., University of Nebraska; Ed.D., Colorado State College.
- WILLIAM C. BUDD (1953)Professor of Psychology and College Examiner
B.A., Hamline University; B.S., M.A., Ph.D., University of Minnesota.
- DOROTHY BUTTON (1955)Assistant Professor of Education and
Assistant Registrar
B.A., University of California; University of Washington; M.Ed., Western Washington State College.
- DONALD J. CALL (1958)Assistant Professor of Sociology
B.A., M.A., 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; University of London.
- STEPHEN L. CARMEAN (1964)Assistant Professor of Psychology
B.A., M.A., University of Illinois.
- *KATHERINE M. CARROLL (1958)Associate Professor of Education
B.S., Salem State College; Ed.M., Ed.D., Boston University; Harvard University.
- KATHERINE M. CASANOVA (1932)Associate Professor of Education
B.S., M.A., Teachers College, Columbia University; Stanford University; University of Washington.
- MOYLE F. CEDERSTROM (1935)Professor of English
B.A., M.A., University of Minnesota; Ph.D., University of Washington.
- ROBIN CHANEY (1964)Assistant Professor of Mathematics
B.S., Ohio State University.

* On leave 1964-1965.

- EDNA CHANNER (1940)**Associate Professor of Industrial Arts
B.A., University of Washington; M.A., University of Iowa; Oregon State College;
Claremont Graduate School.
- BENJAMIN CHITWOOD (1963)**Lecturer in Biology
B.A., Rice Institute; M.S., Ph.D., George Washington University.
- ROBERT CHRISTMAN (1960)**Associate Professor of Geology and
Chairman of the Department
B.S., M.S., University of Michigan; Ph.D., Princeton University.
- EDWIN R. CLAPP (1960)**Professor of English and
Chairman of the Department
A.B., Stanford University; M.A., Ph.D., Harvard University.
- JAY W. CONQUEST (1962)**.....Assistant Professor of Education
B.S., University of Idaho; M.S.Ed., University of Pennsylvania; Colorado State
College; University of Hawaii.
- LESLIE W. CRAWFORD (1962)**Lecturer in Education
B.S., M.S., Eastern Montana College.
- *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)**Assistant Professor of Psychology
B.S., M.A., University of South Carolina; Ph.D., University of Illinois.
- FRANK L. D'ANDREA (1945)**Professor of Music and Chairman of the Department
B.S., M.A., New College, Teachers College, Columbia University; Royal Academy
of Music, and Mary Datchlor School, London, England; Ed.D., Teachers College.
- STANLEY M. DAUGERT (1962)**Professor of Philosophy and
Chairman of the Department
A.B., M.A., Ph.D., Columbia University.
- CAROL J. DIERS (1963)**Assistant Professor of Psychology
B.A., B.A. in Ed., Western Washington State College; M.A., University of British
Columbia; Ph.D., University of Washington.
- WILLIAM J. DITTRICH (1951)**Assistant Professor of Physics
B.S., M.S., University of Washington.
- LAWRENCE DOUGLAS (1964)**Assistant Professor of Sociology
B.A., M.A., University of British Columbia; 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)**Assistant Professor of Geology
B.S., M.S., Ph.D., University of Washington

* On leave fall quarter 1964.

- *LOWELL P. EDDY (1957)Associate Professor of Chemistry
B.S., M.S., Oregon State College; Ph.D., Purdue University.
- FAITH EIKAAS (1964)Lecturer in Sociology
B.A., M.A., D.S.S., Syracuse University.
- ANDRE ELBAZ (1964)Instructor of French
Certificat de Fin d'Etudes Normales, France.
- PETER J. ELICH (1961)Assistant Professor of Psychology
B.A., University of Washington; M.Ed., Western Washington State College; Ph.D.
University of Oregon.
- ROSS C. ELLIS (1962)Assistant Professor of Geology
B.A., Occidental College; Ph.D., University of Washington.
- WILLIAM E. ELMENDORF (1958)Instructor of Russian and Spanish
B.S., University of Puget Sound; M.A., University of Washington.
- JOHN E. ERICKSON (1964)Assistant Professor of Biology
B.A., University of Omaha; A.M., Indiana University; University of Oregon.
- BARBARA C. ETZEL (1961)Associate Professor of Psychology
A.A., Stephens College; B.S., Denison University; M.S., University of Miami; Ph.D.,
State University of Iowa.
- EUNICE DAY FABER (1959)Lecturer in French and Spanish
B.A., Howard University; M.A., Catholic University of America.
- J. KAYE FAULKNER (1962)Assistant Professor of Economics
B.S., University of Utah.
- F. RICHARD FERINGER (1962)Assistant Professor of Education and
Director of Extension Services
B.S., University of Minnesota; Ed.D., University of California, Los Angeles.
- DONALD A. FERRIS (1947)Associate Professor of Education and
Coordinator of Space and Schedules
B.A., M.A., University of Washington; Teachers College, Columbia University; Col-
orado State College.
- MORRIS A. FINDER (1963)Associate Professor of English
M.A., Ph.D., University of Chicago.
- MARK W. FLANDERS (1952)Assistant Professor of Speech
B.A., Iowa State Teachers College; M.A., State University of Iowa.
- A. HUGH FLEETWOOD (1962)Assistant Professor of Philosophy
A.B., M.A., University of Michigan.
- CHARLES J. FLORA (1957)Professor of Zoology
B.A., Purdue University; M.Ed., Ed.D., University of Florida; University of
British Columbia.

* On leave 1964-1965.

- IONE A. FOSS (1957)Assistant Professor of Art
B.S., M.A.A., Montana State College; University of Washington; M.F.A., University of Oregon.
- ANDREW J. FRANK (1962)Associate 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; University of Washington; University of Illinois.
- JEROME GLASS (1955)Associate Professor of Music
B.S., New York University; M. Mus., University of Southern California.
- HAROLD A. GOLTZ (1957)Assistant to the President
B.A., Macalester College; M.A., University of Minnesota.
- NEIL R. GRAY (1964)Lecturer in Mathematics
B.A., San Francisco State College; University of Washington.
- THOMAS H. GROVE (1962)Assistant Professor of Education
B.A., M.A., 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; Texas Women's University.
- BYRON E. HAGLUND (1956)Associate Professor of Economics
B.B.A., M.A., University of Minnesota; C.P.A., Washington, D.C., and State of Washington.
- JAMES D. HANNA (1961)Instructor of Library Science and Acquisitions Librarian
B.A. in Ed., Western Washington State College; McGill University; M.A.L.S., University of Washington.
- ALTA J. HANSEN (1961)Assistant Professor of Physical Education
B.S., Pacific University; M.S., Ph.D., University of Oregon.
- CHARLES H. HANSFORD (1962)Assistant Professor of Education
B.Mus., Central College; M.A., Stanford University; Ed.D., University of Missouri.
- FRANCES F. HANSON (1963)Professor of Education and
Director of the Campus School
B.S., Moorhead State College; M.A., University of Minnesota; Ed.D., Montana State University.

* On leave, 1964-1965.

- LAWRENCE HANSON (1963)Instructor of Art
B.A., M.F.A., University of Minnesota.
- 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
B.A., Montana State University; M.A., Ph.D., University of Illinois.
- WILLIAM T. HATCH (1962)Financial Aids Officer
B.A. in Ed., Western Washington State College; M.A., Claremont Graduate School.
- VERNON F. HAUBRICH (Jan., 1964)Associate Professor of Education and
Chairman of the Department
B.S., M.S., Ph.D., University of Wisconsin.
- HERBERT R. HEARSEY (1941)Associate Professor of Library Science and
Public Services Librarian
B.A., Ed.M., Tufts College; B.S. in Library Science, M.A. in Library Science, University of Illinois.
- WALLACE G. HEATH (1962)Assistant Professor of Biological Sciences
B.S., Ph.D., University of Arizona.
- JOHN J. HEBAL (1962)Assistant 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.
- 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)Associate Professor of Education
B.A., Simpson College; M.S., Washington State University; Ph.D., State University of Iowa.
- JAMES L. HILDEBRAND (1952)Associate Professor of Mathematics
B.A., M.A., North Texas State University; University of Iowa; Columbia University;
University of Washington.
- HARLEY E. HILLER (1957)Associate Professor of History
B.A., Westmar College; M.A., Ph.D., University of Minnesota.
- EVELYN M. HINDS (1960)Instructor of Music
B.A. in Ed., M.Ed., Western Washington State College.

* On leave fall quarter 1964.

- 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; Stanford University.
- ROBERT HUFF (1964)Assistant Professor of English
A.B., M.A., Wayne State University; Indiana University.
- LESLIE HUNT (1942)Assistant Professor of English
B.A. in Ed., Western Washington State College; M.A., Teachers College, Columbia University; University of Washington; University of Michigan; Arizona State University.
- 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; Teachers College, Columbia University.
- 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 Philosophy
B.A. in Ed., Western Washington State College; M.A., Ph.D., University of Washington.
- HERBERT G. KARIEL (1962)Assistant Professor of Geography
B.S., M.Ed., University of Oregon; Ph.D., State University of Iowa.
- ABRAHAM KAUFMAN (1964)Associate Professor of Education
A.B., University of Chicago; A.M., Roosevelt University; Ed.D., Harvard University.
- RUTH KELSEY (1948)Associate Professor of Art
B.A., Washington State University; University of Oregon; M.A., University of California, Berkeley; University of Washington.
- 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.
- EUGENE C. KIM (1962)Assistant Professor of Education
B.A., Seoul University; M.A., New York State Teachers College; M.Ed., Cornell University; Ph.D., Western Reserve University.
- ELEANOR KING (1953)Associate Professor of French and German
B.A., University of British Columbia; M.A., University of Toronto; University of Munich, Germany; Ph.D., University of Wisconsin.

- FLORENCE J. KIRKPATRICK (1925)**Associate Professor of Biological Science
B.S., University of Washington; M.A., Mills College; University of California.
- HOWARD A. KLEIN (1963)**Assistant Professor of Education
B.A., Syracuse University; M.A., University of Michigan; Syracuse University.
- 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; University of Washington; University
of London.
- GERALD F. KRAFT (1961)**Assistant Professor of Zoology
B.A., San Jose State College; M.S., Washington State University; Ph.D., Oregon
State University.
- RICHARD J. KREJSA (1964)**Assistant Professor of Zoology
B.S., Michigan State University; M.A., University of California, Los Angeles;
University of British Columbia.
- 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.
- WALTER B. LAFFER (1963)**Assistant Professor of Mathematics
B.S., Case Institute of Technology; Ph.D., Ohio State University.
- ARNOLD M. LAHTI (1955)**Professor of Physics
B.A., B.A. in Ed., Western Washington State College; Ph.D., University of
Minnesota.
- 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; Whitworth College, Boston University, Uni-
versity of Washington.
- EDITH B. LARRABEE (1957)**Assistant Professor of Home Economics
B.S., East Texas State College; 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.
- W. ROBERT LAWYER (1960)**Assistant Professor of English
B.A., University of Washington.
- LAWRENCE LEE (1962)**Assistant Professor of English
B.A., M.A., Ph.D., University of Utah.
- HUGH S. LEHMAN (1963)**Assistant Professor of Philosophy
A.B., Union College; A.M., Ph.D., Harvard University.
- JANICE R. LENO (1964)**Instructor of Home Economics
B.S., South Dakota State College; M.S., Oklahoma State University
- STANLEY J. LePROTTI (1964)**Associate Professor of Physical Education
A.B.L.A., San Francisco State College; M.A., California State Polytechnic College.

- *MERRILL LEWIS (1962)Instructor of English
B.A., M.A., University of Oregon; University of Utah.
- LINNEA LILJA (1963)Lecturer in Education
B.A., M.A., University of Minnesota.
- BYRON W. LINDHOLM (1962)Assistant Professor of Psychology
B.A., Northwestern University; Ph.D., University of Illinois.
- RICHARD H. LINDSAY (1961)Associate Professor of Physics
B.S., University of Portland; M.S., Stanford University; Ph.D., Washington State University.
- **FREDERICK M. LISTER (1954)Associate Professor of Mathematics
B.S., Tufts University; M.A., University of Michigan.
- 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, Berkley.
- RICHARD C. McALLISTER (1961)Assistant Professor of Economics
B.A., M.A., University of Washington; University of Florida; 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;
D. Phil., University of London; University of Florence.
- 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; George Peabody College.
- 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; Graduate Library School, University of Chicago.
- RUBY D. McINNES (1948)Associate Professor of Education
B.A., University of Washington; M.A. Teachers College, Columbia University.
- DONALD B. McLEOD (1963)Instructor of English
B.A., Whitman College; M.A., Montana State University.

* On leave fall quarter, 1964

** On leave, 1964-1965.

- 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.
- STEPHEN MARGARITIS (1963) Assistant Professor of Education
B.A., University of Athens; M.A., Ph.D., University of Southern California.
- DAVID F. MARSH (1957) Associate Professor of Art
B.A., Central Washington State College; M.S., University of Oregon; Fresno State
College; University of Washington.
- JAMES S. MARTIN (1955) Associate Professor of Botany
B.S., M.S., Ph.D., University of Washington.
- 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 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) Instructor of Art
N.D.D. Drawing, Painting, Art History, St. Martin's School of Art, England.
- D. PETER MAZUR (1960) Associate Professor of Sociology
B.A., Stetson University; M.A., University of Colorado; Ph.D., University of Wash-
ington.
- STEPHEN L. MERRILL (1963) Instructor of English
A.B., Whitman College; M.A., Boston University; Indiana University.
- ROBERT R. MICHENER (1962) Instructor of Art
B.A. Hamline University; M.F.A., University of Minnesota.
- *VLADIMIR MILICIC (1962) Instructor of Russian
Certificate of Baccalaureate, Gymnasium for Boys in Belgrade, University of
Chicago
- ELBERT E. MILLER (1957) Associate Professor of Geography
B.A. in Ed., Central Washington State College; University of Nebraska; M.A.,
Ph.D., University of Washington
- HOWARD E. MITCHELL (1955) Associate Professor of Economics
B.A., Whitworth College; M.A., Ph.D., University of Washington.
- *MERIBETH J. MITCHELL (1957) Associate Professor of Biology
B.S., M.S., Northwestern University; University of Minnesota; Ph.D., Washington
State University.
- KURT W. MOERSCHNER (1964) Assistant Professor of German
B. Comm, B.A., Sir George Williams University; M.A. (Psychology), M.A. (German),
University of Colorado.

* On leave, 1964-1965.

- SIMONE MOIRENC (1963)**Lecturer in French
License et lettres; diplome d'etude; C.A.E.C., Montpellier, France.
- ROBERT L. MONAHAN (1955)**Associate Professor of Geography
B.A., University of Washington; M.A., University of Michigan; Ph.D., McGill University.
- DEBNATH MOOKHERJEE (1961)**Assistant Professor of Geography
B.S., M.Sc., University of Calcutta; Ph.D., University of Florida.
- GEORGE M. MULDRON (1960)**Assistant Professor of English
B.J., M.A., University of Missouri; Ph.D., Stanford University.
- JAMES H. MULLIGAN (1961)**Director of Public Information
B.A., M.A., University of Washington.
- 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)**Assistant Professor of Psychology
B.A., Northwestern University; M.S., Ph.D., University of Wisconsin.
- EDWARD F. NEUZIL (1959)**Associate Professor of Chemistry
B.S., North Dakota State College; M.S., Purdue University; Ph.D., University of Washington.
- ALDEN L. NICKELSON (1962)**.....Assistant Professor of Education
B.S., M.A., Ph.D., University of Washington.
- SYNVA K. NICOL (1937)**Associate Professor of Education
B.A., Fresno State College; M.A., Teachers College, Columbia University; University of California; University of Oslo.
- LORRAINE T. NIELSEN (1963)**Instructor of Home Economics
B.S., M.S., Iowa State University; Michigan State University.
- FRANK A. NUGENT (1961)**.....Associate Professor of Psychology
and Director of Counseling Center
B.S., New Jersey State Teachers College; M.A., Columbia University; Ph.D., University of California.
- JOE NUSBAUM (1963)**.....Business Manager
B.A., University of Minnesota.
- JAMES H. O'BRIEN (1946)**Associate Professor of English
B.A., Seattle University; M.A., University of Washington; University College, Dublin, Ireland; Ph.D., University of Washington.
- EVELYN ODOM (1936)**Associate Professor of English
B.A., Winthrop College; M.A., Teachers College, Columbia University; University of Washington; University of Minnesota.
- FRED A. OLSEN (1961)**Assistant Professor of Industrial Arts
B.A., University of Washington; M.S., Stout State College, Wisconsin; Ph.D., Ohio State University.

- FREDERICK OLSON (1963)Instructor of English
A.B., M.A., University of Minnesota; University of Michigan.
- B. EUGENE OMEY (1964).....Director of Admissions
B.A., Washington State University.
- WILLIAM J. O'NEIL (1950)Registrar
B.A. in Ed., M.Ed., Western Washington State College; Washington State University.
- THOMAS OSBORN (1962)Assistant Professor of Music
B.A., Princeton University; B.M., M.M., Yale University; D.M.A., University of Southern California.
- VILIS PAEGLIS (1961)Instructor of Library Science and Catalog Librarian
Mag. phil., University of Latvia; M.A.L.S., University of Michigan.
- HAROLD O. PALMER (1956)Professor of Business Education
B.A., College of Emporia, Kansas; Ed.M., University of Oregon; Ed.D., Oregon State University.
- DICK S. PAYNE (1961)Assistant Professor of Political Science
A.B., M.P.A., Ph.D., Harvard University.
- *MIRIAM L. PECK (1946)Associate Professor of Art
B.A., M.A., M.F.A., University of Washington; Cranbrook Academy of Art.
- ROBERT A. PETERS (1964)Associate Professor of English
B.A., Ohio State University; M.A., Western Reserve University; Ph.D., University of Pennsylvania.
- SAM R. PORTER (1962).....Assistant Professor of Industrial Arts
A.B., Iowa State Teachers College; M.A., Teachers College, Columbia University; Ed.D., University of Missouri.
- LORRAINE POWERS (1941)Dean of Women
B.A., University of Wisconsin; M.A., State University of Iowa; University of Washington.
- FRANK N. PUNCHES (1948)Associate Professor of Education and
Director of Placement and Alumni Relations
B.A., University of Washington; M.A., Washington State University.
- RICHARD L. PURTILL (1962)Instructor of Philosophy
B.A., M.A., University of Chicago; University of California, Los Angeles.
- AUGUST RADKE (1953)Associate Professor of History
B.A., M.A., Ph.D., University of Washington.
- CHARLES R. RANDALL, JR. (1962)Instructor of Physical Education
B.A., Eastern Washington State College; M.A., Washington State University.
- DOROTHY RAMSLAND (1949)Associate Professor of Home Economics
and Chairman of the Department
Luther College; B.S., University of Wisconsin; M.S., Michigan State University.

* On leave spring quarter, 1965

- JOHN R. REAY (1963)**Assistant Professor of Mathematics
B.A., Pacific Lutheran University; M.S., University of Idaho; Ph.D., University of Washington.
- BERNARD W. REGIER (1945)**Associate Professor of Music
B.S.M., Kansas State Teachers College, Emporia; M.Mus., University of Michigan; D.M.A., University of Southern California.
- RICHARD C. REYNOLDS (1960)**Director of Student Activities
B.S., M.Ed., University of Oregon; University of Minnesota; Oregon State University.
- CHARLES M. RICE (1941)**Associate Professor 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.
- WILLARD P. RIDDLES (1962)**Assistant Professor of Education
B.A., M.A., Arizona State University; Ed.D., University of Colorado.
- WALTER L. ROBINSON (1960)**Assistant Professor of German
B.A., M.A., Ph.D., University of Texas; University of Innsbruck, Austria; University of Vienna.
- ALFRED L. ROE (1962)**Assistant Professor of History
B.A., St. Olaf College; University of Minnesota.
- LLOYD M. ROLFE (1964)**Instructor of English
A.B., M.A., University of California, Berkeley.
- CHARLES A. ROSS (1964)**Assistant Professor of Geology
B.A., University of Colorado; M.S., Ph.D., Yale University.
- J. ALAN ROSS (1942)**Professor of Education and of Psychology; Dean of Graduate Studies and of the Summer Sessions
B.A. in Ed., Western Washington State College; University of Chicago; M.A., Ph.D., Yale University.
- AJIT S. RUPAAL (1964)**Assistant Professor of Physics
M.Sc., Panjab University; Ph.D., University of British Columbia.
- MARJORIE RYAN (1961)**Assistant Professor of English
A.B., M.A., University of Michigan; Ph.D., University of Minnesota.
- PAUL T. RYGG (1962)**Associate Professor of Mathematics
B.A., Montana State University; M.S., Ph.D., Iowa State University.
- TRUE SACKRISON (1964)**Instructor of Music
Diploma, Curtis Institute of Music.
- DONOVAN F. SANDERSON (1963)**Assistant 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.
- ERHART A. SCHINSKE (1957)**Associate Professor of Speech
B.A., Hamline University; M.A., Ph.D., University of Minnesota.

- STUART SCHLEUSENER (1964)Instructor of Industrial Arts
B.S.E.E., University of Washington; M.S.E.E., Iowa State University.
- CARL U. SCHULER (1959)Associate Professor of History
B.S., M.A., Ph.D., University of Wisconsin.
- RAY A. SCHWALM (1949)Professor of Industrial Arts
B.S., State Teachers College, Millersville, Pennsylvania; M.S., Ed.D., Oregon State University.
- DONALD J. SCHWEMMIN (1960)Assistant Professor of Biology
B.S., M.S., Ph.D., University of Michigan.
- WILLIAM H. O. SCOTT (1960)Assistant Professor of Library Science
and Circulation Librarian
A.B., A.M., A.M.L.S., University of Michigan.
- JEAN-CHARLES SEIGNEURET (1961)Assistant Professor of French
B.A., University of British Columbia; M.A., Ph.D., University of California, Los Angeles.
- CLYDE M. SENGER (1963)Associate Professor of Biology
B.A., Reed College, M.S., Purdue University; Ph.D., Utah State University.
- STANLEY SHIEBERT (1963)Instructor of Classics
B.A., University of Nebraska, University of Washington.
- BYRON E. SIGLER (1963)Assistant Professor of Speech
B.A., M.F.A., Tulane University; Ph.D., Stanford University.
- DELBERT R. SIMON (1962)Assistant Professor of Music
B.M.E., Simpson College; M.M., Miami University; University of Michigan.
- BERNICE SKEEN (1947)Professor of Education
B.S., M.S., University of Oregon; Ed.D., Washington State University.
- KNUTE SKINNER (1962)Lecturer in English
A.B., Colorado State College; M.A., Middlebury College; Ph.D., State University of Iowa.
- IRWIN L. SLESNICK (1963)Associate Professor of Biology
B.A., M.S., Bowling Green University; M.S., University of Michigan; Ph.D., Ohio State University.
- PHILIP T. SPAULDING (1960)Instructor of Sociology
B.A., University of Alaska; M.A., University of Oregon; University of Washington
- THADDEUS H. SPRATLEN (1961)Assistant Professor of Economics
B.S., M.A., Ph.D., Ohio State University.
- DORAINE STANDLEY (1964)Instructor of English
B.A., M.A., Ohio University.
- RICHARD O. STARBIRD (1962).....Associate Professor of Education and
Director of Educational Field Services
B.A., Heidelberg College; M.A., Columbia University; Ed.D., Teachers College, Columbia University.

- PAUL H. STONER (1961)Associate Professor of Music
B.M., University of Kansas; M.A., University of Iowa; D.M.A., University of Southern California.
- JAMES H. STRAUGHN.....Associate Professor of Psychology
B.A., University of Florida; Ph.D., Indiana University.
- HERBERT C. TAYLOR, Jr. (1951)Professor of Anthropology and
Chairman of the Department
B.A., M.A., University of Texas; Ph.D., University of Chicago.
- RONALD TAYLOR (1964)Instructor of Biology
B.A., Idaho State College; M.A., University of Wyoming; Washington State University.
- *DAVID L. THOMAS (1964)Assistant Professor of Sociology
B.S., Florida State University; M.A., Ph.D., State University of Iowa.
- LESLIE J. THOMAS (1962)Assistant Professor of History
B.A., St. Olaf College; M.S., Ph.D., University of Wisconsin.
- MYRTHALYNE C. THOMPSON (1963)Assistant Professor of Psychology
B.S., M.S., Akron University; Ph.D., Purdue University.
- RALPH H. THOMPSON (1950).....Professor of Education
B.A., Dickinson College; M.A., University of Delaware; Ed.D., University of Illinois.
- WILLIAM A. TOMARAS (1961)Associate Professor of Physical Education, Director
of Athletics, and Chairman of the Department
B.A., M.S., University of Illinois; Ed.D., University of Oregon.
- MARTIN TUCKER (1961)Assistant Professor of Art
B.S., State University of New York; M.S., M.F.A., University of Wisconsin.
- ALBERT VAN AVER (1939)Professor of English
B.A., Reed College; M.A., Claremont Colleges; Fellow, State University of Iowa; University of Washington; Ph.D., University of Cincinnati.
- STEWART VAN WINGERDEN (1951).....Assistant Professor of Education
B.A. in Ed., Western Washington State College; M.A., Colorado State College; Washington State University.
- JIRI J. VEIT (1963)Assistant Professor of Physics
B.Sc., University of London; M.Sc., University of Birmingham; Ph.D., University of London.
- MANFRED VERNON (1964)Professor of Political Science and
Chairman of the Department
LL.B., University of Cologne; J.D., University of Berlin; Ph.D., Stanford University.
- GENE E. VIKE (1962)Assistant Professor of Art
B.A. in Ed., B.A., Western Washington State College; M.S., Pratt Institute.
- GOLDIE VITT (1962)Lecturer in Education
B.S., Eastern Montana College of Education; M.S., Montana State University.
- PAUL C. WADLEIGH (1961)Assistant Professor of Speech
A.B., M.S., Ph.D., Indiana University.
- *PAUL R. WALDO (1961)Instructor of Speech
B.S., Portland State College; M.A., University of Michigan.

* On leave 1964-1965.

- ADA G. WALTER (1961)**Assistant Professor of Business Education
B.S., Winthrop College; M.B.A., University of Denver.
- DON C. WALTER (1947)**Associate Professor of Music
Iowa State Teachers College; B.A., Wartburg College; M.A., Colorado State
College; Ed.D., University of Oregon.
- MARY W. WATROUS (1957)**Associate Professor of Education
A.B., University of Nebraska; M.A., Gonzaga University; Ed.D., University of
Washington; Southampton University, England.
- SHELDON J. WATTS (1964)**Assistant Professor of History
B.A., M.A., University of Minnesota; University of Maryland.
- WALTER F. WEGNER (1961)**Assistant Professor of Art
B.S., University of Wisconsin; M.F.A., State University of Iowa.
- HOMER WEINER (1964)**Professor of Art and Chairman of the Department
B.F.A., Bradley University; M.F.A., State University of Iowa.
- RUTH WEYTHMAN (1924)**Associate Professor of Physical Education
B.S., University of Washington; M.A., Teachers College, Columbia University;
University of California, Berkeley; University of Tennessee.
- ROBERT WHITCOMB (1963)**Associate Professor of Music
B. Mus., M. Mus., College of Music of Cincinnati; A.M.D., Eastman School
of Music of University of Rochester.
- MAURICE C. WILLIAMS (1961)**Associate Professor of Education
A.B., University of Denver; M.Ed., Ed.D., University of California.
- DON W. WISEMAN (1962)**Assistant Professor of Physical Education
B.A., Idaho State University; M.S., Washington State University; University of
Oregon.
- GEORGE E. WITTER (1955)**Associate Professor of Mathematics
B.A., M.A., Miami University; University of Washington; University of Michigan;
University of California, Los Angeles.
- PAUL D. WOODRING (1939)**Distinguished Service Professor of the College
B.S.Ed., Bowling Green State University; M.A., Ph.D., Ohio State University;
Doctor of Humane Letters, Kalamazoo College; Pd.D., (honorary) Coe College;
Doctor of Letters (honorary), Ripon College.
- EILEEN T. WU (1964)**Assistant Professor of Mathematics
B.S., Seattle University; M.S., Ph.D., University of Washington.
- JOHN J. WUEST (1960)**Professor of Political Science
B.S., M.S., University of Southern California; Ph.D., University of California,
Los Angeles.
- FREDERICK H. YOUNG (1964)**Professor of Mathematics
B.A., M.A., Oregon State College; Ph.D., University of Oregon.
- GERALD L. YOUNG (1964)**Visiting Lecturer in Geography
B.S., M.S., Oregon State University; Indiana University.
- RAYMOND A. YOUNG (1961)**Assistant Professor of Spanish
B.A., University of British Columbia; M.Lib., University of Washington; Ph.D.,
University of Madrid.

AFFILIATED TEACHERS OF MUSIC

- 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.
- MAGDALENA D'ANDREA**Piano
B.A., Eastern Michigan State College; M.A., Teachers College, Columbia University.
- JUDITH PEARSON**Piano
B.M., University of Southern California; advanced study with Muriel Kerr.
- NONIE STONEHOUSE**Wind Instruments
B.M.E., Northwestern University.
- SANDRA STROM**Piano
B.A., Western Washington State College.
- ARTHUR THAL**Violin
Study under Felix Winternitz, New England Conservatory of Music, Boston; and under Scott Willits, American Conservatory, Chicago; special study with members of the Budapest String Quartet.

CONSULTANT

- BUELL C. KINGSLEY (1963)**Consultant, Counseling Center
B.A., Dartmouth College; M.D., University of Oregon.

CAMPUS SCHOOL ASSOCIATES

- THEODORE A. MORK (1964)**.....Teaching Associate
B.A. in Ed., Western Washington State College.
- MICHAEL MURPHY (1964)**.....Teaching Associate
B.S., Washington State University; Western Washington State College.
- JERRY C. TAKASAKI (1964)**.....Teaching Associate
B.A. in Ed., Western Washington State College.
- LEILA McCOY (1961)**.....Campus School Librarian
B.A. in Ed., Western Washington State College.
- MILTON TOWNE (1964)**.....Assistant to the Director of the Campus School
B.A. in Ed., M.Ed., Western Washington State College.

Special Services

THE LIBRARY

The newly remodeled and expanded Mabel Zoe Wilson Library now 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 doubling the present collection of 120,000 books, periodicals, and pamphlets. They also include seminar rooms and a room for the collection and viewing of microfilms. Substantial additions to the library collection are being made in 1964-1965.

The building also includes classrooms and quarters for instruction in library science.

Supplemental to the general library are the collection of 8,000 books for children housed in the Campus School, the curriculum materials room for teacher education students, and the Audio-Visual Center.

AUDIO-VISUAL CENTER

The Audio-Visual Center maintains and operates a library of instructional materials and equipment, and reference files on materials and equipment that may be obtained in rental libraries. It provides faculty with reference services, arranges for rental or purchase of instructional materials, provides consultant and evaluative services to College personnel, prospective teachers, the public schools and the community in the purchase, use, and maintenance of instructional materials. It maintains facilities to serve the faculty and prospective teachers in the production of instructional materials.

EXTENSION SERVICES

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 Programs

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 by correspondence for home study. All classes are taught by regular members of the teaching faculty. Most of the courses are open to the general public who may earn credit upon establishment of eligibility. Some courses are open on an auditing basis.

Non-Credit Programs

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 Extension Office.

RESEARCH

Faculty research and the training of students in scientific methods and techniques have received considerable impetus through recent foundation and government grants. In addition to the grants made by the National Science Foundation, research funds have been made available by a wide range of institutions and agencies, including the Carnegie Foundation, the U.S. Department of Health, Education, and Welfare, the Canadian Social Science Research Council, the American Chemical Society, the Province of Saskatchewan, the Sigma Chi, and the City of Bellingham. A **Bureau of Faculty Research** has been established by the College to encourage and coordinate faculty research in the various departments.

The **College Computer Center** was established in 1962 with the aid of grants from the National Science Foundation and the International Business Machines Corporation. The facilities of the Center, including an IBM 1620 Computer and auxiliary equipment, are available to qualified students and faculty, free of charge, for instruction in computer techniques, for research, and for general education in computer applications.

Basic instruction in computer programming, as well as actual experience on the IBM 1620 Computer, is available in a course (Math 270) offered by the Mathematics Department. Additional courses in numerical analysis are also provided within the regular program.

The **Office of Institutional Research** collects and analyzes data related to problems of College concern. It cooperates with departments, committees, individual faculty members and administrative officers in research activities.

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.

The Orientation Program

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.

The Freshman Counseling Program

During his first year each student is teamed with a member of the faculty. These faculty counselors 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.

The Academic Advisement Program

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 Office of 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 offices, and administering the faculty counseling and advisement programs.

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 Office of the College Examiner has primary responsibility for psychological and achievement testing and the interpretation of test data.

The Office of the Registrar 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 Offices of 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 Office of Student Affairs encourages sound student government and coordinates the extracurricular program.

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

The Placement Office assists 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 LIVING

General Information

The College considers group living an important phase in the total college experience and is therefore directly concerned in maintaining high standards.

Residence halls for men and women and a large number of approved homes provide accommodations for students. Privately owned boarding places and housekeeping rooms are approved only as they meet the College standards.

All students who are not living at home or with immediate relatives are required to live in College approved residences. Women secure their rooms through the office of the Dean of Women, men through the office of the Dean of Men. Each residence hall is in charge of a qualified housemother. Provision is made for the social life of student residents.

Residence Hall Regulations

Board and room are furnished to students at a rate as low as is consistent with proper living conditions. Dormitory residents must board at a College dining hall.

Most rooms are for double occupancy. They are furnished with single beds, pillows, mattresses and pads, as well as study desks and chairs. Bed linen is supplied by the College. Blankets, towels, dresser scarves, pictures, and other accessories are furnished by the student.

Laundry facilities and kitchenettes are available in both the women's and men's residences. No electric irons, electric heaters, or electric plates may be used in student rooms.

Students may not move from the halls during a given quarter except in an emergency and only with the consent of the Dean of Men or the Dean of Women.

The residence halls are closed during the College vacations.

On the opening day of each quarter, payment for room and board may be accomplished as part of the regular enrollment procedure.

College Residences

EDENS HALL has accommodations for 220 women in two wings. Residents share a common social room and other facilities.

HIGGINSON HALL, unlike the other dormitories, has two-room suites and connecting bath for four women in each suite. This building

accommodates 208 residents.

WRH (WOMENS RESIDENCE HALL), located on the south side of the campus, accommodates 76 residents.

RIDGEWAY RESIDENCES comprise a group of six new halls opened in 1962 and 1963. These halls, some for men and some for women, are arranged in a picturesque hillside setting and are served by a common dining hall. More than 600 students are housed in these residences.

HIGHLAND HALL, including a three-wing addition completed in 1960, provides quarters for 230 men.

OFF-CAMPUS HOUSING

Furnished Rooms

Furnished rooms are available in private houses. These are engaged for the entire quarter; no changes are permitted during the quarter except in cases of emergency when satisfactory arrangements must be made with the housemother and either the Dean of Men or the Dean of Women. Students are advised to make personal application before entering the College. A list of approved houses will be mailed upon request to the Dean of Men or the Dean of Women.

Housekeeping Rooms

Under special conditions students may be granted permission by the Dean of Women or the Dean of Men to do housekeeping in approved quarters supervised by housemothers. A list of approved housekeeping rooms is available in the deans' offices.

The Y.W.C.A. and the Y.M.C.A.

These facilities afford living accommodations for a limited number of students. They also serve as temporary quarters for those who have not found permanent homes in the city.

Financial Arrangements

(See page 16 for housing rates and living costs.)

A room deposit of \$25 is required of all students in both College-owned and College-approved residences. A receipt for this deposit establishes the student's reservation. The deposit may be left to apply at a later date following a leave of one quarter or more.

This deposit, less any charges for breakage, is normally refunded when the student checks out at the close of a quarter. Students in College halls obtain a checkout card from the Resident Director and a clearance signature from the Room Service Office.

When this deposit is made in advance of actual occupancy it constitutes a reservation fee which in the event of cancellation is non-refundable unless the vacancy is filled without loss of revenue. Consequently, the earliest possible notification of cancellation is advisable. When a student is entitled to such a refund it is made at the beginning of the second week of the quarter for which the room was reserved.

Since summer reservations are made separately, deposits are not required for the summer quarter.

HOUSING FOR MARRIED STUDENTS

Listings of privately-owned apartments and dwellings suitable for married students are available at the offices of the Dean of Men and Dean of Women. These lists are prepared for distribution prior to the start of each quarter. In the main, it is advisable to seek such housing further in advance.

FOOD SERVICE

College boarding facilities are centralized in the Viking Commons and in the Ridgeway Dining Hall.

Dormitory residents are required to take their meals in the assigned dining hall on a seven-day meal plan (twenty-one meals). When the student is required to be off-campus every week-end for employment or other excusable reasons, a five-day plan may be arranged after clearance with the Dean of Men or Dean of Women.

Food service at Viking Commons is available to those living off-campus at the same cost as to dormitory residents. Meal tickets may be purchased on a seven-day basis or single meals may be purchased on a cash basis.

HEALTH SERVICE

The primary function of the Health Service is the protection of the college community.

A dispensary is open to all students during class hours. The College also maintains a hospital on the campus for communicable diseases

and minor illnesses. Any student is provided care without charge for five days during the academic year. Thereafter a nominal per diem charge is made.

Illness of students must be reported at once, and each day thereafter, to the Health Office located on the ground floor of Edens Hall. After an illness, the student must report in person to the Health Office before attending classes.

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.

Student Activities and Organizations

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

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

THE VIKING UNION is the community center of the College. Offices for many student activities, including the Associated Student Body, publications, and the Director of Student Activities, are located in the Union. The Director and the Union Board of Commissioners administer the facilities and services. Meeting rooms, lounges, shops and work areas, together with the organization and program represent a well-considered plan for the community life of the College.

LIVING GROUP ORGANIZATIONS provide an important opportunity for personal growth. Students will find that the residence halls are organized for self-government and often sponsor activities on the campus.

STUDENT ORGANIZATIONS provide an educational and social experience not always available to students in the ordinary classroom situation. Within the stated educational objectives of the College, and under the guidance of the Director of Student Activities and faculty advisers, these organizations sponsor programs and activities common to the interests of the membership.

Although a few student organizations are open only to students with a particular departmental affiliation or skill, most are open to any interested student. Students are encouraged to become involved in some aspect of the out-of-class activity program. A 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 both 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 either of the two groups.

RELIGIOUS ACTIVITIES AND ORGANIZATIONS are open to all students through interdenominational groups not directly a part of the College program. See **The Navigator** for a complete listing of these organizations.

ATHLETICS have an important place in the activities program, whether intercollegiate or intramural. Students interested, either as spectators or as participants, in intercollegiate sports can choose from football, basketball, baseball, track, swimming, rugby, tennis, golf, wrestling, and skiing. The College participates as a member of the Evergreen Conference.

The comprehensive intramural schedule outside 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, DRAMA, MUSIC, PUBLICATIONS. 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. An active music department is developed around performance organizations including the band, orchestra, choir, various quartets, string ensembles, and other small groups. 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 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 of Mt. Baker, is owned jointly by the College and the Mt. Baker Club of Bellingham.

SUMMARY OF ENROLLMENT

Resident

Summer Quarter, 1963	2400
Fall, Winter, Spring, 1962-1963	4441
(minus duplicate names)	

Extension

Correspondence	393
Evening classes (on campus)	991
Extension Classes (off campus)	908
Total Extension Enrollment	2292

Campus School

Kindergarten through sixth grade, 1963-1964	174
Summer Session, 1963	144

Degrees granted from August, 1963, to June, 1964, inclusive:

Master of Education	60
Bachelor of Arts in Education	539
Bachelor of Arts	199
Total	798

Teaching Certificates issued from August, 1963, to June, 1964, inclusive:

Three-Year Elementary	18
Provisional	510
Total	528

Others recommended for certification to the State Superintendent of Public Instruction:

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HOW TO USE

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MARGINAL INDEX

1. Find item desired in alphabetical list.
2. Grasping catalogue with both hands, bend back to expose left marginal marks.
3. Match the line from item in the list to parallel mark on the margin.
4. Open catalogue at marked page.