WESTERN WASHINGTON STATE COLLEGE CATALOGUE 1965-66
WESTERN WASHINGTON STATE COLLEGE BULLETIN

GENERAL CATALOGUE

1965 - 1966

July, 1965
Bellingham, Washington

COVER DESIGN—
The cover design by Gary Hallgren was selected from designs prepared as a project in the Art 371 class.
Table of Contents

Campus Map ........................................................................................................... 2
College Calendar ....................................................................................................... 4
THE COLLEGE
  History and Accreditation ..................................................................................... 6
  Objectives ............................................................................................................... 6
  Facilities .................................................................................................................. 8
ADMISSION
  Freshmen ............................................................................................................... 10
  Transfers ............................................................................................................... 11
  Advanced Placement ............................................................................................. 13
  Honors Program .................................................................................................... 14
STUDENT FINANCES
  Fees ....................................................................................................................... 15
  Living Costs .......................................................................................................... 17
  Financial Assistance ............................................................................................... 18
STUDENT LIVING
  Housing ................................................................................................................ 23
  Health Service ...................................................................................................... 27
STUDENT PERSONNEL SERVICES
  Advisement ........................................................................................................... 28
  Student Personnel Offices .................................................................................... 29
STUDENT ACTIVITIES AND ORGANIZATIONS ................................................... 30
SPECIAL SERVICES
  The Library ........................................................................................................... 32
  Audio-Visual Center ............................................................................................. 32
  Extension Services ................................................................................................ 32
  Research ................................................................................................................ 33
PROGRAMS OF INSTRUCTION
  Academic Regulations .......................................................................................... 36
  The Undergraduate Curriculum ............................................................................ 43
    Degree Requirements .......................................................................................... 43
    Teacher Education ............................................................................................... 45
    Arts and Sciences ................................................................................................ 51
    Transfer Programs ............................................................................................... 52
  Graduate Programs
    Master's Degrees ................................................................................................ 52
    Fifth Year .............................................................................................................. 53
DEPARTMENTS OF INSTRUCTION ....................................................................... 54
  Faculty; Concentrations; Description of Courses
    (Arranged by department—see back cover for reference)
ORGANIZATION AND PERSONNEL
  Board of Trustees ................................................................................................ 192
  Administrative Officers ......................................................................................... 192
  Faculty .................................................................................................................. 193
ENROLLMENT SUMMARY ..................................................................................... 214
INDEX ...................................................................................................................... 215
1965

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College

Fall Quarter, 1965

August 1
Last day to apply for admission.

August 2-13, by appointment.
Registration counseling for freshmen.

September 14-16, by appointment.
Registration of new transfer students.

September 19, 7:30 p.m.
Convocation for new freshmen.

September 21
Registration of returning students.

September 22, 8:00 a.m.
Classes begin.

November 11
Veterans' Day Holiday.

November 24, noon—November 29.
8:00 a.m. Thanksgiving Recess.

December 7-10
Final Examinations.
Calendar

Winter Quarter, 1966

January 3
Registration.

January 4, 8:00 a.m.
Classes begin.

February 22
Washington’s Birthday Holiday.

March 15-18
Final Examinations.

Spring Quarter, 1966

March 28
Registration.

March 29, 8:00 a.m.
Classes begin.

May 30
Memorial Day Holiday.

June 6-9
Final Examinations.

June 10
Commencement

Summer Quarter, 1966

June 20-July 29
Six-Week Session.

June 20-August 19
Nine-Week Session.

July 4
Independence Day Holiday.

(Fall Quarter, 1966—Classes will begin Sept. 28).
The College

Western Washington State College is one of three state colleges which, along with the two universities and seventeen 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, and to the State College in 1961.

The College is now a multipurpose institution offering degree programs in teacher education and in the arts and sciences at both the undergraduate and graduate levels. Preprofessional studies also provide one or two year programs for transfer to professional schools at 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.

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, Haggard Hall of Science, Carver Gymnasium, the Humanities Building and Lecture Halls, and two wings of the Mabel Zoe Wilson Library have been added to the academic facilities. Student residences have also grown apace with the addition of Higginson Hall and the Ridgeway Dormitories. 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.
THE STUDENT

ADMISSION

FINANCES

HOUSING

PERSONNEL SERVICES
Admission

Admission Requirements

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

FRESHMEN

Graduates of Washington State high schools are ordinarily admitted if their high school records indicate

a. a cumulative grade average of 2.5 or above; or

b. rank in the upper half of the graduating class.

Students who fail to qualify on either of these criteria may receive consideration for admission by submitting such additional evidence as specified by the Director of Admissions which suggests that, in spite of such failure, they have the capacity and maturity to succeed in an academic program.

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

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

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

TRANSFERS

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

Transfer students in good standing at the last institution attended are ordinarily admitted who

satisfy requirements for freshmen admission (above) and have attained a cumulative grade average of 2.00 (C) in college level study

or

do not satisfy freshman admission requirements but have achieved a cumulative grade average of 2.00 (C) based upon at least 40 transferable credits, or 2.50 on at least 25 transferable credits.

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

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

GRADUATES

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

FOREIGN STUDENTS

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

A limited number of students are accepted from other countries. Such students, to be eligible, must have completed the university preparatory program in their own country, and give evidence of ability to succeed in college study; they must also have demonstrated competence in the use of the English language and be able to pay the cost of each year they plan to study at the College.

**Application Procedure**

**Freshman candidates** should obtain from their principal or counselor the Application for Admission to Washington Higher Institutions, filling out page one and filing at the high school office to be completed and mailed to the College Admissions Office. (If form is not available, one may be obtained from the College Admissions Office.)

**Transfer candidates** may obtain applications from the Admissions Office. (Some are available in the guidance offices at Washington community colleges.) Complete and mail this form and see that a complete official transcript is forwarded directly to the Admissions Office by each institution attended. Students transferring fewer than 40 credits (quarter hours) must also submit a high school transcript.

**TIME OF APPLICATION**

Applications and credentials for the fall quarter are accepted after February 1 and not later than August 1; application by April 1 is desirable. Applications must be on file by December 15 for winter quarter, March 15 for spring quarter, or June 1 for the summer session.

Freshman students must have completed the first half of the senior year; transfers may apply during the term preceding the one for which they seek entry. Students who are clearly eligible are admitted upon application, subject to satisfactory completion of studies undertaken subsequent to the submission of records.

**CONFIRMING APPLICATION**

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

HEALTH EXAMINATION

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

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

AGREEMENT OF MUTUAL RESPONSIBILITY

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

Special Opportunities for Superior Students

ADVANCED PLACEMENT AND COURSE CHALLENGE

The College is committed to a recognition of individual differences in the preparation of high school graduates who enter the freshman class. It is concerned that students be placed in courses at an instructional level commensurate with their ability and previous study. Students should receive credit for any course offered by the College, upon demonstration of achievement comparable to the expectations of that course. Achievement may be demonstrated by:

a. presenting acceptable results on the Advanced Placement
Examinations of the College Entrance Examination Board. Generally, scores of 3, 4, or 5 on these examinations will result in advanced placement with credit. The department concerned will review papers presented and will advise the Director of Admissions of appropriate placement and credit to be allowed;

b. performing successfully on competency examinations prepared by academic departments; (see also page 40, "Credit by Examination");

c. achieving satisfactorily in an advanced course of a sequence. In certain instances, an academic department may authorize a student to begin in an advanced course rather than in an introductory course which may duplicate previous study. In some cases, credit for the introductory course or courses will be allowed upon completion of the advanced course.

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 upper five per cent of all students at the College;

b. he attains a cumulative high school grade point average of 3.7;

or

c. he is nominated by a high school or college instructor.

Eligible students are selected by the Honors Board after an interview. Each honors student is assigned a tutor to whom he presents papers for subsequent discussion and with whom he confers regularly. There are a number of special courses for honors students.

Students interested in this program are invited to consult the Chairman of the Honors Board for more details.
Student Finances
Tuition and Fees

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

QUARTERLY CHARGES

FULL-TIME STUDENTS (7 or more credits)
Resident of the State of Washington, per quarter .......... $85.00
  Tuition .................................. $15.00
  *Other Fees ................................ 70.00
Non-Residents of the State of Washington, per quarter .... 140.00
  Tuition .................................. $45.00
  *Other Fees ................................ 95.00

*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 ......................................................... 10.00
(Minimum fee $20.00)

AUDITORS (without credit)
One or more courses per quarter .................................. 16.00

MUSIC — INDIVIDUAL INSTRUCTION .......................... 36.00

(See page 139 for special provisions applying to
music majors and minors.)

EXTENSION AND CORRESPONDENCE FEE, per credit .......... 10.00

MISCELLANEOUS SERVICE CHARGES
On-Campus Parking, per quarter .................................. 4.00
Dormitory Resident Parking, per quarter ...................... 5.00

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 is 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 25¢ each. When additional credits have been earned, a free supplement will be sent upon request to the same addressee as a previous transcript.

REFUND OF FEES

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

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

CHANGES IN FEES

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

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

For the convenience of those in certain courses requiring the extensive use of materials or articles retained by the student, materials are charged at cost. The department issues an invoice for such materials and the student pays the charge at the Office of Budget and Accounts.

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:

QUARTERLY CHARGES

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

Fall Quarter .......................................................... $258.00

Winter Quarter ...................................................... 228.00

Spring Quarter ........................................................ 224.00

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

DELINQUENT ACCOUNTS

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

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

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>If rooming and boarding</td>
<td>$1,150.00</td>
<td>$1,300.00</td>
</tr>
<tr>
<td>If housekeeping</td>
<td>850.00</td>
<td>1,150.00</td>
</tr>
<tr>
<td>If living at home or working for room and board</td>
<td>450.00</td>
<td>550.00</td>
</tr>
</tbody>
</table>

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

Financial Assistance

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

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

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

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

TYPES OF ASSISTANCE

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

Entering Freshmen may apply for

Scholarships
One-year non-renewable scholarships from $100 to $300 are made available through private contributions. An annual average of $6500 is being provided for freshmen scholarships. The possible continuation of a scholarship for a second or successive year is based upon outstanding performance and demonstration of continuing need. A renewal application is evaluated in free competition with other students.

NDEA Loans
It is expected that approximately $60,000 will be available to freshmen in 1966-67 for these government sponsored, low interest, deferred payment loans. The maximum loan, based on demonstrated need, is $800; the average loan granted is $480. Parents must co-sign with students under 21.

Guaranteed Employment
Jobs paying from $200–$400 per year are available in the college library, custodia and food services and college offices.

How to Qualify
Achieve a 2.8 high school grade average, and give evidence of either marked academic ability in one or more areas or an outstanding special ability in art, music, forensics, journalism, drama, or athletics.
Give evidence of personal involvement in the life of the school or community.
Present personal recommendations of a high order.
Demonstrate financial need.
How and When to Apply

Application deadline for all forms of assistance is March 1. See high school counselor for necessary forms. Complete the Application for Admission and have it sent to the Director of Admissions as soon as the final semester has begun. Be certain to complete the section reserved for financial aid applicants. Send a Parents' Confidential Statement to College Scholarship Service, Berkeley, California. This form, with a service charge of $3, must be mailed by February 15.

The College will notify freshman candidates of awards by May 1. Since many more apply for assistance than can be accommodated, students are cautioned not to count heavily on scholarships as a major source of college funding.

Transfer Students may apply, in advance of arrival, for Scholarships

A limited number of scholarships are available to graduates of Washington Community Colleges. A minimum grade average of 3.25 is required in transferable college courses. No scholarships are available to other transfers.

USAF Loans

The United Student Aid Fund loan program is a cooperative arrangement between banks and colleges. The student may borrow up to $300 per quarter at 6 per cent annual interest; repayment is made on a 36 month schedule after graduation. Consent of parents is required for students under 21.

Employment

No advanced guarantee of employment is made to transfers. Application should be made after enrollment.

How and When to Apply

The application deadline for transfers is April 15; notification of awards is sent by June 1. Scholarship application forms are available in the offices of Washington community colleges. Applications for loans are obtained from the College Financial Aids Office.

Students in attendance may apply for Employment

The most common form of aid to enrolled students is
campus or community employment. The Financial Aids Office assists students in obtaining part-time jobs in the community. Students desiring on-campus employment make application directly to the appropriate departmental supervisor. Those seeking jobs in the food service or custodial service will also apply through the Financial Aids Office.

Scholarships
A very few scholarships are available to currently enrolled students. For details and applications, see the Financial Aids Officer.

Loans
NDEA and USAF loans as outlined above are available. Application well in advance of the time funds are needed is urged.

The Emergency Loan Fund provides loans of $25 for up to 30 days in the event of genuine emergency. Such loans are not available for payment of fees.

The College Loan Fund provides loans up to $150 for one year at 4 per cent interest. Application should be made two months in advance of anticipated need. A guarantor is required.

Graduate Students may apply for
graduate assistantships with duties assigned in the various departments of the College at a monthly stipend of $270. A limited number of such assistantships are available; application should be made to the Dean of Graduate Studies. Graduate students may also apply for NDEA loans through the Financial Aids Office.

POLICIES RELATING TO FINANCIAL AIDS

Employment (on-campus)
Students must be in good academic standing, carrying 12 or more quarter hours. A social security number is required. Foreign students must file a valid work permit issued by the Bureau of Immigration and Naturalization.

NDEA Loans
The College agreement with the Federal Government requires an exit interview for all NDEA loan holders. It is the responsibility of the student to request such an interview with the Financial Aids Officer if he leaves college at an unexpected time.
Scholarship and Loan Disbursements

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

SCHOLARSHIP DONORS

The following business firms, organizations, and individuals have contributed funds for one or more tuition and fees scholarships:

Automotive Parts Service
B & P Distributors
Bellingham Builders Supply
Bellingham Cold Storage
Bellingham Lodge, B.P.O.E.
Bellingham National Bank
Bellingham Rotary Club
Bellingham Tug & Barge
Bellingham Women's Music Club
A. J. Blythe Plumbing & Heating, Inc.
Boeing Scholarships
Cascade Natural Gas Corporation
Diehl Motor Company
Eifel Company, Inc.
Fountain Motor Company
Fraser Chevrolet
General Electric Co. (College Bowl Program)
Ireland & Bellingar Insurance
Drs. R. F. Kaiser and J. H. Hodge
King & Daul Tire Company
Kiwanis Club of Bellingham
Lynden Tribune
Morse Hardware
Pacific First Federal Savings & Loan
Puget Sound Power & Light Co.
Safeway Stores
Saga Food Scholarships
Thriftway Stores
Vienna Cleaners
Whatcom County Dairymen's Association
Whatcom Travel Service

Numerous smaller contributions make possible additional tuition and fees scholarships.
Student Living

Housing

The College considers group living an important phase in the total college experience and is therefore directly concerned in maintaining high standards. Residence halls for men and women, and a large number of inspected homes provide accommodations for students. Privately owned boarding places and housekeeping rooms are listed only as they meet college standards. There are three types of housing available: (1) college operated residence halls, (2) college inspected off-campus housing—room and board provided, room only, or room with cooking facilities, and (3) non-inspected off-campus housing.

HOUSING REGULATIONS

Women

Undergraduate women under 20 years of age or with less than junior status are required to live in residence halls or college inspected off-campus housing. Junior and senior women and women 20 years or older may take independent housing; written parental permission is required for those under 21.

Men

Freshmen men are required to live in residence halls or college inspected off-campus housing. All other men students may take independent housing.

Married and Graduate Students

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

COLLEGE RESIDENCE HALLS

General Facilities

Rooms are furnished with a single bed, mattress and pad, desk, desk lamp, wardrobe or closet, pillow, and sheets and a pillow case for each student. The occupant furnishes blankets, towels, alarm clocks and other personal necessities. Rooms are generally for double occupancy. Kitchenette and laundry facilities (includ-
ing irons) are provided in central areas of each hall. Electric appliances are not permitted in the students’ rooms. A recreation room, a reception area, small area lounge, special study rooms, vending machines, and extra storage space for trunks are provided in each hall.

Dining Facilities

Two recently constructed dining halls (Ridgeway and Viking Commons) are located close to the residences. Students living in residence halls must also take their meals in dining halls. Both have co-educational dining and serve 21 meals a week.

Reservations

Students desiring accommodations in the residence halls should send application with a $25 deposit (check or money order) to the Director of Housing, Western Washington State College, Bellingham, Washington 98225. The check should be made payable to the College.

Space in the residence halls is assigned according to the date of receipt of application and deposit. The room assignment is made when the student moves into the hall. Students are notified with the return of their deposit receipt that they will be assured of a space in the residence hall or that their name has been placed on the waiting list. Official assignments are made about June 1 for fall quarter and one month before the beginning of other quarters.

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

The rates quoted below are for the 1965-66 academic year. The rates are subject to change by the College Board of Trustees.

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>$258</td>
</tr>
<tr>
<td>Winter</td>
<td>228</td>
</tr>
<tr>
<td>Spring</td>
<td>224</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$710</strong></td>
</tr>
</tbody>
</table>

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

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

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

INSPECTED OFF-CAMPUS HOUSING

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

Facilities Provided

Most of the houses provide a single bed, linen, mattress, chest of drawers, closet, desk, chair, and other common facilities. Service offered may differ and an understanding should be reached with the house owner before a rental agreement contract is signed.
The types of houses available include those providing room only, room and board, and room with kitchen privileges.

The capacity of these houses range from 8 to 36 students. A total of 450 men and women students can be accommodated in inspected off-campus housing.

**Reservations**

Students wishing to live in a private house must write directly to the listing of their choice. (Lists and costs are available from the Housing Office). Upon finding suitable accommodations, reservations must be confirmed by a $25 deposit (check or money order) to the house owner. The deposit is a reservation fee and is non-refundable upon cancellation unless the vacancy is filled without loss to the owner. The rental agreement obligates the student to one quarter of occupancy. The deposit will be refunded when the student checks out of the house, provided notice of cancellation has been given one month prior to the end of the quarter, the student has completed one term of occupancy, has no unpaid accounts, and has caused no damage beyond normal wear.

**Cost**

Room charges range from $25 to $30 a month for multiple rooms. Single rooms cost $5 to $10 more. Board and room is available in some women’s houses for $212.50 per quarter, excluding lunches and Sunday meals. Board on a meal ticket basis (21 meals per week) is available in the Viking Commons for about $160 per quarter.

**NON-INSPECTED OFF-CAMPUS HOUSING**

A number of privately owned houses, apartments, rooms, and duplexes are available for rent in the city. These facilities are to accommodate single students who qualify according to housing regulations, married students, staff and faculty. The rentals are listed as the owner describes the property. The College assumes no responsibility for the condition or suitability of these listings.

**Cost**

The cost depends upon the number of bedrooms, location, facilities and furnishings provided.
Reservations

The Housing Office maintains a list of private rentals but it is not published for mail distribution because of the constant change in rental availability. Since the office does not make individual rental arrangements, it will be to the student’s advantage to arrive in Bellingham prior to the beginning of school to locate suitable housing. There is a great demand for housing at this time and available rentals move quickly. It may be necessary to arrange for temporary housing at one of the nearby motels while seeking permanent housing.

Health 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 an infirmary 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.
Personnel Services
Orientation and Advisement

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

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 Offices assist graduates and prospective graduates in finding full-time positions appropriate to their training and abilities. Placement service is also rendered to graduates who may register for promotion or change of position.

The Health Service provides consultation in cases of illness or accident and is available for guidance in all health matters. Dispensary and infirmary services are maintained.
Student Activities 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 major parties. Although these groups do not represent an official action of the College, students are able to develop and further their own political ideas and to find expression for them in these groups.

RELIGIOUS ACTIVITIES AND ORGANIZATIONS are open to all students through 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 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 at Mt. Baker, is owned jointly by the College and the Mt. Baker Club of Bellingham.
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 increasing the present collection of 130,000 volumes to some 200,000 books, catalogued pamphlets and bound periodicals. They also include seminar rooms, typing facilities, and a room for the collection and viewing of microform materials. Substantial additions to the library collection are being made in 1965-1966.

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 grants made by the National Science Foundation, research funds have been made available by a wide range of institutions and agencies, including The Atomic Energy Commission, The Office of Economic Opportunity, 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 for Faculty Research has been established by the College to encourage and coordinate faculty research in the various departments.

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

ACADEMIC REGULATIONS

UNDERGRADUATE CURRICULA

GRADUATE PROGRAMS
Academic Regulations

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 Tests. Those who enter with a deficiency in either are required to remove that deficiency prior to enrollment in a fourth college quarter.

English

Students failing to meet minimum standards on the above tests must defer English 100 until the second quarter. Such students are urged to undertake review study during the first quarter.

English 100 must be completed satisfactorily (grade of C or better) by all students by the end of the first college year.

Mathematics

Students failing to meet minimum mathematics standards on the Washington Pre-College Tests may remove their deficiency by obtaining a satisfactory score on a retest offered prior to Fall Quarter and at the close of each quarter. Transfer students may demonstrate mathematical competency by offering a grade of C or better in any college level mathematics course.

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

Registration

Registration Day

The first day of each quarter is normally reserved for registration procedures. A special schedule for advisement and program planning is provided in the fall for entering students. See College Calendar, pages 4-5, for dates.

Preregistration During The College Year

During the fall, winter, and spring quarters, students in attendance who plan to continue the succeeding quarters are given the
opportunity 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.

**Late Registration**

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

**Changes 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 Classes**

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.

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**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 during the first four weeks of instruction in any quarter with no penalty attached other than the Change of Registration fee and the loss of credit. After the fourth week of instruction withdrawal from a course will normally result in a grade of “F” (failure). Exceptions to this regulation may be made if such withdrawal is requested by the College, in cases of serious illness, or other highly extenuating circumstances.

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.

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
B ................. High
C ................. Average
D .................. Low
F ...................... Failure

U ................. Unsatisfactory
S* ................. Satisfactory
K ..................... Incomplete
W ..................... Withdrawn

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.

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.

* 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.
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; F and U, 0. The number of grade points earned in each course is computed by multiplying the number of credits by the grade point value of the letter indicated. Thus a 3 credit course with a grade of B is assigned 9 points. The grade point average is the result of dividing the total number of grade points by the total number of registered hours. A grade average of 2.0 represents a letter standard of C. A grade of S and the credit involved in such a course do not enter into the computation of grade point average.

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

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.

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 low-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.
Standards Governing Low Scholarships

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 and his grade average for the quarter just completed both fall below 2.0. Students whose enrollment is terminated may normally petition the Scholastic Standing Committee for reinstatement unless they are on final probation. (See below.)

In computing 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 re-admitted 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.

*including quarters at other colleges
Restrictions Governing Students On
Academic Probation

Students on academic probation, including final academic proba-
bation, (a) are not eligible for remunerative employment on campus;
(b) may not hold an elective or appointive office in any student or-
ganization 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.

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 $18.00 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 Undergraduate Curricula

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 bachelor’s degrees:

- Bachelor of Arts in Education (for teacher certification)
- Bachelor of Arts with majors in 20 fields

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.
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 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 150)*

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*
*Other courses in General Education or in a major or minor.*
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. (Consult the academic departments as to standards required for recommendation for provisional certification.)

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

**THE STANDARD CERTIFICATE** issued upon completion of two years of successful teaching and a fifth year of approved study (see page 53).

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 a spelling test, a standardized test of English mechanics, and submit evidence of acceptable expository writing while enrolled in Education 301. Unsatisfactory performance in these tasks may result in referral to a college English laboratory. Failure to achieve minimum competence bars the student from further course work in teacher education.
   
   Transfer students who have successfully completed the equivalent of Education 301 at another institu-
tion will demonstrate English proficiency in a spelling-mechanics test given once each quarter on a pre-announced Saturday. Expository writing will be demonstrated while enrolled in Education 315 or 318.

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, with a grade of "C" or better.

4. Maintain satisfactory grade average.

A cumulative grade average of 2.10 is required on all courses taken at this College. (After September, 1966, the minimum of 2.20 applies to these regulations.) This cumulative average must be maintained while a student is enrolled in teacher education; if he falls below this level, he is automatically dropped from the teacher education program and may enroll in no additional professional courses until the level is restored.

The student is automatically reinstated in the program if he restores the 2.10 grade average the next quarter in residence. If he fails to restore the minimum cumulative average of 2.10 in two consecutive quarters, he is no longer admissible to the program. A student dropped from the program more than once may not be reinstated.

5. Complete Education 301 or equivalent with a grade of "C" or better.

While the student's teacher education file will be initiated as a part of Education 301, no formal action will be taken on his application for admission to the program until all the prerequisites outlined above (items 1 to 4) have been completed and reported by the student to the Department of Education.

Students should expect a one-quarter lapse between the time of filing the completed application to the teacher education program and time of acceptance. Any professional work taken during the interim quarter may be used only as elective credit if the student is not admitted.
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:

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

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 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 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 consult the Psychology Department.
SUBJECT MATTER CONCENTRATION

Approved concentrations rotalling 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
Earth Science
English
Foreign Language
General Science
Geography
History
Library Science
Mathematics
Music
Psychology
Sociology
Anthropology
Social Studies
Speech, general
Speech Therapy

See departmental listing, pages 56-191 for detailed specifications.

Alternate Program

Major Concentration—28 credits
At least 28 credits in one of the following:

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

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

Elementary Teaching Minor—28-30 credits

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

Two courses from:

Art 380
Industrial Arts 350
Music 350
Physical Education 306

One course from:

English 495
Library 305
Speech 233, 355, 330, or 373
FOR SECONDARY TEACHERS

(See departmental listings, pages 56-191, 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.)

<table>
<thead>
<tr>
<th>Art</th>
<th>Foreign Language</th>
<th>Music Specialist*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology**</td>
<td>General Science (J)</td>
<td>Physical Education</td>
</tr>
<tr>
<td>Business Education (S)</td>
<td>Geography</td>
<td>Physical Science</td>
</tr>
<tr>
<td>Chemistry** (S)</td>
<td>History</td>
<td>Physics** (S)</td>
</tr>
<tr>
<td>Earth Science</td>
<td>Home Economics</td>
<td>Political Science (S)</td>
</tr>
<tr>
<td>English</td>
<td>Industrial Arts</td>
<td>Social Studies (J)</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Speech</td>
<td></td>
</tr>
</tbody>
</table>

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

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

Minor Concentrations—25 credits

<table>
<thead>
<tr>
<th>Art</th>
<th>Geography</th>
<th>Philosophy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>Health Science</td>
<td>Physical Education</td>
</tr>
<tr>
<td>Business Education</td>
<td>History</td>
<td>Physical Science (J)</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Home Economics</td>
<td>Physics</td>
</tr>
<tr>
<td>Economics</td>
<td>Industrial Arts</td>
<td>Political Science</td>
</tr>
<tr>
<td>English</td>
<td>Library Science</td>
<td>Psychology</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>Mathematics</td>
<td>Recreation</td>
</tr>
<tr>
<td>Geology</td>
<td>Music</td>
<td>Sociology-Anthropology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Speech</td>
</tr>
</tbody>
</table>

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
- a broad liberal arts preparation
- a 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 44, 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:

<table>
<thead>
<tr>
<th>Art</th>
<th>Foreign Language</th>
<th>Philosophy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
<td>Geography</td>
<td>Psychology</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Geology</td>
<td>Physics</td>
</tr>
<tr>
<td>Economics-Business</td>
<td>History</td>
<td>Political Science</td>
</tr>
<tr>
<td>Administration</td>
<td>Home Economics</td>
<td>Recreation</td>
</tr>
<tr>
<td>Economics-General</td>
<td>Industrial Arts</td>
<td>Sociology-</td>
</tr>
<tr>
<td>English</td>
<td>Mathematics</td>
<td>Anthropology</td>
</tr>
<tr>
<td></td>
<td>Music</td>
<td>Speech</td>
</tr>
</tbody>
</table>

Minor concentration

Requirements for the minor include specified courses totaling 25 credits.

Concentrations are offered in:

<table>
<thead>
<tr>
<th>Art</th>
<th>Geology</th>
<th>Physical Education—</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Science</td>
<td>Health Science</td>
<td>The Dance</td>
</tr>
<tr>
<td>Business Education</td>
<td>History</td>
<td>Physics</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Home Economics</td>
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<td>Anthropology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Speech</td>
</tr>
</tbody>
</table>

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.

The Honors Program

Special honors courses are available. The student may graduate "with honors" in a number of departments. See departmental specifications on succeeding pages. See also page 14 for admission to the Honors Program.

Graduate Programs

Advanced Degrees

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

MASTER OF EDUCATION

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

MASTER OF ARTS AND MASTER OF SCIENCE

In 1963 the State legislature authorized the College to grant the Master of Arts and Master of Science degrees. New degree programs serve those who wish to bring advanced subject preparation to their teaching or other professional assignments or who wish to develop a background for doctoral study. Master of Arts
programs have been approved in history, English, psychology, and mathematics. Master of Science programs have been approved in mathematics and in chemistry. Specific announcements will be made when other programs are launched.

Fifth Year  (For Standard Teaching Certificates)

The candidate for a Standard Teaching Certificate (see page 45) 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 approved fifth year study may be completed prior to a year of teaching experience.

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

Prior to beginning a program of fifth year study, the candidate for the Standard Certificate should consult the Office of Fifth Year Advisement for a more detailed statement of College standards and regulations governing fifth year study.
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 180)
DEPARTMENT OF ART

FACULTY

Professor: Weiner (Chairman)
Associate Professors: Kelsey, Marsh, Peck
Assistant Professors: Applegate, Foss, Mayor, Michener, Schlotterback, Tucker, Vike, Wegner
Instructor: Hanson

CONCENTRATIONS

Teacher Education

MAJOR (elementary and secondary) 46-47 credits

Art 101, 102, 103, 130, 210, 220, 230, 240, 270, 291, 381, 382
One course from: Art 391, 392, 491, 492
One course from: Art 371, 372, 471
Two 300 level courses from one or more of the studio concentrations listed below under Arts and Sciences.
Transfers are required to take 15 credits of the major in residence.

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

MINOR 25 credits

Art 101, 102, 130, 291, 381
10 credits in electives under advisement

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

Arts and Sciences

Students planning to major in art are urged to plan carefully early in their college careers with department advisers to assure proper scheduling of sequences. Transfer students are required to complete at least 11 credits in a major or 5 credits in a minor in residence at this College.

MAJOR 73 credits, plus Supporting Courses

Art 101, 102, 103, 130, 201, 210, 220, 230, 291, 401
One course from: Art 240, 250, or 260
One course from: Art 302, 402, 403 (ceramics and jewelry majors substitute Art 331)
Three courses from: Art 391, 392, 491, 492
Upper division concentration from one of the following areas:

1. **Printmaking**—Art 311, 312, 313, 411, 412, 413
   An additional course from: Art 302, 402, 403
   One course from: Art 321, 325, 328
   5 credits from upper division studio courses outside this area.

2. **Painting**—Six courses from: Art 321, 325, 328, 421, 422, 423, 425, 426, 427
   An additional course from: Art 302, 402, 403
   8 credits from upper division studio courses outside this area.

3. **Sculpture**—Six courses from: Art 331, 332, 333, 431, 432, 433, 434, 435, 341
   8 credits from upper division studio courses outside this area.

4. **Crafts**—Art 341, 351, 361
   12 credits under advisement in a major craft—ceramics, jewelry or textiles.
   8 credits from upper division studio courses outside this area.

5. **Combined Concentration**—12 credits from one of the above concentrations
   9 credits in a second concentration (Commercial art courses may qualify—Art 371, 372, 471 or 472)
   8 credits from upper division courses outside the two selected areas.

**Supporting Courses:** 12 credits outside the field of art selected under advisement.

**MINOR** 25 credits
Art 101, 102, 130, 291
Electives selected under advisement

**Departmental Honors**

In addition to the general requirements for all honors students (see page 123) an art major who wishes to graduate "with honors" must complete:

Art 401
Music 242 or 442 or English 487

**Graduate Study**

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

The Art Department has completely reorganized its courses and course numbers. Students who have completed some art courses under former numbers should consult the department as to appropriate additional courses.

(Note: The Art Department may request samples of work produced in studio courses for exhibition purposes.)

101 DRAWING AND DESIGN I 3 credits
Fundamental principles and techniques using a variety of black and white media.

102 DRAWING AND DESIGN II 3 credits
Prerequisite: Art 101. Studies of form and structure in a variety of media; emphasis on color, pattern and design concepts.

103 DRAWING AND DESIGN III 3 credits
Prerequisite: Art 101. Emphasis on pictorial space, volume, and the figure.

130 THREE DIMENSIONAL DESIGN 3 credits
Exploration of sculptural construction in space employing a variety of media.

190 ART APPRECIATION 2 credits
Introduction to form and expression in the visual arts for the non-major; the role of line, plane, color, texture, volume, and space.

201 LIFE DRAWING I 3 credits
Prerequisite: Art 103.

210 PRINTMAKING I 3 credits
Prerequisites: Art 102, 103. Introduction to the major print processes, including relief, planographic, and intaglio.

220 PAINTING I 3 credits
Prerequisites: Art 102, 103. Beginning painting; control of form and technique in relation to still-life, life painting, landscape and personal invention, using water-soluble media.

230 SCULPTURE I 3 credits
Prerequisites: Art 102, 103, 130. Modeling and carving with an emphasis on projection of volume in space.

240 CERAMICS I 3 credits
Prerequisites: Art 102, 103, 130. Materials and techniques of ceramic forms; various hand processes including coil building and slab construction; elementary wheel forming, glaze composition, kiln stacking and firing.

250 JEWELRY I 3 credits
Prerequisites: Art 102, 103, 130. Design and construction of jewelry in various metals, with emphasis on silver; the setting of stones.

260 TEXTILES I 3 credits
Prerequisites: Art 102, 103. Problems using dyes, yarns and textiles in various introductory techniques.

270 LETTERING I 2 credits
Prerequisites: Art 101 or permission. The anatomy of letter forms, alphabets and calligraphy; problems in pen and brush lettering.
291 MODERN ART 3 credits
Prerequisites: Gen Ed. 122 and 123 or History 106, or concurrent registration. History of Western art in the 19th and 20th centuries; emphasis on French, German, and American modes of expression.

302 LIFE DRAWING II 3 credits
Prerequisites: Art 201

311 PRINTMAKING II 3 credits
Prerequisites: Art 210, 291. Planographic and relief processes; emphasis on lithography and woodcut.

312 PRINTMAKING III 3 credits
Prerequisites: Art 210, 291. Intaglio processes; etching, engraving and aquatint; continuation of relief processes.

313 PRINTMAKING IV 3 credits
Prerequisites: Art 210, 291. Serigraphy, emphasizing stencil techniques; continuation of relief processes.

321 OIL PAINTING 3 credits
Prerequisites: Art 220, 291.

325 WATER COLOR PAINTING 3 credits
Prerequisites: Art 220, 291. Various water-soluble media, including cassein.

328 LIFE PAINTING 3 credits
Prerequisites: Art 220, 291. Concentration on the human figure.

331, 332, 333 SCULPTURE II, III, IV 3 credits each
Prerequisites: Art 230, 291. Problems in three-dimensional form and expression; employing a variety of media and materials.

341 CERAMICS II 3 credits
Prerequisites: Art 240, 291. Problems in forming with the potter's wheel, high temperature glazes, clay body construction, stacking and firing practices.

342 CERAMICS III 3 credits
Prerequisites: Art 241. Advanced problems in ceramic form and expression.

351 JEWELRY II 3 credits
Prerequisites: Art 250, 291. Problems in simple and centrifugal casting.

352 ENAMELLING 3 credits
Prerequisite: Art 250. Techniques of enamelling on metals.

361 TEXTILES II 3 credits
Prerequisites: Art 260, 291. Problems with repeat pattern using silk screen, block printing, and dyes on textiles.

362 TEXTILES III 3 credits
Prerequisites: Art 260, 291. Problems in textiles using a variety of techniques in dyes, yarns and fabrics.

371 REPRODUCTION, LETTERING & GRAPHIC DESIGN 2 credits
Prerequisites: Art 101, 102, 270 or permission. Introduction to visual communication as related to graphic processes.

372 GRAPHIC DESIGN 3 credits
Prerequisites: Art 103, 291, 371. Design as communication; the design and execution of material for graphic reproduction.

380 ART IN ELEMENTARY EDUCATION 5 credits
Prerequisites: Humanities or Art 190. Child development in art for the elementary school; problems in design, drawing, painting and printmaking as they relate to the school. For non-majors.

381 ART EDUCATION 3 credits
Prerequisites: Art 102, 103, Psychology 352 or 355. The philosophy, psychology and procedures for art in the elementary and secondary schools.
362 **ART EDUCATION STUDIO** 3 credits  
Prerequisites: Art 381 or concurrent registration. Problems in design, drawing, painting and sculpture and their adaptation to the elementary and secondary school.

391 **ANCIENT AND MEDIEVAL ART** 3 credits  
Prerequisites: Art 291 (or Gen. Ed. 121 or History 105 or concurrent registration). The genesis of Western expression from the paleolithic era through the Middle Ages.

392 **RENAISSANCE, BAROQUE AND ROCOCO ART** 3 credits  
Prerequisites: Art 291 (or Gen. Ed. 121 or History 105 or concurrent registration). Western art from the 15th through the 18th centuries.

397 **MEXICO ART TOUR** 3 credits  
A study of Mexican art through visits to museums and art centers and the study of the archaeology, history, folklore, and geography of Mexico.

400 **SPECIAL PROBLEMS** 2 to 5 credits  
Prerequisite: senior status and permission of Instructor. Individual instruction in special projects under supervision.

401 **SEMINAR IN ART** 2 credits  
Prerequisite: senior status or 9 credits in Art History; 18 credits in studio courses. A non-historical art criticism course; the development of criteria for mature artistic judgment.

402, 403 **INVENTIVE DRAWING** 3 credits each  
Prerequisite: Art 201. Problems in drawing as a major medium.

411, 412, 413 **PRINT WORKSHOP** 3 credits each  
Prerequisite: Art 313. Advanced printmaking, open media; use of color in intaglio or lithography.

421, 422, 423 **ADVANCED OIL PAINTING** 3 credits each  
Prerequisite: 9 credits in painting or permission. Individual search for form and expression.

425, 426, 427 **ADVANCED PAINTING** 3 credits each  
Prerequisite: 9 credits in painting or permission. Painting workshop, using aqueous media.

431 **CERAMIC SCULPTURE** 3 credits  
Prerequisites: Art 331 and 341. Use of ceramic materials as a sculptural medium.

432 **DIRECT METAL SCULPTURE** 3 credits  
Prerequisite: Art 331. Direct metal sculpture; emphasis on the welding processes.

433 **BRONZE CASTING** 3 credits  
Prerequisite: Art 331. Bronze casting by the lost wax process; modeling in clay, wax and plaster; mold-making and other techniques for making cast metal sculpture.

434, 435 **ADVANCED SCULPTURE** 3 credits each  
Prerequisite: Art 331. Advanced problems in sculptural form and expression.

441 **ADVANCED CERAMICS** 3 credits  
Prerequisite: Art 342. Advanced problems in ceramic form and expression.

451 **ADVANCED JEWELRY** 3 credits  
Prerequisite: Art 351. Advanced problems in jewelry as an art form.

461 **ADVANCED TEXTILES** 3 credits  
Prerequisite: Art 361. Advanced workshop in tapestry, rug making and other media.
462 PLASTICS 3 credits
Prerequisite: senior status. Problems in transparent design using plastics with metal, wood or other materials.

471 ILLUSTRATION 3 credits
Prerequisites: Art 291, 2 painting courses. Techniques of illustration for graphic reproduction.

472 POSTER AND DISPLAY 3 credits
Prerequisite: Art 313. Two and three-dimensional display; design and production of the silk screen poster.

481 ADVANCED ART EDUCATION 3 credits
Prerequisites: previous work in Art Education; teaching experience. Lectures and studio work in art education as related to materials and evaluation of process, product and individual growth.

482 ART EDUCATION WORKSHOP 2-5 credits
Prerequisite: teaching experience. Explorations in art media and their adaptation to use in the school. May be repeated.

491 AMERICAN ART TO 1913 3 credits
Prerequisites: Art 291, 391, 392 or permission. Art in the United States from the Colonial period to the Armory Show.

492 MODERN AMERICAN ART 3 credits
Prerequisites: Art 291, 391, 392. Art in the United States from 1913 to the present.

496 HONORS TUTORIAL 2 to 5 credits

500 SPECIAL PROBLEMS 2 to 5 credits
Prerequisite: graduate status or completion of an art major or equivalent. Individual research under supervision.

511 GRADUATE DRAWING AND PRINTMAKING 2 to 4 credits
Prerequisite: graduate status or completion of an art major or equivalent. Individual problems.

521 GRADUATE PAINTING 2 to 4 credits
Prerequisites: graduate status or completion of an art major or equivalent. Individual problems in painting.

531 GRADUATE SCULPTURE 2 to 4 credits
Prerequisites: graduate status or completion of an art major or equivalent. Individual problems.

541 GRADUATE CRAFTS 2 to 4 credits
Prerequisites: graduate status or completion of an art major or equivalent. Individual problems in selected crafts.

580 SPECIAL PROBLEMS IN ART EDUCATION 2 to 4 credits
Prerequisites: teaching experience and 27 credits in art. Special problems under supervision.

581 SEMINAR IN ART EDUCATION 4 credits
Prerequisites: teaching experience and 27 credits in art. Selected problems in art education as announced.

582 CURRICULUM PLANNING 4 credits
Prerequisites: teaching experience and 27 credits in art. Planning, development, implementation and evaluation of art as related to the total curriculum.
DEPARTMENT of Biology

FACULTY

Professors: Broad (Chairman), Flora, Martin
Associate Professors: Barron, Kirkpatrick, Mitchell,
Schwemmin, Senger, Slesnick
Assistant Professors: Dube, Erickson, Heath, Kraft, Taylor

CONCENTRATIONS

Students desiring a major or minor in biology are urged to plan carefully early in their college careers with department advisors in order to assure proper sequence of courses selected. Biology 101 should be included as a part of the General Education program in the first quarter in college as it is prerequisite to most other Biology courses. 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 and Arts and Sciences

For students planning to teach in the elementary or junior high school, the general science major is recommended (see page 177) That concentration includes courses in biology.

MAJOR 40 credits plus supporting courses for B.A. in Ed.;
additional 10 credits for B.A.

Biology 301, 371, 477 (or Chemistry 471, 472)
Botany 251, 252
General Science 405
Zoology 261, 262

Upper division electives in biology under advisement to bring total to 40 credits
for B.A. in Ed. or 50 credits for B.A.

Supporting Courses (required but may be applied to a minor):

Chemistry 121, 122
131, 233 (or 461, 462, 463)
251 (or 351, 354)

Physics—one college year under advisement
Mathematics 100 (if needed), 220 (or 121, 122), 240
Geology 211 or 212
MINOR 25 credits
   Botany 252 and Zoology 261
   Botany 251 or Zoology 262
   10 additional credits selected from Botany 251, Zoology 262, or upper division biology courses.

Departmental Honors

In addition to the general requirements for all honors students (see page 123) 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 concentration 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 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.

240 MARINE BIOLOGY 3 credits
   Prerequisite: Biology 101 or 104. Study of plants and animals of the seashore. Not open to students with credit in Zoology 461 or Botany 456. Summers only.

247 HEALTH SCIENCE 3 credits
   Prerequisite: Biology 101 or 104. A basis for intelligent guidance in the formation of health habits and attitudes, with stress on bodily functions.

300 SPECIAL PROJECTS IN BIOLOGY 1 or 2 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 **SEMINARY 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 **HYDROLOGY** 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. Summers 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 microscope 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.

* It is recommended that students planning to take Biology 345 and 477 take Biology 345 first.
SPECIAL PROJECTS IN BIOLOGY 2 to 5 credits
Prerequisite: permission of instructor.

THESIS RESEARCH 4.9 credits
Prerequisite: permission of thesis advisory committee. Original investigation of a specific problem in biology. (A student should register for credit in the quarter in which he expects to complete the thesis.)

ADVANCED TOPICS IN ECOLOGY 4 credits
Prerequisites: Biology 301 and permission of instructor. Analysis of current literature on fundamental properties of ecosystems, communities, populations, species, and characteristic environments.

TOPICS IN DEVELOPMENTAL AND COMPARATIVE MORPHOLOGY 4 credits
Prerequisite: One course from Botany 472, 475, Zoology 366, 369, and permission of instructor. The structural changes, cellular interactions, and control mechanisms operating during growth and development or evolution of selected organisms.

ADVANCED TOPICS IN GENETICS 4 credits
Prerequisites: Biology 371 and permission of instructor. Inheritance and gene action in plant, animal, and microbial systems; illustrative experiments with Drosophila, Aspergillus or other organisms.

ADVANCED TOPICS IN PHYSIOLOGY 4 credits
Prerequisites: Biology 477 or Chemistry 471 and permission of instructor. Selected topics in general, microbial, or comparative physiology; laboratory work to illustrate selected processes or experimental techniques.

ADVANCED TOPICS IN BIOSYSTEMATICS 4 credits
Prerequisite: permission of instructor. Role of morphology, cytology, biochemistry and genetics in taxonomy; systematic study of some specific group of local organisms.

SEMINAR IN BIOLOGY 2 credits
Prerequisite: 40 credits in biology. Selected problems in biology, with emphasis on current literature.

COURSES IN BOTANY

GENERAL BOTANY 5 credits
Prerequisite: Biology 101 or 104. Plants as living organisms; the structure and functions of typical vascular plants. Heredity and biology of the cell are included in Biology 101 or 104 and are not repeated here.

GENERAL BOTANY 5 credits
Prerequisite: Biology 101 or 104; Botany 252 may be taken without Botany 251 as a prerequisite. Comparative study of the major phyle of the plant kingdom with a view to interpreting present structure in terms of ecological adaptation and past evolutionary heritage.

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.

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.
404  PLANT COMMUNITIES 3 credits
Prerequisite: Botany 201. Ecology of plant communities with special emphasis on analysis, description, succession, and distribution. Weekend field trips included.

456  ALGAE 5 credits
Prerequisite: Botany 252. Collection, culture, 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 3 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: Zoology 261. 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. 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. 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, types of bird protection.

363 MAMMALOGY 5 credits
Prerequisite: Zoology 262. Habits; identification, distribution, and classification of mammals of the Northwest; methods of collection, preparation of skins, and the use of taxonomic keys.

366 COMPARATIVE VERTEBRATE ANATOMY 5 credits
Prerequisite: Zoology 262. 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. 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
Prerequisite: Zoology 261 plus 20 additional credits in biology. Classification, life cycles, and biometrics of unsegmented worms, including flatworms, rotifers, kinorhynchus, nematodes, of both fresh and marine waters.

BUSINESS EDUCATION

(See page 78)
DEPARTMENT of Chemistry

FACULTY

Professor: Knapman
Associate Professors: Besserman, Eddy, Frank (Chairman), Neuzil
Assistant Professor: Chang, Lampman, Whitmer

Program Planning

Students planning to major in chemistry or to begin preprofessional programs involving chemistry courses are advised to consult the department at the beginning of their first year to arrange for proper sequence of courses. Potential majors should take the following to satisfy general education science requirements: Biology 104, Chemistry 121, Geology 211.

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
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 123), a chemistry major who wishes to graduate "with
honors must complete:

Honors 361 and 461
30 credits (Arts and Sciences) or 25 credits (Teacher Education) in upper division chemistry courses
Chemistry 498
At least four credits in Chemistry 396a,b,c, and/or 496a,b,c.

Graduate Study

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

COURSES IN CHEMISTRY

100 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. Students with credit in high school chemistry should take Chemistry 125 instead of 101 to fulfill the general education requirement.

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 students not requiring Chemistry 121, 122 in their programs.

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 not requiring the Chemistry 351-354 series.

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
Prerequisites: Chemistry 122 for 351; each course in the series prerequisite to
the next; 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.

396a,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 pre-
sentation 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 463 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
Prerequisite: Chemistry 463 or permission of instructor. Chemical bond,
structure and shape of molecules, acids and bases, coordination compounds
and ions, transition metals, lanthanides, and actinides.

454  ADVANCED ORGANIC SYNTHESIS 3 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 355 and 436. Separation, identification, and char-
acterization of organic compounds involving some use of instrumental tech-
niques.

461, 462, 463  PHYSICAL CHEMISTRY 4, 4, 3 credits
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 electrochemistry.

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 funda-
mental life processes.

472  BIOCHEMICAL LABORATORY 2 credits
Prerequisites: Chemistry 233, 354, and Chemistry 471 (or concurrent). Labora-
tory techniques for the study of 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.
493 NUCLEONICS LABORATORY 2 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.

511 ADVANCED LABORATORY METHODS 2 credits
Prerequisite: Chemistry 463. Specialized laboratory on a conference basis for a particular area of interest.

531 SPECIAL TOPICS IN ANALYTICAL CHEMISTRY 3 credits
Prerequisite: Chemistry 435 and 463. Special methods of separation; acid-base relationships in non-aqueous solvents; chromatography, coulometric and potentiometric methods; determination of organic functional groups, microanalytical operations and methods.

541 SPECIAL TOPICS IN INORGANIC CHEMISTRY 3 credits
Prerequisite: Chemistry 463. Complex ions and coordination compounds, inorganic substances in non-aqueous media; mechanism of inorganic reactions.

551 PHYSICAL ORGANIC CHEMISTRY 3 credits
Prerequisites: Chemistry 353 and 463 or equivalent. Modern concepts of physical organic chemistry and their use in the elucidation of reaction mechanism, relation of structure to chemical reactivity.

561, 562 ADVANCED PHYSICAL CHEMISTRY I & II 3 credits each
Prerequisite: Chemistry 463 and Mathematics 224 (or concurrent with Chemistry 561). Emphasis on thermodynamics, solid state and chemical kinetics.

563 MOLECULAR SPECTROSCOPY AND QUANTUM MECHANICS, THEORETICAL CHEMISTRY 3 credits
Prerequisite: Chemistry 453, Mathematics 301 and 331. Modern aspects of theoretical chemistry and allied fields such as quantum and statistical mechanics.

571 GENERAL BIOLOGICAL CHEMISTRY 3 credits
Prerequisite: Biology 104 and Chemistry 353 and 463. The structures and functions of cells and tissues, chemical and physico-chemical basis of structures of amino acids, proteins, nucleic acids, carbohydrates and other biologically important compounds; general metabolism of carbohydrates, lipids, and proteins.

572 CHEMISTRY OF BIOLOGICAL PROCESSES 3 credits
Prerequisite: Chemistry 571. Biosynthesis and chemical pathways of metabolism of amino acids, proteins, nucleic acids, lipids, vitamins, and porphyrins, mechanism of biochemical reactions.

581 ADVANCED NUCLEONICS 3 credits
Prerequisite: Chemistry 483 and 483 and Mathematics 224. Advanced techniques of nuclear chemistry and nuclear physics; nuclear reaction, nuclear fission and involved multi-particle detection and scattering experiments.
595  **SEMINAR 1 credit**
Prerequisite: Chemistry 463. Presentation of contemporary subjects in chemistry.

598  **RESEARCH 3 credits**
Prerequisite: Chemistry 463. Research in chemistry under faculty direction terminating in a master’s degree thesis.
DEPARTMENT of ECONOMICS and BUSINESS

FACULTY

Professors: Mayer (Chairman), Palmer
Associate Professors: Haglund, Mischaikow, Mitchell
Assistant Professors: Faulkner, McAllister, Shaffer, Spratlen, Walter
Instructors: Wilkinson, Zoet

CONCENTRATIONS IN ECONOMICS

Teacher Education

MINOR 24-25 credits

(For secondary-teachers other than Business Education majors.)
Economics 101, 201 and 202; or Economics 201, 202, and 251
10 credits in upper division courses under advisement

Arts and Sciences

MAJOR (Economics-Business Administration) 67 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
Mathematics 240
Additional courses in economics under departmental advisement
Supporting Courses: Geography 207; History 360; Mathematics 220 and 241 or 270 (Political Science 101 and Sociology 201 also recommended)

MAJOR (Economics-General) 53 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
Mathematics 240
Additional upper division credits selected under departmental advisement.
Supporting Courses: Geography 207; History 341, 360; Mathematics 220 and 241 or 270 (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 123) 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.
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; 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
Organization and operation of the American economy; extension courses particularly recommended for social studies teachers.

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; completion of simple returns. Extension only.

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 bookkeeping and financial statements.

252 PRINCIPLES OF ACCOUNTING 3 credits
Prerequisite: Economics 251. Emphasis on depreciation, the voucher system, partnership and corporation accounting.

253 ADMINISTRATIVE ACCOUNTING 3 credits
Prerequisite: Economics 252. Manufacturing accounting, financial analysis, and interpretation of accounting data.

271 BUSINESS LAW 1 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, and 311. 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 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.

357 **AUDITING** 5 credits  
Prerequisite: Economics 355 or 253 and permission of instructor. Generally accepted auditing standards and principles; applications in public and internal accounting.

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.

396a,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 DEVELOPMENT 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 30 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.

417 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.

482 REGIONAL ECONOMICS 4 credits
Prerequisites: Economics 201 and Geography 207, or permission of instructor. The problems, resource endowment, and principal policy issues related to the economic growth of a region.

491h HONORS SEMINAR 3 credits

496a,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 to 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 high school shorthand. Intensive dictation and transcription practice on business correspondence; 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 mailing transcripts.

224 SECRETARIAL PRACTICE 3 credits
Prerequisite: Business Education 223 or equivalent. Further development of transcription skills, office techniques, and 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 diction techniques.

400 **DIRECTED STUDY IN BUSINESS EDUCATION** 1 to 3 credits
Prerequisites: senior standing and permission 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.

497a **OFFICE AUTOMATION FOR BUSINESS TEACHERS** 3 credits
Prerequisite: business teaching experience. Data processing instruction in the high school business curriculum; unit record and electronic data processing in the modern office; materials, equipment and terminology. Summer, 1965.

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:  Ross, Sken, Thompson, Watrous
Associate Professors:  Beldin, D. Brown, Carroll, Casanova, Ellis, Ferris, Higbee, Johnson, Karason, Kaufman, Lamb, McCracken, D. McDonald, McInnes, Margaritis, Nicol, Punches, Starbird

Assistant Professors:  Bieler, Billings, Conquest, Gadzella, Grove, Hodges, H. Jones, Kelly, Klein, Nickelson, Riddles, Van Wingerden

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 42).
2. Completion of all General Education requirements.
4. Completion of a minimum of 128 credits, including at least 30 credits of the academic major.
5. Attainment of a cumulative grade average (at Western Washington State College) of at least 2.10 (to be raised in September of 1966 to 2.20).
6. A chest X-ray in compliance with State Law.

Application

A Declaration of Student Teaching Plan must be filed with the Office of Student Teaching during the spring quarter of the junior year.
Upon completion of the above prerequisites, the student will apply to the Office of Student Teaching for an authorization to register for supervised teaching.

**Time Involvement**

16 credit courses—Education 491, 492*,—seven clock hours daily, plus seminar

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

*In the Fall Quarter only, special sections are offered commencing with the opening of the public schools in September. These sections are in addition to the sections scheduled regularly to correspond with the College calendar. Those students not electing one of these special sections are strongly urged to observe in their home school districts for a few weeks when school opens in the fall. Arrangements should be made through the Office of Student Teaching at the College.

**Student Teaching Opportunities In Resident Centers**

Western offers outstanding student teaching opportunities in Resident Centers established in Everett, Edmonds, Shoreline, and in Seattle. Inasmuch as these opportunities require earlier planning, it is advantageous for students to indicate Resident Center interest at the time of filing the Declaration of Student Teaching Plan. Arrangements have been made for reasonably priced housing in these Centers and it is possible to place a student in such a manner that he will be able to walk to and from his student teaching assignment.

**Departmental Honors**

In addition to the general requirements for all honors students (see page 123), a student who wishes to graduate with departmental honors must complete:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education 336etg—Honors Tutorial</td>
<td>2.5</td>
</tr>
<tr>
<td>Education 336h—Summer Readings</td>
<td>2.5</td>
</tr>
<tr>
<td>Education 337h Seminar in Research</td>
<td>2.0</td>
</tr>
<tr>
<td>Education 436etg—Honors Tutorial</td>
<td>2.5</td>
</tr>
</tbody>
</table>

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 173-174 for courses in Educational Psychology)

301 AMERICAN EDUCATION AND THE TEACHER 3 credits
Prerequisite: sophomore status. 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
Prerequisite: Education 301. 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.

316 HISTORY OF EDUCATIONAL THOUGHT 3 credits
Prerequisite: Education 301. Significant works in the history of educational thought as an analytical framework for evaluating statements of school purposes and curriculum; the derivation of 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.

336wfg 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.

388 RECREATIONAL COUNSELING WITH HANDICAPPED CHILDREN 4 credits
An outdoor camp program for handicapped children and adults; responsibility for planning and carrying out a program of hiking, boating, fishing, swimming, working with craft materials, etc.

400 SPECIAL PROJECTS IN EDUCATION 2 to 3 credits
Prerequisites: permission of department; present a one-page description of project or research proposal. Special supervised individual projects.

410 SEMINAR IN FOUNDATIONS 5 credits
Prerequisite: admission to the special program for degree holders. 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
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.

422 THE ELEMENTARY CURRICULUM 3 credits
Prerequisite: Education 421. Historical and analytical study of the curriculum of the elementary school.

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 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.

425 THE SECONDARY CURRICULUM 3 credits
Prerequisite: Education 421. Historical and analytical study of the curriculum of the secondary school with application of theory to instructional practices.

428 KINDERGARTEN EDUCATION 3 credits
Prerequisites: senior status and student teaching or teaching experience. Historical background, recent trends, and organization of facilities and materials for the kindergarten program.

436efg HONORS TUTORIAL 2 to 5 credits

441 SCHOOL LAW 3 credits
Prerequisite: senior status or teaching experience. Legal principles underlying statutes and court decisions related to the schools, with emphasis on the status of the teacher and the administration. Summer only.

450 ADULT EDUCATION: PRINCIPLES AND METHODS 3 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.

480s Teaching the Social Studies—Summer 1968.

481 OBSERVATION AND PARTICIPATION 2 credits
Prerequisite: permission of department. Guided observation of experienced teachers and limited participation in teaching situations.
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.

SEMINAR IN OUTDOOR AND CONSERVATION EDUCATION 3 credits
Natural history with emphasis on conservation, biology, ecology, geography, geology and mineralogy, and forestry.

PRACTICUM IN CONSERVATION EDUCATION 2 credits
Methods and techniques of working with children in the natural environment; supervised teaching of intermediate grade children.

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 material for self-instruction.

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.

AUDIO-VISUAL INSTRUCTION 3 credits
Types of audio-visual aids, technical processes, educational 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 80-81 for prerequisites, applications, procedures, and amount of time required in all supervised teaching courses -- Education 491 — 496 and 498.)

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.

SUPERVISED TEACHING—SECONDARY 16 credits
Prerequisite: 30 credits in the major field.
Supervised teaching experience providing opportunities to develop and demonstrate teaching competence at the junior high and/or senior high school level.

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.

SUPERVISED TEACHING—SECONDARY 8 credits each
Prerequisite: 30 credits in the major field.
Supervised teaching experience providing opportunities to develop and demonstrate teaching competence at the junior high and/or senior high school level.

WORKSHOP FOR TEACHERS OF INDIAN CHILDREN AND YOUTH 3 credits
The historical backgrounds and present status of Pacific Northwest Indians; agencies and their programs; the problems encountered by Indian children and youth; educational provisions and opportunities. Summer 1965.
497c,d,e,f THE DISADVANTAGED
   c. Psychological Implications 3 credits
   d. Educational Implications 4 credits
   e. Sociological Implications 3 credits
   f. Seminar 2 credits
An examination of the effects of cultural-economic deprivation on children and youth; the sociological and educational implications of the disadvantaged. Summer 1966.

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 2 to 5 credits
Prerequisites: permission of department; present a one-page description of project or research proposal. Special supervised individual projects.

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 SEMINARS IN PHILOSOPHY OF EDUCATION 3 credits each
Prerequisite: Education 318, 415, or equivalent. Studies of the works of one man, of a problem, or of a movement and the implications for schooling.
   Education 516a — The Concept of Intelligent Human Conduct in Education. Summer 1965.
   Education 516b — Pragmatism and Existentialism in Modern Educational Thought. Summer 1965.

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.)

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 center; coordinating, 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 principal's 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. Reading research; application to classroom practices; to individual problems in the teaching of reading; to supervision and administration of reading programs; and to the remediation of reading problems.

586 SEMINAR FOR READING SPECIALISTS 3 credits
Prerequisite: Education 594e, 594f. Development and execution of a research design in reading education.
PRACTICUM IN READING DIAGNOSIS AND REMEDIATION 12 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. 4 credits
   f. Individual case study diagnosis of children with reading problems. 4 credits.
   g. Remedial instruction for children with reading problems. 4 credits.
DEPARTMENT of ENGLISH

FACULTY

Professors: Brown (Chairman), Cederstrom, Clapp, Hicks, Van Aver
Associate Professors: Finder, Hovde, Larsen, O'Brien, Odom, Peters, Ryan
Assistant Professors: Abel, Bennett, Huff, Hunt, Lawyer, Lee, Muldrow
Instructors: Allan, Bridge, Bunnell, Cary, Farley, Fredeman, Haynes, Hitchcock, Johnson, LaBelle, Lewis, McLeod, McNeil, Merrill, Merritt, Rank, Standley, Tipton
Lecturer: Skinner

CONCENTRATIONS

Teacher Education

MAJOR (secondary) 45 credits

English 202, 260 (or 261, 262 and 263), 343, 390 (or 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, 260 (or 261, 262 and 263), 343, 390 (or 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 for elementary teachers will complete 28 credits selected under departmental advisement from the above major.

MINOR (secondary) 25 credits

English 202, 260 (or 261, 262 and 263), 343, 390 (or 490), 496
Electives under departmental advisement

Arts and Sciences

MAJOR 60 credits, plus Supporting Courses

English 202, 260 (or 261, 262 and 263), 341, 343, 390, 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, 260 (or 261, 262 and 263), 343, 390
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.

Departmental Honors

In addition to the general requirements for all honors students (see page 123) 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 concentrations leading to the Master of Education or the Master of Arts degrees see 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. Continuation of English 101 with emphasis on tone, style, and close analysis of literary texts leading to the writing of analytical and interpretative papers.

202 SOPHOMORE EXPOSITION 3 credits
Prerequisite: English 101 or equivalent; 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.

260 CRITICAL INTRODUCTION TO LITERATURE 5 credits
Prerequisite: English 100 or equivalent; primarily for majors and minors. Form and function, meaning and value in the three genres: fiction, drama, poetry. Not open to students who have credit for English 261, 262, or 263.

261, 262, 263 CRITICAL INTRODUCTIONS TO FICTION, DRAMA, POETRY 2 credits each
Prerequisite: English 100 or equivalent; intended primarily for majors and minors. Form and function, meaning and value in fiction (261), drama (262), poetry (263). Not open to students who have credit for English 260.

281, 282, 283 WESTERN WORLD LITERATURE 3 credits each
Reading from classical and medieval, renaissance and neoclassical, romantic and modern literature. Intended for transfer students who have not had General Education 121, 122, 123 or equivalent. Credit may not be earned in parallel segments of both sequences.

302 ADVANCED EXPOSITION 3 credits
Prerequisite: English 202 or permission of instructor. Opportunity for writing on a mature level looking toward publication.

303 CREATIVE WRITING 3 credits
Prerequisite: English 202 or permission of instructor. 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
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 1965-66: 349f Donne, 349g Shelley

359 MAJOR AMERICAN WRITERS 2 credits each
Different writers of eminence will be treated from year to year in this series.
In 1965-66: 359c Hemingway, 359e O'Neill

*Not applicable to the English major or minor.
390 AMERICAN ENGLISH AND ITS BACKGROUND 3 credits
The nature of language, lexicography, American dialects, usage, history of
English and English grammar, and descriptions of English grammar (traditional,
structural, transformational).

399a,b,c HONORS TUTORIAL 2 to 5 credits each

403 SENIOR WRITING WORKSHOP 1 to 5 credits
Prerequisite: English 302 or 303 or permission of instructor. Individual writing
projects.

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.
In 1965-66: 440a Irish Renaissance

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. Since different literary types and genres will be treated from
year to year in this series, the course may be taken more than once for credit.
In 1965-66: 460b The Classical Epic

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 represen-
tative 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. Also offered as Speech 424.

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 em-
phasis 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 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 STRUCTURAL AND TRANSFORMATIONAL GRAMMARS 3 credits

491 HISTORY OF THE ENGLISH LANGUAGE 3 credits
The historical development of the English language: phonology, morphology, syntax, 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 ENGLISH FOR THE SECONDARY SCHOOL 3 credits
Prerequisite: English 390 or 490 or permission of instructor. Teaching composition, language, and literature in the junior and senior high school programs, procedures, and materials.

498 WORKSHOP IN THE TEACHING OF ENGLISH 5 credits

499a,b,c HONORS TUTORIAL 2 to 5 credits each

Graduate Courses

Registration in the following courses requires graduate status and departmental approval. An adequate background (normally an undergraduate major or minor in English) and the ability to do independent work are prerequisites. Attention will usually be given a limited topic: one writer or a small group of writers, selected works, a single form.

501 BIBLIOGRAPHY AND METHODS OF GRADUATE STUDY IN ENGLISH 3 credits
Required of all candidates for the M.A. and of all candidates for the M.Ed. electing the thesis option. To be taken as soon as possible after the student's admission to graduate degree status.

503 WRITING SEMINAR 1 to 3 credits
Prerequisites: English 302 or 303 or equivalent.

520 SEMINAR IN ANGLO-SAXON LITERATURE 3 credits
Prerequisite: English 591a or equivalent.
520a Beowulf

521 SEMINAR IN MEDIEVAL LITERATURE 3 credits
Prerequisite: English 321 or 341 or equivalent.
521a Chaucer (Summer, 1955)

522 SEMINAR IN SIXTEENTH-SEVENTEENTH CENTURY LITERATURE 3 credits
Prerequisite: English 322 or 343 or equivalent.
522a Milton

523 SEMINAR IN EIGHTEENTH CENTURY LITERATURE 3 credits
Prerequisite: English 323 or equivalent.
524 SEMINAR IN ROMANTIC LITERATURE 3 credits
Prerequisite: English 324 or equivalent.

525 SEMINAR IN VICTORIAN LITERATURE 3 credits
Prerequisite: English 325 or equivalent.
525b Hardy

526 SEMINAR IN CONTEMPORARY LITERATURE 3 credits
Prerequisite: English 326 or 333 or equivalent.
526a Auden, Spender, MacNeice, Lewis

531 SEMINAR IN AMERICAN LITERATURE: 1800-1860 3 credits
531a The Transcendental Movement
Prerequisite: English 331 or equivalent

532 SEMINAR IN AMERICAN LITERATURE: 1860-1920 3 credits
532a The American Sociological Novel (Summer 1965)
Prerequisite: English 332 or equivalent.

543 SEMINAR IN SHAKESPEARE 3 credits
Prerequisite: English 343 or equivalent.

560 SEMINAR IN A LITERARY FORM 3 credits

587 SEMINAR IN LITERARY CRITICISM 3 credits
587b The 19th Century Critics (Summer, 1965)
Prerequisite: English 324 or 325 or 487.
587c Theories of Comedy
Prerequisite: English 487 or equivalent.

589 DIRECTED INDIVIDUAL STUDY 1-3 credits
Research on topics not included in formal courses.

590 LINGUISTICS 3 credits
Prerequisite: English 490 or equivalent.

591 HISTORICAL LINGUISTICS 3 credits
Prerequisite: English 491 or equivalent.
591a Old English; 591b Middle English (Summer, 1965)

598 RESEARCH IN THE TEACHING OF ENGLISH 1-3 credits
Prerequisite: teaching experience. For Master of Education candidates only.

599 THESIS 5-9 credits
Prerequisite: English 501. Credit varies according to the individual project.
DEPARTMENT of FOREIGN LANGUAGES

FACULTY

Associate Professors: King, Robinson (Chairman), Young
Assistant Professors: Adam, Brockhaus, Elmendorf, Moerschner, Seigneuret
Instructors: Milicic, Shiebert
Lecturers: Bourguès, Barragán, Faber, Moisson, van Voorst Vader

CONCENTRATIONS

(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
Required courses: 201, 202, 203, 210, 211, 310, 311, 312, 410, or 411 in a given language.
Foreign Language Education 432
Electives under departmental advisement to total 45 credits

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

MAJOR (secondary) 45 credits

(a) A Modern Foreign Language
Forty-five credits in courses numbered 201 and above in French, German, Russian, or Spanish, including 310, 311, 312 and Foreign Language Education 432.

(b) Latin
Forty-five credits selected under advisement

MINOR 20 credits

Twenty credits in courses numbered 201 and above, including at least six credits in upper division courses.

Arts and Sciences

MAJOR

(a) A Modern Foreign Language
Forty-five credits in courses numbered 201 and above in French, German, Russian or Spanish, including 310, 311 and 312

(b) Classics
Thirty credits in Greek and
Thirty credits in Latin in courses numbered 201 and above
Additional courses in such fields as history, philosophy, geography, or English appropriate to each language are to be selected under departmental advisement. One year of college Latin is strongly recommended.

MINOR 20 credits

Twenty credits in courses numbered 201 and above including at least six credits in upper division courses.

Departmental Honors

In addition to the general requirements for all honors students (see page 123) 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

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

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

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.

FRENCH

1005 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.

290 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.

301 INTRODUCTION TO NINETEENTH CENTURY FRENCH LITERATURE 3 credits
Prerequisite: French 290 or permission of instructor. Major works and movements.

302 INTRODUCTION TO EIGHTEENTH CENTURY FRENCH LITERATURE 3 credits
Prerequisite: French 290 or permission of instructor. The Age of Enlightenment represented in various genres.

303 INTRODUCTION TO SEVENTEENTH CENTURY FRENCH LITERATURE 3 credits
Prerequisite: French 290 or permission of instructor. The classical period represented in various genres.

310, 311, 312 THIRD YEAR COMPOSITION AND GRAMMAR 2 credits each
Prerequisite: French 211, or the equivalent; each course prerequisite to the next. Written and oral composition and vocabulary building. Explication de texte.

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 290 or permission of instructor. Interpretation and discussion of selected readings.

341 FRENCH DRAMA 3 credits
Prerequisite: French 290 or permission of instructor. Interpretation and discussion of selected readings.

342 FRENCH POETRY 3 credits
Prerequisite: French 290 or permission of instructor. Interpretation 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. When topics vary, the course may be repeated.

396a,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 2 credits
Prerequisites: French 210, 211, 310, 311. Phonetic transcription and intensive oral practice to attain a mastery of good pronunciation.

411 COURS DE STYLE 3 credits
Prerequisite: French 312 or permission of instructor. Advanced composition and grammar.

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 repeated.

496a,b,c HONORS TUTORIAL 2 to 5 credits each

GERMAN

100a FUNDAMENTALS OF THE GERMAN LANGUAGE 3 to 5 credits
Prerequisite: some background experience in German; not open to students with the equivalent of more than two years of high school German. A refresher course in pronunciation, grammar, aural comprehension, reading and speaking. Not applicable to a major or minor. Summer only.

101, 102, 103 FIRST YEAR GERMAN 5 credits each
Fundamentals of the language; pronunciation, grammar, aural comprehension, reading and speaking.

201, 202, 203 SECOND YEAR GERMAN 3 credits each
Prerequisite: 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 the equivalent; German 210 is prerequisite to 211. Speaking, understanding, and writing German. German 210 should be taken concurrently with German 201; 211 with 202.

290 INTRODUCTION TO GERMAN LITERATURE 3 credits
Prerequisite: nine credits of second year German or the equivalent. Selected works of major German authors, with emphasis on reading improvement and methods of textual interpretation.

301 NINETEENTH CENTURY GERMAN LITERATURE I 3 credits
Prerequisite: German 290 or permission of department. Emphasis on the Romantic Movement.

302 NINETEENTH CENTURY GERMAN LITERATURE II 3 credits
Prerequisite: German 290 or permission of department. Emphasis on realism and naturalism.

303 EIGHTEENTH CENTURY GERMAN LITERATURE 3 credits
Prerequisite: German 290 or permission of department. The classical period of German literature as reflected in a major work of Lessing, Goethe, and Schiller.

310, 311, 312 THIRD YEAR COMPOSITION AND GRAMMAR 2 credits each
Prerequisite: German 211 or equivalent; each course prerequisite to the next. Written and oral composition and vocabulary building.

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 290 or permission of instructor. Interpretation and discussion of selected readings.

341 THE GERMAN DRAMA 3 credits
Prerequisite: German 290 or permission of instructor. Interpretation and discussion of selected readings.

342 GERMAN POETRY 3 credits
Prerequisite: German 290 or permission of instructor. Interpretation and discussion of selected readings.

367 GERMAN LITERATURE IN TRANSLATION 3 credits
Selections from eminent German authors read and discussed in English. Not applicable to a major or minor. When topics vary, the course may be repeated.

396a,b,c HONORS TUTORIAL 2 to 5 credits each

401 EARLY GERMAN LITERATURE 3 credits
Prerequisite: nine credits in upper division German. Monuments of literature from pagan times through the development of New High German.

402 GERMAN LITERATURE FROM THE SEVENTEENTH CENTURY THROUGH THE ENLIGHTENMENT 3 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.

411 ADVANCED COMPOSITION AND GRAMMAR 3 credits
Prerequisite: German 312 or permission of instructor.

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 vary, the course may be repeated.

496a,b,c HONORS TUTORIAL 2 to 5 credits each

GREEK

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.
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.

Modern Greek

121, 122, 123 INTRODUCTION TO MODERN GREEK 3 credits each
Fundamentals of the language; pronunciation, grammar, aural comprehension, reading and speaking; some emphasis on conversational Greek. Not applicable to a major or minor. Extension only.

LATIN

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.
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.

396a,b,c HONORS TUTORIAL 2 to 5 credits each

RUSSIAN

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.

290 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.

301 NINETEENTH CENTURY LITERATURE I 3 credits
Prerequisite: Russian 290 or permission of instructor. An introduction to Pushkin, Lermontov, Gogol, and Turgenev.

302 NINETEENTH CENTURY LITERATURE II 3 credits
Prerequisite: Russian 290 or permission of instructor. An introduction to Dostoevsky, Tolstoy, and Chekhov.

303 TWENTIETH CENTURY LITERATURE 3 credits
Prerequisite: Russian 290 or permission of instructor. The Symbolists, Acmeists, and Futurists; Russian formalism; Soviet Russian literature; versification.

330 CIVILIZATION OF RUSSIA 3 credits
Prerequisite: nine credits of second year Russian or equivalent. 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. When topics vary, the course may be repeated.

396a,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.

411 ADVANCED COMPOSITION AND GRAMMAR 3 credits
Prerequisite: Russian 312 or permission of instructor.

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 verbs.
472 STRUCTURE OF RUSSIAN III 2 credits
Prerequisite: Russian 470 or permission of instructor. Morphology of the noun.

496a,b,c HONORS TUTORIAL 2 to 5 credits each

SPANISH

1005 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 102 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 102 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-Inclan, Azorin, 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 GRAMMAR 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.
3306 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 equivalent. Interpretation and discussion of selected readings.

341 THE CONTEMPORARY SPANISH NOVEL 3 credits
Prerequisite: Spanish 203 or equivalent. Interpretation and discussion of selected readings.

342 SPANISH POETRY 3 credits
Prerequisite: Spanish 203 or 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. When topics vary the course may be repeated.

396a,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.

411 ADVANCED COMPOSITION AND GRAMMAR 3 credits
Prerequisite: Spanish 312 or permission of Instructor.

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 repeated.
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 44.

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
- Chemistry 101 or 121 or 125
- English 100, 101
- Geography 101
- or
- Geology 101

Mathematics 151 or 121 or 122
Physical Education activities
Physics 101 or 131 or 231
Speech 100

See the respective departmental sections of the Catalogue for descriptions.

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

105 BEHAVIORAL SCIENCE 4 credits
Men 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, readings, discussions.

121 The Ancient and Medieval World: the Near East, Greece, Rome, Medieval and Renaissance Europe.
122 The Early Modern World: the Reformation, the Age of Reason, the Enlightenment, Revolutions, and early Romanticism.

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 177)
DEPARTMENT of Geography

FACULTY

Professor: Critchfield (Chairman)
Associate Professors: Miller, Monahan
Assistant Professors: Mockherjee, Teshara
Instructor: Figy

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 credits selected under advisement from the above major.

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 and Sciences

The program of the undergraduate major or minor in geography should include fundamental courses in both the natural sciences and the social studies. The department will recommend supporting courses related to the student's career objectives. The student contemplating graduate work toward the Ph.D. degree is advised to acquire a reading knowledge of a foreign language and competence in statistics during his undergraduate years. Departmental advisers should be consulted at an early date for assistance in program planning.
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 480 or 490)
Economics 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 123) 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 concentrations in geography leading to Master of Education, Master of Arts, or Master of Science degrees, 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: three credits in geography. Physical environments, resources, settlement and economies of Canada and the United States.

313 GEOGRAPHY OF CARIBBEAN AMERICA 3 credits
Prerequisite: 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: three credits in geography. South American nations, emphasizing culture, natural environment, economic activities and regional differences.

315 GEOGRAPHY OF ASIA 5 credits
Prerequisite: three credits in geography. Asia's settlement, population, economic resources and activities, and associated problems.

316 GEOGRAPHY OF EUROPE 5 credits
Prerequisite: three credits in geography. Economic, political, and cultural problems of Europe.

318 GEOGRAPHY OF THE PACIFIC 3 credits
Prerequisite: three credits in geography. Physical environment, resources, and settlement of the Pacific Islands, Australia, and New Zealand.

319 GEOGRAPHY OF AFRICA 3 credits
Prerequisite: three credits in geography. Resources, settlement, peoples, and development of Africa.

320 GEOGRAPHY OF THE U.S.S.R. 3 credits
Prerequisite: 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: Geography 101 or equivalent. Elements of climate, climatic regions, and climate as an environmental factor.
333  BIOGEOGRAPHY 3 credits
Prerequisite: Geography 101 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: Geography 101 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.

396a,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: 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; their resources, population, and economic activities.

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: 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: Geography 101 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.

496a,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 or concurrent. 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.

590 THESIS 6 - 9 credits
Prerequisite: admission to candidacy for the master's degree and appointment of thesis adviser.
DEPARTMENT of GEOLOGY

FACULTY

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

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, 399, 407, 410, 412, 413, 414;
Geography 333, 353, 421, 422, 423; Physics 131, 321
Students electing the alternate program for elementary teachers will complete 28 credits selected under advisement from the above major.

MAJOR Earth Science (secondary) 45 credits
Geology 211, 212, 305, 306, 310
Geography 331; Physics 105, 131
Electives from: Geology 316, 317, 319, 399, 400, 407, 410, 412, 413, 414, 430
Geography 333, 353, 421, 422, 423
Physics 321

MINOR Geology (secondary) 25 credits
Geology 211, 212
16 credits under advisement of the department

Arts and Sciences

MAJOR 50 credits, plus Supporting Courses
Geology 211, 212, 305, 306, 310, 316, 317, 407
14 credits under advisement from: Geology 300, 319, 399, 400, 410, 416, 418,
423, 424, 425, 430 or
3 credits from Geology 412, 413, 414
Substitutions in biology may be made for paleontology emphasis

Supporting Courses:
Chemistry 121, 122; Physics 131 or 231; Mathematics 121 in meeting general education requirements.
20 additional credits under advisement in biology, mathematics, physics or chemistry.
It is strongly recommended that the minor be taken in one of these fields.
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 123) a geology major who wishes to graduate “with honors” must include:

Geology 399
Satisfactory performance on a comprehensive examination in geology
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: 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 Geology 211, and high school or college chemistry. More detailed work with rocks and minerals than is afforded in Geology 101 or 211; the origin, occurrence, and identification of minerals and rocks.

316  PRINCIPLES OF PALEONTOLOGY  5 credits
Prerequisite: 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.
### Geology

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>319</td>
<td><strong>ECONOMIC GEOLOGY</strong> 3 credits</td>
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<td></td>
<td>Prerequisite: Geology 306. Economic minerals and ore deposits, their genesis and occurrence.</td>
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<td>384</td>
<td><strong>EARTH SCIENCE FOR THE ELEMENTARY SCHOOL</strong> 3 credits</td>
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<td></td>
<td>Prerequisite: Geology 101 or Geography 101. Concepts, experiences, and materials from the earth sciences adaptable to the elementary and junior high school classroom.</td>
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<tr>
<td>394a,b,c</td>
<td><strong>HONORS TUTORIAL</strong> 2 to 5 credits each</td>
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<td>399</td>
<td><strong>SEMINAR IN GEOLOGY</strong> 1 credit</td>
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<td></td>
<td>Prerequisite: permission of department. Geological reports, papers, and discussion.</td>
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<tr>
<td>400</td>
<td><strong>SPECIAL PROJECTS IN GEOLOGY</strong> 2 to 5 credits</td>
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<td></td>
<td>Prerequisite: permission of department. Special projects under supervision.</td>
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<tr>
<td>407</td>
<td><strong>PETROLOGY</strong> 3 credits</td>
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<td></td>
<td>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.</td>
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<td>410</td>
<td><strong>FIELD GEOLOGY</strong> 3 or 5 credits</td>
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<td></td>
<td>Prerequisite: Geology 311 or permission of department. The geology of Northwest Washington as observed in the field.</td>
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<td>412</td>
<td><strong>FIELD GEOLOGY FOR TEACHERS</strong> 3 credits</td>
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<tr>
<td></td>
<td>Prerequisite: Geology 311 or permission of department. The geology of Northwest Washington as observed in the field.</td>
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<tr>
<td>413</td>
<td><strong>PHYSIOGRAPHY OF WESTERN UNITED STATES</strong> 3 credits</td>
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<td></td>
<td>Prerequisite: Geology 101 or 211. Geological forces and processes that have shaped the landscape of the West; origin of scenic geological features in the national parks.</td>
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<td>416</td>
<td><strong>GEOLOGY OF WASHINGTON</strong> 3 credits</td>
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<td></td>
<td>Prerequisites: Geology 311 or permission of department. The significant geologic features of Washington State; field studies.</td>
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<td>416</td>
<td><strong>STRATIGRAPHY</strong> 5 credits</td>
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<td></td>
<td>Prerequisite: Geology 316. Analysis of physical and biological characteristics of stratified rock sequences; principles of correlation, determination of geologic age and facies relationships.</td>
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<td>418</td>
<td><strong>OPTICAL MINERALOGY</strong> 5 credits</td>
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<td></td>
<td>Prerequisite: Geology 306. Optical phenomena as related to mineralogy and identification of minerals from optical properties with the use of the polarizing microscope.</td>
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<td>423</td>
<td><strong>IGNEOUS PETROGRAPHY AND PETROLOGY</strong> 3 credits</td>
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<td></td>
<td>Prerequisite: Geology 407 and 418. Origin, occurrence, and classification of igneous rocks and minerals and use of thin sections in identifying igneous minerals.</td>
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<tr>
<td>424</td>
<td><strong>SEDIMENTARY PETROGRAPHY AND PETROLOGY</strong> 3 credits</td>
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<td></td>
<td>Prerequisite: 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.</td>
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<tr>
<td>425</td>
<td><strong>METAMORPHIC PETROGRAPHY AND PETROLOGY</strong> 3 credits</td>
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<tr>
<td></td>
<td>Prerequisite: 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.</td>
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</tbody>
</table>
430 MAP AND AERIAL PHOTOGRAPH INTERPRETATION 3 credits
Prerequisite: Geology 310. Identification and interpretation of geologic features using topographic maps and aerial photographs.

496a,b,c HONORS TUTORIAL 2 to 5 credits each

500 SPECIAL PROJECTS IN EARTH SCIENCE 2-5 credits
Prerequisite: permission of instructor. Special projects under supervision.

510 FIELD PROBLEM 2-5 credits
Prerequisite: Geology 410 or recognized summer field camp. Field mapping problem and report in geology.

511 ADVANCED STUDIES IN PHYSICAL GEOLOGY 3 credits
Prerequisite: Geology 407 or permission of instructor. Independent or class study of recent advances in physical geology.

512 ADVANCED STUDIES IN HISTORICAL GEOLOGY 3 credits
Prerequisite: Geology 316 or permission of instructor. Independent or class study of recent advances in historical geology.

GERMAN
(See page 97)

GREEK
(See page 98)

HEALTH EDUCATION
(See page 159)
DEPARTMENT of HISTORY

FACULTY

Professors: Murray (Chairman), Radke
Associate Professors: Boylan, Hiller, McAree, Schuler
Assistant Professors: Horn, Roe, Thomas
Instructors: Benowitz, Newman
Lecturer: Knibbs

CONCENTRATIONS

Teacher Education

MAJOR 45 credits (all levels)

History 203-204
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 credits selected under advisement from the above major.

MINOR 25 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 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 123). He should consult the department chairman regarding special requirements.

Graduate Study

For concentrations in history leading to a Master of Education or Master of Arts degrees, see Graduate Bulletin.

COURSES

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, 501, 502, 503, 504, 505
Ancient and Medieval — 410, 411, 412, 415, 416, 420, 510
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 THE WESTERN HEMISPHERE 5 credits
Western Hemisphere history from European origins to the present.

280 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 AFRICA 5 credits
African history from the sixteenth century to the present.

388 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 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, Arameans, 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 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 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 RUSSIA, 1905 TO THE PRESENT 5 credits
Political, social, economic, and diplomatic history with emphasis on the period since the Bolshevik Revolution.

434 RUSSIA SINCE 1917 3 credits

435 FRANCE SINCE 1815 5 credits
Political, social, and economic development of France since Napoleon.

436 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 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 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 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 THE UNITED STATES 1877-1900 5 credits
Social, economic, and political development of the American nation after Reconstruction.
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.

THE UNITED STATES IN THE TWENTIETH CENTURY 5 credits
Political, economic, social, and intellectual development in the United States from 1900 to 1945.

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.

DIPLOMATICS HISTORY OF THE UNITED STATES 5 credits
The relationship of the United States to world politics from colonial times to the present.

AMERICAN CONSTITUTIONAL HISTORY 5 credits
Prerequisite: History 203 or equivalent. Constitutional development from the Revolutionary era to the present.

THE AMERICAN WEST 5 credits
The Westward Movement from the Allegheny Mountains to the Pacific Ocean with special emphasis upon the Far West.

THE SOUTH 5 credits
From the development of a distinctive Southern culture in late eighteenth century America to the present.

CANADA 5 credits
From the period of French colonization to the present.

LATIN AMERICA 5 credits
From the period of early Spanish and Portuguese colonization to the present.

CHINA 5 credits
Chinese history from the Ming Dynasty to the present.

INDIA 5 credits
Modern India in its political, social, economic, and cultural development.

ASIA IN THE TWENTIETH CENTURY 3 credits
Impact of the Western World on the Orient in the light of Asiatic development since 1900.

CONTEMPORARY CHINA AND JAPAN 3 credits
Rise of Chinese and Japanese nationalism from the mid-nineteenth century to the mid-twentieth century. Summer only.

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.

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.

HISTORIOGRAPHY 5 credits
Analysis of historians and historical literature to the 19th century.

HISTORIOGRAPHY 5 credits
A continuation of History 501. Analysis of historians and historical literature of the 19th and 20th centuries.

WRITING SEMINAR 5 credits
Prerequisites: 36 credits in history or permission of department. Materials and methodology of historical research.
504  **WRITING SEMINAR** 5 credits
Prerequisite: History 503. Continuation of research begun in History 503. Not offered in summers.

505  **WRITING SEMINAR — 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; 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 Professors: Bieler, Larrabee
Instructor: Leno

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. Students 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 102, 190; Economics 201

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

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, 410, 420, 424, 430, and one course from Home Economics 362, 363, 460, or 475

Supporting Courses: Art 102, 190; 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 PRESCHOOL CHILD IN THE FAMILY 2 credits
Intellectual, physical, social, and emotional development of the preschool child, with emphasis upon the relationship of the child to the family.

150 HUMAN NUTRITION 3 credits
Basic nutrition principles and nutritive needs of people, cultural aspects of foods and food habits, nutrition education.

164 TEXTILES FOR THE CONSUMER 3 credits
Identification and evaluation of textiles for clothing and household purposes.

166 CLOTHING SELECTION 2 credits
Prerequisite: Art 102 and Home Economics 164 recommended; not open to Home economics majors. Selection of clothing from aesthetic and consumer aspects.

250 NUTRITION 2 credits
Not open to Home Economics majors. Fundamental principles of human nutrition and the study of modern dietary standards as applied to normal conditions of everyday living; nutrition education.

252 FOOD AND MEAL MANAGEMENT (men) 2 credits
Basic principles related to food, its preparation and service.

253 FOODS 3 credits
Prerequisites: for majors, Home Economics 150; for non-majors, Home Economics 150 or 250. Basic principles of food preparation and selection, including laboratory experience, and demonstration.

260 CLOTHING SELECTION AND CONSTRUCTION 5 credits
Prerequisite: Home Economics 164, Art 102, sophomore status; open only to home economics majors and minors. Selection of clothing from the aesthetic and consumer aspects; sociological and psychological influences; new construction techniques and methods.

261 INTERMEDIATE CLOTHING CONSTRUCTION 3 credits
Prerequisite: Home Economics 164 (or concurrent) or permission of instructor; not open to home economics majors. Pattern adaptation, principles of fitting, advanced construction techniques, and use of present-day fabrics.

267 WEAVING 3 credits
Weaving taught through the use of a variety of looms and materials. Also offered as Industrial Arts 201.

272 HOUSEHOLD EQUIPMENT 3 credits
Evaluation of household equipment; application to the family's management.

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 current economic world; his responsibilities and protections.
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 or 250. Significant problems in human nutrition.

353 FAMILY MEAL MANAGEMENT 3 credits
Prerequisites: Home Economics 150 or 250, and 253. Concepts of management applied to meal service for the family.

362 FAMILY CLOTHING 2 credits
Prerequisite: Home Economics 260 or 261 or permission of instructor. The selection and construction of clothing for the family.

363 FLAT PATTERN AND DRAPEING 3 credits
Prerequisite: Home Economics 260 or 261. Basic theory and principles of pattern and draping techniques.

365 NEW FABRICS AND FINISHES 2 credits
Prerequisite: Home Economics 164 recommended. New developments in fabrics and finishes. Summer only.

368 HISTORY OF COSTUME 3 credits
Historical costumes from the Egyptian period to the present day.

370 THE HOUSE: ITS PLANNING AND ARCHITECTURE 5 credits
Prerequisite: Art 102. Housing for the family; historical, social and cultural implications.

375 HOME FURNISHINGS 5 credits
Prerequisite: Art 102, 190; Home Economic 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: 35 credits in home economics and permission of instructor. Reading and discussion of recent literature and research in the five areas of home economics.

420 LABORATORY EXPERIENCE WITH THE PRE-SCHOOL CHILD 3 credits
Prerequisites: Home Economics 120 and Psychology 352 (355). Observation of children and participation in nursery school; administration and evaluation of the child development program in the home economics curriculum.

424 FAMILY RELATIONSHIP 3 credits
Prerequisites: General Education 105, Home Economics 120 and 420, and Sociology 351 recommended. Concepts of the family; personal, economic, and social problems; family life education.

430 HOME MANAGEMENT 2 credits
Prerequisites: senior 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; permission of department. 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 eval-
  uation to the fields of home economics.

455  EXPERIMENTAL FOODS  3 credits
  Prerequisites: Home Economics 253, 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, or permission of instructor.
  Modern tailoring techniques.

469  SPECIAL PROBLEMS IN CLOTHING CONSTRUCTION  3 credits
  Prerequisite: Home Economics 161 or 260 or permission of instructor. Con-
  struction and fitting problems; individual projects; recent literature and re-
  search in clothing.

475  ADVANCED HOME FURNISHINGS  3 credits
  Prerequisites: Home Economics 164 and 375. Traditional and contemporary
  design in home furnishings; advanced planning problems.

476  CONTEMPORARY DESIGN IN HOME FURNISHINGS  2 credits
  Prerequisite: Home Economics 375. American and international influences on
  contemporary design.

497A  FAMILY AND PERSONAL FINANCES  3 credits
  Prerequisite: teaching experience—home economics, business education or
  social studies. An interdisciplinary approach to the study of family and per-
  sonal finance, with emphasis on teaching methods and materials. Summer 1965.

497B  SCANDINAVIAN STUDY TOUR OF DESIGN AND ART  5 credits
  Scandinavian art, design, architecture, home furnishings, industrial design, arts

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 14).

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

a. be recommended by the Honors Board
b. have completed at least 6 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, Political Science, Psychology, Sociology-Anthropology.

151, 152, 153  TUTORIAL 2 credits each
161  SCIENCE COLLOQUIUM 2 credits
162  HUMANITIES COLLOQUIUM 2 credits
163  SOCIAL SCIENCE COLLOQUIUM 2 credits
251, 252, 253  TUTORIAL 2 credits each
261  SCIENCE COLLOQUIUM 2 credits
262  HUMANITIES COLLOQUIUM 2 credits
263  SOCIAL SCIENCE COLLOQUIUM 2 credits
290  SUMMER READINGS 2 credits
300  INDEPENDENT STUDY Variable credit
361  SCIENCE COLLOQUIUM 2 credits
362  HUMANITIES COLLOQUIUM 2 credits
363  SOCIAL SCIENCE COLLOQUIUM 2 credits
390  SUMMER READINGS 2 credits
400  INDEPENDENT STUDY Variable credit
461  SCIENCE COLLOQUIUM 2 credits
462  HUMANITIES COLLOQUIUM 2 credits
463  SOCIAL SCIENCE COLLOQUIUM 2 credits
490  SUMMER READINGS 2 credits
DEPARTMENT of INDUSTRIAL ARTS

FACULTY

Professors: Atteberry (Chairman), Schwalm
Associate Professor: Channer
Assistant Professors: Fowler, Olsen, Porter
Lecturer: Hill

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 55 credits

Industrial Arts 210, 233 or 231, 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. Graphics Technology
  B. Mechanical and Electrical Technology
  C. Materials and Process 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
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 WEAVER 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 instructor. Special problems 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 LAPIZ ARY 3 credits
Stonecutting and jewelry making involving techniques of shaping gem stones, forming and joining metal shapes, and enameling on metal; attention to creative design through the use of color, form, and texture.
304 JEWELRY DESIGN 3 credits
Design and construction of jewelry in various metals with emphasis on silver; the setting of stones. Also offered as Art 250.

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 PLANING 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 221. 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.

342 GRAPHIC ARTS FOR ART MAJOR 3 credits
Prerequisite: permission of instructor. Technical processes for preparation and reproduction of graphic material.

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.

360 GENERAL PHOTOGRAPHY I 3 credits
Function, principles, and application of photography in visual communication.

361 GENERAL PHOTOGRAPHY II 3 credits
Prerequisite: Industrial Arts 360 or equivalent. Selected problems in advanced photographic techniques.

370 ELECTRON TUBES AND SEMICONDUCTORS 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 bend-
ing, 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 com-
pleting the course satisfactorily receive a certificate of proficiency from the
American Automobile Association.

397a SAFETY EDUCATION 3 credits
The cause, incidence, prevalence and effect of home, school, recreational and
vocational accidents; establishment of educational programs and practices to

397b ADVANCED UNITS IN DRIVER EDUCATION 3 credits
Prerequisite: Industrial Arts 391 or permission of instructor. Individual re-

406 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
Modern finishing materials and processes.

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 esti-
mating; 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 220 and 320.  
429f Foundry  
429g Advanced General Metals  
429m Machine Maintenance  
429s Sheet Metal  
429t Machine Tools  
429w Welding  

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.  

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  
Prerequisites: 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.  

469 **ADVANCED UNITS IN PHOTOGRAPHY** 3.5 credits  
Prerequisite: Industrial Arts 361 or permission of instructor. Problems in photography as related to medical, industrial, commercial, scientific, advertising media.  

477 **THEORY AND OPERATION OF ELECTRONIC TEST EQUIPMENT** 4 credits  
Prerequisites: Industrial Arts 371 or permission of instructor. Theory and practical in the operation of electronic test equipment common to industrial arts electronic programs.  

478 **PRACTICAL RADIO AND TELEVISION** 4 credits  
Prerequisite: Industrial Arts 371 or permission of instructor. Theory of radio and television transmitters and receivers.  

479 **ADVANCED UNITS IN ELECTRICITY** 1 to 3 credits  
Prerequisite: Industrial Arts 371 or permission of instructor. Advanced study of problems in electricity involving motors, generators, and electronics.  

489 **ADVANCED UNITS IN POWER MECHANICS** 1 to 3 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. Tetronic 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
Prerequisites: 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 99)
DEPARTMENT of LIBRARY SCIENCE

FACULTY

Professor: McGaw
Associate Professors: Hearsey, Herrick, Mathes
Assistant Professors: Frazier, Jahns, Phillips, Scott
Instructors: Johnson, Mclinis, Paeglis, Remsberg

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 will complete 28 credits in the above major under departmental 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 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 ORIENTATION 1 credit
Introduction to books and libraries, and to the Wilson Library in particular, with emphasis on effective use of standard reference tools.

305 BOOKS FOR ELEMENTARY SCHOOLS 3 credits
Examination, reading, and discussion of books most generally useful in work with boys and girls, emphasizing standards for selection of books, book lists, reviews of current books, modern trends in book production, and the relation of books to the curriculum and the reading interests of children.

306 INTRODUCTION OF BOOKS TO CHILDREN 3 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 junior high school students, emphasizing standards for selection of books, book lists, reviews of current books, modern trends in book production, and the relation of books to the curriculum and to reading interests.

308 BOOKS FOR SENIOR HIGH SCHOOLS  3 credits
Examination, reading, and discussion of books most suitable for 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. Selection, adaptation, and presentation of stories for elementary school children.

401 THE LIBRARY IN THE SCHOOL  3 credits
Importance of the library as a materials center in the modern elementary and secondary school; 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
Social, educational, and cultural implications of the role of the library in society.

497 NEW DIMENSIONS FOR THE ELEMENTARY SCHOOL LIBRARY
PROGRAM  3 credits
DEPARTMENT of MATHEMATICS

FACULTY

Professors: Hashisaki (Chairman), McCandless, Young
Associate Professors: Abel, Gelder, Hildebrand, Lister, McFarland, Reay, Rygg, Witter, Yandl
Assistant Professors: Chaney, Gray, Sanderson, Wu
Lecturer: Purcell

The study of college level mathematics should begin with Mathematics 122 for the student who has a command of:
(a) one and one-half years of algebra
(b) one year of geometry
(c) one-half year of trigonometry
(d) one additional year of work including mathematical logic, sets, the real number system, equations, inequalities, and function and their graphs.
Mathematics 121 is offered for students needing a knowledge of the topics listed in (d). The student who is deficient in (a) should enroll in Mathematics 100; students deficient in (c) should enroll in Mathematics 105; these courses, if needed, should be completed before enrolling in Mathematics 121.

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, 305, 310, 321
13 credits from: Mathematics 223, 270, 301, 311, 322

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

MAJOR (secondary) 45 credits
Mathematics 483 in lieu of the mathematics requirement in general education
Mathematics 121, 122, 222, 223, 224, 301, 321, 322 or 325, 401
Two courses from: Mathematics 310, 311, 410, 411
Approved electives from Mathematics 270 and upper division courses

MINOR 25 credits
Mathematics 483 or 485 in lieu of the mathematics requirement in general education
Mathematics 121, 122, 222
Selected courses from: Mathematics 223, 224, 241, 270, 301, 305, 310, 321, 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 8 credits from Modern Algebra (401, 402, 403) or 8 credits from the Advanced Calculus sequence and the one year sequence of Modern Algebra.

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

Supporting Courses: 15 credits from Physics 231, 232, 233, or other courses related to mathematics as approved by the department. Language competency in French, German, or Russian is required.

MINOR 25 credits
Mathematics 121, 122, 222, 223, and selections from Mathematics 224, 241, 270, and upper division courses as advised.

Departmental Honors

ARTS and SCIENCES

in order to graduate with "honors in mathematics" a student must:

a. Complete Mathematics 325, 331, 401, 402, 403, 425, 426
b. Complete 18 additional upper division or graduate credits in mathematics, as advised by the Honors Committee, at least 12 credits of which must be at the 400 or 500 level

c. Attain a 3.5 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 Concentrations (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, 371 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 Master of Education, Master of Arts, or Master of Science degrees, see the Graduate Bulletin.

COURSES

100 ALGEBRA 4 credits
Prerequisite: clearance of mathematics entrance test; one year of high school algebra. For students who do not have sufficient preparation for college level mathematics.

105 TRIGONOMETRY 3 credits
Prerequisite: clearance of mathematics entrance test; one and one-half years high school algebra or Mathematics 100 and one year high school geometry. Angles and angle measurement, logarithms, trigonometric functions, identities, conditional equations, inverse functions, solution of plane triangles, complex numbers.

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: clearance of mathematics entrance test; one and one-half years of algebra, one-half year of trigonometry. Mathematical logic, sets, the real number system, equations, inequalities, and functions and their graphs.

122 ANALYTIC GEOMETRY AND CALCULUS 5 credits
Prerequisite: Mathematics 121 or equivalent. (see introductory statement, page 000). 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
Prerequisite: clearance of mathematics entrance test. 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 Mathematics 122.

222, 223, 224 ANALYTIC GEOMETRY AND CALCULUS 5, 4, 4 credits
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: one course from Mathematics 100, 105, 121, 151. 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 VECTORS AND MATRIX ALGEBRA 4 credits
Prerequisite: Mathematics 224 or permission of instructor. Vectors, matrices, determinants, application to solving systems of linear equations.

305 NUMBER THEORY 3 credits
Prerequisite: Mathematics 222. The properties of integers, Euclid's algorithm, Diophantine equations, congruences, continued fractions and residues.

*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.
310 COORDINATE AFFINE GEOMETRY 3 credits
   Prerequisite: Mathematics 223. 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 210. Projective geometry; the postulates of inci-
   dence, models, duality, perspectivities, projectivities, figures, quadrangular and
   harmonic sets, coordinate systems, transformations, lines, and conics.

321 THE ALGEBRAIC FOUNDATION OF MATHEMATICS 4 credits
   Prerequisite: Mathematics 222. Introduction to algebraic systems: the con-
   cept of order and completeness; the natural numbers and construction of the
   rational and real numbers.

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; infinite sequences; in-
   finite series; metric spaces, continuity.

331 DIFFERENTIAL EQUATIONS 5 credits
   Prerequisite: Mathematics 224. Ordinary differential equations, elementary
   methods of solution of first, second, and higher order linear equations; solu-
   tions by operators and by series; method of Frobenius; Legendre and Bessel
   equations.

332 DIFFERENTIAL EQUATIONS 3 credits
   Prerequisite: Mathematics 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.

371 NUMERICAL METHODS 3 credits
   Prerequisite: Mathematics 224 and 270. Solution of equations, polynomial
   approximations, interpolation, numerical integration, error analysis.

381 INFORMAL GEOMETRY 4 credits
   Prerequisite: Mathematics 251. For elementary teachers. Experimental geo-
   metry as models of physical space and geometry as a deductive system.

396a, b, c HONORS TUTORIAL 2 credits each
   Prerequisite: permission of department.

397 MODERN MATHEMATICS FOR TEACHERS 3 credits
   Sets, set operations and relations, systems of numeration, rational numbers;
   offered by extension.

397a, b, STATISTICAL METHODS 4 credits each
   Prerequisites: Mathematics 121 and 241. Elementary course in statistical
   methodology with emphasis on point estimates and confidence interval esti-
   mation, hypothesis testing, and analysis of variance.

397c, LINEAR PROGRAMMING 3 credits
   Prerequisite: Mathematics 270. Graphical solution of linear programming
   problems; convex sets in the Cartesian plane; linear forms; fundamental
   extreme point theorem; simplex method in linear programming; elementary
   aspects of the theory of games; matrix games and linear programming.

399 MATHEMATICS SEMINAR 1-3 credits
400 SPECIAL PROBLEMS 1-5 credits
An opportunity for individual study under departmental supervision.

401, 402, 403 INTRODUCTION TO ABSTRACT ALGEBRA I, II, III 4 credits each
Prerequisite: Mathematics 224; each course prerequisite to the next. Algebraic structures, groups, rings, integral domains, fields and field extensions.

410, 411 MODERN GEOMETRY I, II 3 credits
Prerequisite: Mathematics 201. Synthetic projective planes; collineations, dilatations, translations and similitudes; non-Desarguean planes, non-Fano planes; vertex preserving endomorphisms; introduction of coordinates; Veblen-Young systems, alternative division rings; the fundamental theorem of projective and affine geometry.

415 CONVEXITY 4 credits
Prerequisite: Mathematics 201 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. Basic concepts in metric spaces; the Riemann integral; derivations; the elementary functions; Taylor series; partial differentiation; implicit function theorem; multiple integrals, Green’s theorem.

427 INTRODUCTION TO TOPOLOGY AND ANALYSIS 4 credits
Prerequisite: Mathematics 425. Metric spaces, topological space and concepts.

441, 442, 443 MATHEMATICAL STATISTICS 4 credits each
Prerequisites: Mathematics 301, 325, 425 (or concurrent). Probability theory; development of distributions, generating functions, averages, moments, regression, correlation, variance, and statistical inference.

471 NUMERICAL METHODS 3 credits
Prerequisite: Mathematics 301 or equivalent and 371. Systems of equations, matrices, eigenvalues.

472 NUMERICAL METHODS 3 credits
Prerequisite: Mathematics 331 and 471. Ordinary differential equations, boundary value problems, eigenvalue problems, partial differential equations.

481 MATHEMATICS IN GRADES 7 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 course 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.

496a,496b,496c HONORS TUTORIAL 2 credits each
Prerequisite: permission of department.

499 MATHEMATICS SEMINAR 1-3 credits
Prerequisite: advanced standing and permission of instructor.

500 SPECIAL PROBLEMS 1-5 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 423. Topological spaces, metric spaces, convergence, connectedness, compactness, product and quotient spaces, function spaces.

521, 522 ANALYSIS 3 credits each
Prerequisite: Mathematics 427 or equivalent. Introduction to measure theory, Lebesgue integration, Fourier series function spaces.

525, 526, 527 THEORY OF FUNCTIONS OF A REAL VARIABLE 3 credits each
Prerequisite: Mathematics 522 or permission of instructor. Topological concepts in analysis, general measure theory; integration in locally compact Hausdorff spaces, LP spaces; abstract Hilbert spaces; classical representation theorems; related topics.

531, 532, 533 COMPLEX VARIABLES 3 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.

597 THEORY OF ALGORITHMS 3 credits
Prerequisite: Mathematics 401. Numerical algorithms, algorithms for games; an algorithm for finding paths in a labyrinth; computing machines with automatic control, the Turing machine and Turing machine algorithms; the basic hypothesis of the theory of algorithms.

598 RESEARCH variable credit

599 MATHEMATICS SEMINAR 1-3 credits
DEPARTMENT of MUSIC

FACULTY

Professors: D'Andrea (Chairman), Regier
Associate Professors: Glass, Schaub, Stoner, Walter, Whitcomb
Assistant Professors: Ager, Hinds, Osborn, Sackrison, Simon
Instructor: Dimond
Affiliated: Burrier, Bussard, Cloud, Stonehouse, Thal, Wicks

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

Piano Competency

All Music Majors (67 hour, 45 hour, and Arts and Sciences) will be required to pass a piano proficiency examination. Students who enter as freshmen must pass the examination by the end of the sophomore year. Transfer students must pass the examination by the end of their first year at this College. The examination may be taken at the end of any quarter. An outline of the requirements covered in the examination is available in the Music Office.
Teacher Education

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

Structure and Musicianship: Music 131, 132, 133, 231, 232, 233
History: Music 241, 242, 243
Music Education: Music 351, 462, 463, 464
Performance:
   a. Music 105, 204, 205, 206 or 301
   b. Music 310, 311, 312
   c. major instrument or voice—6 credits
   d. piano competency

MAJOR (vocal and/or instrumental; grades 1-6) 45 credits

Structure and Musicianship: Music 131, 132, 133
History: Music 241, 242, 243
Music education: Music 351
Performance: Music 310, 105, 106, 107; class or applied piano—6 credits
Electives: 6 credits in music
8 hours of student teaching in elementary music

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

MINOR A (strings) 25 credits
   Music 131, 132, 133, 301, 302, 303, 310
   Applied strings, 4 credits
   Class piano, 3 credits

MINOR B (general) 25 credits
   Music 105, 131, 132, 133, 241, 242, 243

Arts and Sciences

MAJOR 72 credits
   Major instrument or voice, 12 credits
   Secondary instrument or voice, 6 credits

MINOR 25 credits
   Music 105, 131, 132, 133, 241, 242, 243

Departmental Honors

In addition to the general honors requirements (see page 123) a student planning to graduate "with honors" must complete:
Music 396a,b,c
Music 401
Music 496a,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 a Master of Education degree, see Graduate Bulletin.

COURSES

101, 102, 103 CLASS PIANO 1 credit each
Fundamental techniques with stress upon sight-reading, accompanying, and literature.

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.

121 COLLEGE SINGERS 1 credit
Open to all students; no audition.

123 MARCHING BAND 1 credit
Open to all students with previous band experience.

131 ELEMENTARY HARMONIC PRACTICE 4 credits
Music notation; scales, key signatures, intervallic two-part counterpoint, analysis; coordinated singing, listening and keyboard experiences with em phasis upon functional application.

132 ELEMENTARY HARMONIC PRACTICE 4 credits
Prerequisite: Music 131. Diatonic harmony in root position; phrase structure and chord grouping; analysis.

133 ELEMENTARY HARMONIC PRACTICE 4 credits
Prerequisite: Music 132. Triad inversion; figures 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 relate to symphony orchestras, instrumental ensembles, opera, choral groups, and solo performance.

201, 202, 203 CLASS PIANO 1 credit each
Prerequisite: Music 103. Intermediate techniques; sonata literature.

204, 205, 206 INSTRUMENTAL TECHNIQUES 1 credit each
Basic principles and playing techniques of brass, woodwind and percussion instruments.
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 in addition to regular enrollment fees. (See Music Awards, page 139.)

211 ORGAN 1 credit
Prerequisite: permission of instructor.

212 PIANO 1 credit

213 STRINGS 1 credit

214 BAND INSTRUMENTS 1 credit

215 VOICE 1 credit

223 SYMPHONIC BAND 1 credit
Open to students with previous band experience.

231 ADVANCED HARMONIC PRACTICE 4 credits
Prerequisite: Music 133. Seventh chords; irregular resolution; sequence; introduction to accented dissonances; analysis.

232 ADVANCED HARMONIC PRACTICE 4 credits
Prerequisite: Music 231. Modulation; secondary dominants; introduction to chromatic harmony; the period form; analysis.

233 ADVANCED HARMONIC PRACTICE 4 credits
Prerequisite: Music 232. Chromatic harmony; modulation; relationship of harmony to larger formal units; analysis.

241 HISTORY OF MUSIC TO 1600 4 credits
Music styles, forms and composers up to 1600; performance of representative compositions.

242 HISTORY OF MUSIC 1600-1800 4 credits
Main styles, forms and composers from 1600 to 1800; performance of representative compositions.

243 HISTORY OF MUSIC 1800 TO PRESENT 4 credits
Main styles, forms and composers from 1800 to the present; performance of representative compositions.

301, 302, 303 STRING CLASS 1 credit each
Principles and techniques of playing and teaching string instruments.

310 CONDUCTING 3 credits
Basic conducting techniques with laboratory experiences in elementary choral and instrumental music.

311 CONDUCTING 3 credits
Prerequisite: Music 310. Techniques, score reading and interpretative analysis for conducting junior high choral and instrumental groups.

312 CONDUCTING 3 credits
Prerequisite: Music 311. Application of conducting techniques, score reading ability and interpretative analysis to choral and instrumental music for senior high school groups.

321 CONCERT CHOIR 1 credit
Selected group—experience, vocal ability, reading skill, musicianship, and interest in serious choral music considered for membership.
322 SYMPHONY ORCHESTRA 1 credit
Prerequisite: permission of instructor. Open to all students who can qualify.

323 CHAMBER BAND 1 credit
Prerequisite: participation in Music 223 and permission of instructor.

324 WESTERN SYMPHONIC STRINGS 1 credit
Open to all students who can qualify.

326 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.

327 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.

331, 332, 333 COUNTERPOINT 3 credits each
Prerequisite: Music 233. Vocal and instrumental counterpoint from the 16th through the 18th centuries in theory and practice.

350 MUSIC FOR ELEMENTARY TEACHERS 3 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.

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.

396a,b,c HONORS TUTORIAL 2 to 5 credits each
Prerequisite: approval of department.

401 HONORS SEMINAR 3 credits

424 OPERA PRODUCTION 1 to 3 credits
Preparation of a major musical production offered for public performance. Admission by audition.

430 HARMONIC STRUCTURE AND FORM 5 credits
Prerequisite: Music 233. Traditional harmonic usage emphasizing harmonic analysis and the function of harmony in musical forms.

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, 436 COMPOSITION 3 credits each
Prerequisite: Music 233. Writing pieces in part forms, variation form, and sonata form for solo instruments, voice, and small ensembles.

440 COLLEGIUM MUSICUM 3 credits
Little known masterpieces of music from periods currently studied in Music 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

456 WOODWIND TECHNIQUES AND MATERIALS 3 credits

457 BAND TECHNIQUES 2 credits
Rehearsing and performing outstanding band literature; problems of intonation, balance, tone quality and interpretation.

458 ORCHESTRA TECHNIQUES 2 credits
Rehearsing and performing outstanding orchestra literature; problems of intonation, bowing, fingering, tone quality and interpretation.

459 COACHING SMALL ENSEMBLES 3 credits
Organization, coaching, and repertoire for small vocal and instrumental ensembles of high school students.

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 MUSIC IN GENERAL EDUCATION 3 credits
Organization, content, literature, and methods of reaching the history and appreciation of music in secondary school humanities courses, music classes, and performance groups.

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.
467 BIRCH BAY BAND MUSIC WORKSHOP 2 credits
Summer only.

468 CHORAL MUSIC WORKSHOP 2 credits
Summer only.

470 MUSIC SEMINAR 1 credit
Readings and discussion of major issues and development in music and music education.

496a,b,c HONORS TUTORIAL 2 to 5 credits
Prerequisite: approval of department.

501 INSTRUMENTAL CONDUCTING AND REHEARSAL TECHNIQUES 4 credits
Advanced work in conducting school band orchestra music; baton technique, interpretation, score preparation, and rehearsal techniques.

502 CHORAL LITERATURE AND INTERPRETATION 4 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.)

511 ADVANCED ORGAN 1 credit
Prerequisite: permission of instructor.

512 ADVANCED PIANO 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, Lamb, Lehman, Purtill

CONCENTRATIONS

Teacher Education

MINOR 25 credits
Three courses from Philosophy 304, 305, 306, 307
One course from Philosophy 102, 202, or 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 123). In addition he must take advanced courses selected under departmental advisement in philosophy beyond the major. He must achieve a grade average of 3.3 in philosophy courses.

COURSES

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.
220 INTRODUCTION TO THE PROBLEMS OF ETHICS 3 credits
The nature of moral problems and judgments; with emphasis upon the meaning of such concepts as "goodness," "rightness," "evil," "duty," and "happiness."

230 SOCIAL AND POLITICAL PHILOSOPHY 3 credits
Concepts and principles involved in analysis and appraisal of social institutions with attention to natural rights, natural law, social utility, social function, and justice.

250 PROBLEMS IN THE PHILOSOPHY OF RELIGION 4 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.

310 THEORY OF KNOWLEDGE 3 credits
Prerequisite: Philosophy 202 and one other course numbered above 200. Problems and concepts having their focus in the attempt to understand the possibility, nature, origins, and limits of knowledge.

350 ORIENTAL PHILOSOPHY AND RELIGION 3 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.

410 METAPHYSICS 3 credits
Prerequisite: Philosophy 202 and one additional course numbered above 200. Philosophical issues surrounding such notions as particular and universal, space, time, existence, substance and attribute; views of contemporary and traditional philosophers.

411 PHILOSOPHY OF SCIENCE 3 credits
Prerequisite: permission of instructor. Varying theories as to the nature, presuppositions, limitations and interrelations of the sciences.

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.

450 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.
DEPARTMENTS of
PHYSICAL EDUCATION, HEALTH
EDUCATION, and RECREATION
FACULTY

Men’s Department of Physical Education and Athletics
Associate Professors: Lappenbusch, LeProtti, Lounsberry, Tomaras (Chairman)
Assistant Professors: Randall, Smith, Wiseman

Women’s Department
Professor: Weythman
Associate Professors: Aitken (Chairman), Kilby, Hansen
Assistant Professors: Arnett, Gutchow
Instructor: Ames

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) intercollegiate athletics.

General Education Requirements

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

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. Majors and minors should substitute courses from Physical Education 201m, 202m, 203m, 207m, 208m, 209m.

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 (men) 45 credits

Physical Education 201m, 202m, 203m, 207m, 208m, 209m
Physical Education 204m, 205, 302, 303, 306, 308m, 351m, 404m, 490
Health Education 350 or 450
Zoology 241
Electives under departmental advisement

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)

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

Option B (general, with choice of minor)

Physical Education 201w, 203w, 207w, 302, 305w, 306, 342w, 341w or 343w, 404w
Health Education 252, 450
Zoology 243
Option C (dance, with choice of minor)
Physical Education 226, 228, 229, 305w, 306 or 326, 324, 325, 425
Zoology 241, 243
Recommended courses: Physical Education 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.

MINOR Physical Education (men) 25 credits
Six credits from Physical Education 201m, 202m, 203m, 207m, 208m, 209m
Physical Education 204m, 205, 306, 308m, 351m, 404m
Three credits 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 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

MINOR Health Science (men, women) 24-27 credits
Health Education 252, 350, 450
Biology 447
Home Economics 250
Men add:
Zoology 243 and two courses under advisement from Biology 247, 371
Zoology 241, 261, 262
Women add:
Zoology 241, 243 and one course from Biology 371, Zoology 262

Arts and Sciences

MAJOR Recreation (men) 45 credits
Recreation 201, 250, 412, four credits — Recreation 450m
Physical Education 205 and six credits from Physical Education 201m, 202m, 203m, 207m, 208m, 209m
Health Education 252
Industrial Arts 301
Psychology 351
Sixteen credits from: Industrial Arts 210, 240; Economics 101, 271; Psychology 352; Sociology 201, 366

MAJOR Recreation (women) 68 credits plus Supporting Courses
   Recreation 201, 250, 412 and eight credits in Recreation 450w, 451w, or 452w
   Physical Education 201w, 202w, 203w, 207w, 208w, 209w, or equivalent professional activity courses
   Physical Education 205, 305w, 306, 320
   Health Education 252
   One course from: Health Education 301, Biology 247, 447
   Industrial Arts 301, Library Science 309, Music 250, Psychology 352, 440, Sociology 201, 401D, Speech 330
   Supporting Courses: Seventeen credits from Botany 253, Geography 421, Geology 211, Physical Education 326; Psychology 351, Sociology 356, Speech 236, 433, Zoology 263

MINOR Health Science (men, women) 25 credits
   Biology 447
   Health Education 350
   Home Economics 250
   Zoology 241, 243
   Two courses under departmental advisement from:
   Health Education 252, 450; Biology 371; Chemistry 125; Zoology 261, 262

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 Recreation (men) 25 credits
   Recreation 201, 250, 412, 450 (2 credits)
   Physical Education 306
   Four credits from Physical Education 201m, 202m, 203m, 207m, 208m, 209m
   Industrial Arts 301 or 210
   Health Education 252
   Three credits under departmental advisement

MINOR Recreation (women) 25 credits
   Six credits from Physical Education 201w, 202w, 203w, 207w, 208w, 209w
   Physical Education 306
   Recreation 201, 250
   Three credits in Recreation 450w, 451w, 452w
   Industrial Arts 301
   Five additional credits from supporting course list for Recreation Major.
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 31 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

109m 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 AND SQUARE DANCE

123 INTERMEDIATE FOLK AND SQUARE 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
141m FIELD HOCKEY 144m SPEEDBALL & SOCCER
142m BASKETBALL 144w SPEEDBALL & SOCCER
142w BASKETBALL 145m VOLLEYBALL
143m SOFTBALL 145w VOLLEYBALL
143w SOFTBALL 147m TOUCH FOOTBALL
148w LACROSSE

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

201m, 202m, 203m PROFESSIONAL ACTIVITIES 2 credits each
Open to freshmen majors or minors in physical education or recreation. 201m—Team Sports; 202m Individual Sports; 203m Aquatics (Prerequisite: intermediate level swimmer).
201w, 202w, 203w  PROFESSIONAL ACTIVITIES  2 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 playground, 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.

207m  PROFESSIONAL ACTIVITIES—TRACK AND PHYSICAL CONDITIONING  1 cr.
Open to freshmen majors or minors in physical education or recreation.

208m  PROFESSIONAL ACTIVITIES—WRESTLING AND WEIGHT TRAINING  2 cr.
Open to freshmen majors or minors in physical education or recreation.

209m  PROFESSIONAL ACTIVITIES—DANCE IN THE PUBLIC SCHOOLS  1 credit
Open to freshmen majors or minors in physical education or recreation.

207w, 208w, 209w  PROFESSIONAL ACTIVITIES  2 credits each
Prerequisite: open to sophomores 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: cur-
cent American Red Cross Senior Lifesaving Certificate. Stroke analysis and
methods of teaching lifesaving and aquatics skills, instruction leading to qual-
ification 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 funda-
mentals 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 AND MATERIALS FOR ELEMENTARY SCHOOL PHYSICAL EDUCATION 3 credits
Prerequisite: Psychology 352 (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
Prerequisites: 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.

343m OFFICIATING IN TEAM SPORTS 2 credits
Principles, techniques and practice of officiating in team sports for men.

351m TEACHING GYMNASTICS 1 credit
Prerequisite: Physical Education 151m. Intermediate performance skills, with opportunity for each student to teach several basic stunts and calisthenics.

380m COACHING FOOTBALL 2 credits
The theory and appreciation of football, with methods and materials of organization.

381m COACHING BASKETBALL 2 credits

382m COACHING BASEBALL 2 credits

383m COACHING TRACK 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.
397b  FIELD HOCKEY FOR GIRLS AND WOMEN  3 credits
   Beginning, intermediate, and advanced performance skills and game strategies

400  SPECIAL PROJECTS IN PHYSICAL EDUCATION  2 to 5 credits
   Prerequisites: senior status and permission of instructor and department chair-
   man. Individual instruction for students who wish to undertake special pro-
   jects under supervision.

402  TEACHING OF BODY MECHANICS AND MOVEMENT FUNDAMENTALS  3 credits
   Prerequisite: 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, 305, 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 sec-
   ondary 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 pro-
   cedure.

497b  HEALTH ADAPTATIONS OF MUSCULAR ACTIVITY  3 credits
   Healthful activities in the teaching of physical education. Summer, 1965.

497c  WORKSHOP IN PHYSICAL FITNESS  2 credits
   Current theory and practice in the implementation of physical fitness programs
   for all age levels. Summer, 1965.

497d  PHYSICAL EDUCATION FOR THE ELEMENTARY SCHOOL TEACHER  2 credits
   Workshop for classroom teachers concerned with physical education programs,
   emphasizing organization and desirable activities. Summer, 1965.

498  STRAIGHT LINE PHILOSOPHY  3 credits
   Administration of human conduct in activities as straight-line enclosures; not
   limited to those with athletic experience.
499 PHYSICAL FITNESS AND THE PUBLIC SCHOOL 3 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.

350 CURRENT INFORMATION FOR HEALTH INSTRUCTION 2 credits
Recent developments in personal and consumer health, mental and emotional health, and family life education.

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.

450 HEALTH EDUCATION IN THE PUBLIC SCHOOLS 3 credits
Prerequisite: Health Education 350 or equivalent. Basic principles of health instruction, organization, methods and materials, and school health services.

500 PROBLEMS IN HEALTH EDUCATION 2-5 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.

450m FIELD WORK IN RECREATION 1-4 credits
Prerequisites: Physical Education 306, Recreation 201, 412. Practical experience in a community recreation program.

450w, 451w, 452w FIELD WORK IN RECREATION 1-4 credits each
Prerequisites: Physical Education 306, Recreation 201, 412. Practical experience in a community recreation program.

500 PROBLEMS IN RECREATION 2-5 credits
For experienced recreation leaders; opportunity for individualized study of problems growing out of professional experience.

PHYSICAL SCIENCE
(See page 178)
DEPARTMENT of PHYSICS

FACULTY

Professors: Bender, Lahti
Associate Professors: Lindsay, McLeod (Chairman)
Assistant Professors: Dittrich, Rupael, Sprague, 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], 401
- 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, 401
- 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: 16 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 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, 371, 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 OPTICS 3 credits
Prerequisite: Physics 233 (or concurrent), Mathematics 222. Geometrical optics.

352 OPTICS AND SPECTROSCOPY 4 credits
Prerequisite: Physics 351. 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.

401, 402, 403 PHYSICS SENIOR LABORATORY 2 credits each
Prerequisite: Physics 381 for 401; Physics 382 and 401 recommended for 402, 403. Experimentation in electricity and electrical circuits, optics, atomic, X-Ray spectroscopy, radioactivity and nuclear physics.

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 INTRODUCTION TO SOLID STATE PHYSICS 4 credits
Prerequisite: Physics 361, Mathematics 331 (or concurrent). Theoretical and experimental description of mechanical, electrical, and magnetic properties of solids.

481, 482, 483 INTRODUCTION TO QUANTUM MECHANICS 3 credits each
Prerequisites: Physics 343, 352, 357, 361; Mathematics 331, 332. The elementary theory of quantum mechanics including particles and waves, the Schroedinger theory, perturbation theory, multielectron atoms, magnetic moments, spin and relativistic effects, identical particles and the Pauli principle, X-rays; collision theory, and introduction to nuclear physics.

485, 486, 487 INTRODUCTION TO THEORETICAL PHYSICS 3 credits each
Prerequisites: Physics 343, 357; Mathematics 331, 332. Basic mathematical tools needed by the theoretical physicist; classical mechanics, phase space, Lagrangian and Hamiltonian formalisms, continuum theory of matter, variational methods in mechanics, theory of linear transformations, theory of fields, relativity theory, and applications of partial differential equations.

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 Poincare and of Lagrange and Poinsson brackets, infintesimal 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, magnetohydrodynamics, 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, electromagnetic 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
Associate Professors: Hebal, Payne
Instructor: Muller

CONCENTRATIONS

Teacher Education

MAJOR (secondary) 45 credits

Political Science 101, 250, 270

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

- Comparative Government: Political Science 401, 402, 403, 404, 405, 406, 407, 409, 453
- Political Dynamics and Public Administration: Political Science 320 or 340, and one from 253, 345, 420, 421, 422, 425, 440, 442, 443, 450, 453
- Political Theory: Political Science 360 and one from 461, 462, 463
- International Relations: Political Science 375, 376, 406, 411, 474

Electives under departmental advisement.

MINOR 25 credits

Political Science 101, 250, 270

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

Arts and Sciences

MAJOR 50 credits, plus Supporting Course

Political Science 101, 250, 270

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

- Comparative Government: Political Science 401, 402, 403, 404, 405, 406, 407, 409, 453
- Public Law: Political Science 310, 315, 410, 411
- Public Administration: Political Science 320, and one from 253, 420, 421, 422, 425, 453
- Political Dynamics: Political Science 340, and one from 345, 423, 440, 442, 443, 450, 453
- Political Theory: Political Science 360 and one from 461, 462, 463
- International Relations: Political Science 375, 376, 406, 411, 474

Elective: any three credits

Supporting Course: Economics 201

Recommended courses: History 203, 204; Psychology 440, Sociology 431; Geography 311, 320, 341
MINOR 25 credits

Political Science 101, 250, 270

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

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

  Political Dynamics and

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

  Political Theory: Political Science 360 and one from 461, 462, 463

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

Departmental Honors

In addition to the general requirements for all honors students, (see page 123) a political science major who wishes to graduate “with honors” must:

  Complete Political Science 490 (with the advice of the departmental honors adviser)

  Complete Political Science 499

  Have taken courses leading to a reading knowledge of a foreign language, or two years of foreign language training

  Have a grade average of 3.5 in upper division political science courses

  Submit a senior thesis

COURSES

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 AMERICAN NATIONAL GOVERNMENT 5 credits

Principles and institutions of the national government; its main functions.

253 STATE AND LOCAL GOVERNMENT 5 credits

Prerequisite: Political Science 250, or permission of instructor. Sub-national levels of government and inter-governmental relations; legislative, executive, and judicial authorities; the electoral process.

270 (370) INTERNATIONAL POLITICS 5 credits

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

310 AMERICAN CONSTITUTIONAL LAW 5 credits

Prerequisite: Political Science 250. Significant Supreme Court decisions, interpreting major parts of the Constitution in practice.

315 LAW AND SOCIETY 3 credits

Prerequisite: Political Science 250, or permission of instructor. Jurisprudence, the legal order, sources of law and the judicial process.
320 PUBLIC ADMINISTRATION 5 credits
Prerequisite: Political Science 250, or one of the following courses: Sociology 201 or 301, Psychology 201 or 440, or permission of instructor. An interdisciplinary approach to the conduct of public business centered on the executive branch of government; some treatment of other countries.

340 POLITICAL PARTIES AND ELECTIONS 6 credits
Prerequisite: Political Science 101 and 250, or permission of instructor. Nature and functions of political parties; electoral methods.

345 GOVERNMENTAL AND POLITICAL PROBLEMS OF WASHINGTON 3 credits
Prerequisite: Political Science 250 and 253, or permission of instructor. Governmental and political issues of the State of Washington.

360 (460) INTRODUCTION TO POLITICAL THEORY 5 credits
Prerequisite: Political Science 101, General Education 121 or History 105 or permission of instructor. Origin and evolution of major concepts in Western political thought from the time of Pericles to that of Machiavelli.

375 (475) FOREIGN POLICIES OF MAJOR POWERS 3 credits
Prerequisite: Political Science 270, or permission of instructor. Analysis and evaluation of the foreign policies of major powers other than the United States.

376 (476) AMERICAN FOREIGN POLICY 3 credits
Prerequisite: Political Science 270 or permission of instructor. Background organization of American foreign policy; the conduct of diplomatic relations with other states; current issues and problems in foreign affairs.

400 SELECTED READINGS AND RESEARCH 2 to 5 credits
Prerequisite: permission of department. Supervised readings and/or research in a selected area of political science.

401 GOVERNMENT AND POLITICS OF GREAT BRITAIN 3 credits
Prerequisite: Political Science 101 or permission of instructor. Analysis of the British system of government.

402 GOVERNMENTS AND POLITICS OF WESTERN EUROPE 3 credits
Prerequisite: Political Science 101 or permission of instructor; not open to students with credit in previously numbered 401 course. Political system of France, West Germany, Switzerland, and/or other countries.

403 (402) GOVERNMENTS OF THE SOVIET UNION AND EASTERN EUROPE 3 credits
Prerequisite: Political Science 101 or permission of instructor. The political system of the U.S.S.R. emphasizing constitutional theory and practice, the Communist party, and the position of the individual.

404 GOVERNMENTS AND POLITICS OF LATIN AMERICA 3 credits
Prerequisite: Political Science 101 or permission of instructor. The governments and political systems of Latin American countries.

405 THE MIDDLE EAST 3 credits
Prerequisite: Political Science 101 or permission of instructor. Discussion of outstanding political, cultural, and governmental problems of the Middle East.

406 GOVERNMENT AND POLITICS OF CANADA 3 credits
Prerequisite: Political Science 101, or permission of instructor. Canadian government and politics; problems such as federalism, position in the Commonwealth, etc.

407 GOVERNMENTS AND POLITICS OF THE far EAST 3 credits
Prerequisite: Political Science 101, or permission of instructor, not open to students with credit in previously numbered 405 course. The political systems of China and Japan, and other selected countries of the Far East.
409 (301) **PROBLEMS IN COMPARATIVE GOVERNMENT** 5 credits  
Prerequisite: Political Science 101, at least one course between 401 and 407, or permission of instructor. Similarities and dissimilarities between states with respect to constitutional and legal concepts, institutions and procedures of government, civil and administrative functions, political processes.

410 **THE SUPREME COURT AND CIVIL RIGHTS** 3 credits  
Prerequisite: Political Science 250 and 310. 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 **INTERNATIONAL LAW** 3 credits  
Prerequisite: Political Science 270, or permission of instructor. The origin, principles, and problems of international law.

420 **NATURAL RESOURCES: ADMINISTRATIVE AND POLICY PROBLEMS** 3 credits  
Prerequisite: Political Science 320 or permission of instructor. Problems in forest policy, minerals, water and power, with emphasis on Western United States.

421 **METROPOLITAN AREA GOVERNMENT** 3 credits  
Prerequisites: Political Science 101 and 250, or Sociology 201, or Geography 341, or permission of instructor. Problems related to the “exploding metropolis,” alternative forms of “metro” government, and critical urban problems.

422 **STAFFING THE PUBLIC BUREAUCRACY** 3 credits  
Prerequisite: Political Science 320 or permission of instructor. Comparative analysis of public personnel systems in selected countries, with special attention to the United States; general principles of public administration and specialized aspects such as recruitment, training, and employee morale.

423 **THE AMERICAN EXECUTIVE** 3 credits  
Prerequisite: Political Science 250 or permission of instructor. The executive branch, its organization and problems.

440 **THE LEGISLATIVE PROCESS** 3 credits  
Prerequisite: Political Science 101 and 250 or 253 or 340 or permission of instructor. Interaction of executives, administrators, parties, pressure groups, the press, and public in the legislative process at both national and state levels.

442 **POLITICAL BEHAVIOR** 3 credits  
Prerequisite: Political Science 340 or permission of instructor. Human action in political settings, with emphasis on social class analysis, voting, and legislative behavior.

450 **PUBLIC OPINION** 3 credits  
Prerequisite: Political Science 250 and 340, or permission of instructor. Nature, formation, and role of public opinion; public opinion surveys, pressure groups, and role of government in the forming of public opinion.

453 **COMPARATIVE LOCAL GOVERNMENT** 3 credits  
Prerequisite: Political Science 253 or 409 or permission of instructor. Structures and functions of local governments in relation to higher levels of government in the United States, Canada, Great Britain, and France.

461 **POLITICAL THEORY: RENAISSANCE AND MODERN** 3 credits  
Prerequisite: General Education 122, or Political Science 360, 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 360, 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 THOUGHT 3 credits
Prerequisite: History 203, 204, or equivalent, or Political Science 101 and/or 250. Major concepts in American political thought from the Colonial Period to the present.

474 INTERNATIONAL ORGANIZATION 3 credits
Prerequisite: Political Science 210 or permission of instructor. Development, organization, and activities of various types of international institutions, including the United Nations.

496a,b,c HONORS TUTORIAL 2 to 5 credits each

499 SENIOR SEMINAR: APPROACHES TO THE STUDY OF POLITICS 3 credits
Prerequisite: 30 credits in political science, senior standing, permission of department. Methods of studying political phenomena and application of systematic political theory.
DEPARTMENT of PSYCHOLOGY

FACULTY

Professors: Adams, Budd, Harwood (Chairman) Nugent, Woodring
Associate Professors: Blood, Diers, Eich, E. Jones, Mason, McQuiston, Meade, Straughan
Assistant Professors: Carman, Crow, Kintz, Laidlaw, MacKay, Namikas

CONCENTRATIONS

Teacher Education

MAJOR (elementary) 45 credits

(This is in addition to the psychology courses in the general education and professional requirements.)
Psychology 201, 303, 373, 440, 452
Electives under advisement — 25 credits

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

MINOR (secondary) 20 credits

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

Arts and Sciences

MAJOR 40 credits, plus Supporting Courses

Psychology 201, 303, 373

MAJORS should complete these before electing upper division courses. A knowledge of descriptive statistics is prerequisite to these courses. This knowledge may be demonstrated by completing Mathematics 240 or by a departmental examination. Those electing the latter may obtain a study program from the department in preparation for the examination. It is recommended that this prerequisite be fulfilled before taking Psychology 201.
Electives under advisement — 28 credits

Supporting Courses: Mathematics 240 or equivalent (see above) Philosophy 201, Sociology 201, and at least one of the following sequences:
(a) Chemistry 121, 122, 251
(b) Chemistry 125, 251, and one course from (c), (d) or (e) below
(c) Physics 131, 132, 133 (or 231, 252, 233)
(d) Mathematics 220, 241, 270
(e) Either Zoology 241-243 or Zoology 251-262, and one course from Biology 301, 371, Zoology 363, 366
Recommended additional elective courses: one year or more of a foreign language, Philosophy 411, Psychology 406, upper division courses in mathematics and the physical, biological, or social sciences.
MINOR 24 credits

Psychology 201
Twenty credits selected under advisement as follows:
   Two courses or more from Psychology 302, 303, 373, 405, 406, 407, 408, 409,
        440, 452, 473
   Other courses from above or from Psychology 320, 352 (355), 453
It is recommended that biology majors elect Psychology 303, 407, 409, and
   economics majors Psychology 320.

Students planning to take advanced work in psychology at
Western should consult the Graduate Bulletin for courses prereq-
usite to a master's degree program.

Departmental Honors

In addition to the general requirements for all honors students
(see page 123) 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 Edu-
cation or Master of Arts degrees, see Graduate Bulletin.

COURSES

201 GENERAL PSYCHOLOGY 4 credits
Prerequisite: General Education 105 or permission of instructor. Experi-
mentally 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 re-

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.

303 ADVANCED GENERAL PSYCHOLOGY 4 credits
Prerequisite: Psychology 201, 373. The use of quantitative techniques in
behavioral analyses. Lectures and laboratory.

320 INDUSTRIAL PSYCHOLOGY 3 credits
Prerequisite: Psychology 201 or 261 or 351. Application of psychological
principles to such industrial problems as personnel selection and appraisal,
human relations, marketing, training and engineering psychology.
351 PRINCIPLES OF HUMAN LEARNING 3 credits
Prerequisite: General Education 105. Application of the psychological principles of learning to classroom teaching.

352 HUMAN DEVELOPMENT AND PERSONALITY 5 credits
Prerequisite: Psychology 351 and Biology 101 or 104 or equivalent. Basic principles of development and personality with special attention to the school age child; implications for educational practices. Not open to students who have credit for Psychology 355 or 456.

355 HUMAN GROWTH AND DEVELOPMENT 4 credits
Prerequisites: Psychology 261 and Biology 101 or equivalent. Physical, social, and emotional growth and development from birth to adulthood; implications for curriculum and classroom procedures. Discontinued after 1965-66; see Psychology 352.

371 EVALUATION IN THE PUBLIC SCHOOL 3 credits
Prerequisite: Psychology 351. Evaluating pupil achievement; construction of instruments for determining what a student has learned and how much he has developed; the use of standardized tests.

373 ELEMENTARY STATISTICAL INFERENCES 3 credits
Prerequisite: Mathematics 240 or departmental examination (see department for preparatory study program). Statistical procedures and informed reading or original research. Also offered as Education 373.

396a,b,c HONORS TUTORIAL 2 to 5 credits each

397a APPLIED OPERANT CONDITIONING 1 credit
Prerequisite: permission of instructor. Winter, 1965.

397b SEMINAR IN THE BEHAVIORAL SCIENCES 3 credits
Prerequisite: permission of instructor. Fall, 1964.

397c LEARNING THEORY TREATMENT OF CHILDREN'S BEHAVIORAL DISORDERS 2 credits
Prerequisite: permission of instructor.

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 SEMINAR IN RECENT PSYCHOLOGICAL LITERATURE 3 credits
Prerequisite: permission of instructor.

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 sensory processes and necessary stimuli to perception; perceptual theory, classical and contemporary.

408 THE PSYCHOLOGY OF LEARNING 5 credits
Prerequisite: Psychology 201 or equivalent. Major principles of learning, empirical evidence underlying them, and their theoretical interpretation; lectures and laboratory.

*Educational—psychology courses.
409 PHYSIOLOGICAL PSYCHOLOGY 5 credits
Prerequisites: Zoology 241 and 243, or 248; Psychology 201 and 10 additional credits in psychology. Biological foundations of behavior; lecture and laboratory.

*431 INTRODUCTION TO GUIDANCE SERVICES 3 credits
Prerequisite: 15 hours of psychology and senior status. Roles of teacher, principal, psychologist, counselor, and other specialists in an integrated program; guidance and counseling techniques.

440 SOCIAL PSYCHOLOGY 3 credits
Prerequisites: 10 credits in psychology, or Psychology 201 and 5 credits in sociology. Psychology of human institutions with special reference to impact on individual behavior.

452 THEORY OF PERSONALITY 5 credits
Prerequisite: 11 credits in psychology. Theoretical approaches to personality; major philosophic assumptions, historical position, and experimental data considered in evaluating personality theories.

453 INDIVIDUAL DIFFERENCES 3 credits
Behavioral differences among individuals.

456 RESEARCH IN DEVELOPMENT AND PERSONALITY 5 credits
Prerequisites: Psychology 303, 452. Basic principles and theories underlying development and personality. Not open to students who have had Psychology 352 (or 355).

457 PROGRAMMED LEARNING 3 credits
Principles and theories of learning upon which programmed learning is based. Practicum in program design and development.

459 SEMINAR IN EDUCATIONAL PSYCHOLOGY 1 credit
Prerequisite: successful completion of Independent Study Program.

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, permission, or 11 hours of psychology. Identification procedures, curriculum, and teaching methods suited to education of children with superior and special abilities.

*471 STANDARDIZED TESTS 3 credits
Prerequisite: Educational Psychology 371 or permission of instructor. Standardized group tests commonly used in the public schools; selection and administration of tests; interpretation of norms.

473 ADVANCED STATISTICAL INFERENCE 3 credits
Prerequisite: Psychology 373 or equivalent. 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. Discontinued after 1965-66.

496a,b,c HONORS TUTORIAL 2 to 5 credits each

497a SEMINAR IN COGNITIVE PROCESSES 2 credits
Prerequisite: permission of instructor.

500 SPECIAL PROBLEMS 1 to 3 credits
Prerequisite: permission of instructor.

*Educational—Psychology courses.
501a, b PRO-SEMINAR IN PSYCHOLOGICAL FOUNDATIONS 4 credits each
501a—perception, psychological, comparative, learning.
501b—developmental, social, personality, abnormal.
Prerequisite: 501a.

511 INSTRUMENTATION FOR PSYCHOLOGICAL RESEARCH 1 credit
Typical technological solutions to problems encountered in original research; lecture and laboratory.

522 SEMINARS IN PSYCHOLOGY 3 credits
Prerequisite: Psychology 501. (Topics vary from quarter to quarter.)

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, 536, and permission of instructor. The counseling and clinical interview with laboratory opportunity for the development of interviewing skills.

536 INTRODUCTION TO COUNSELING PSYCHOLOGY 3 credits
Prerequisite: Psychology 431 and permission of instructor. The theories of psychological counseling as they relate to philosophical positions, social conditions, personality, and learning theory.

548 FIELD INTERNSHIP IN SCHOOL PSYCHOLOGY 0-3 credits
Prerequisite: Psychology 578 and permission of department. Provision for an academic year of college-supervised work in school psychology. Arrangements must be made in cooperation with the school administration involved.

555 ADVANCED CHILD PSYCHOLOGY 3 credits
Prerequisite: Educational Psychology 352 or 355 or equivalent. Research and theory in the field of child development and behavior.

556 PSYCHOLOGY OF ADOLESCENCE 3 credits
Prerequisite: Educational Psychology 352 or 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.

571 INDIVIDUAL APPRAISAL IN COUNSELING 3 credits
Prerequisite: Psychology 373 or equivalent and Psychology 431 and permission of instructor. The collection, evaluation, application, and interpretation of data available to the school counselor.

572 INDIVIDUAL INTELLIGENCE TESTS 5 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 credits
Prerequisite: Psychology 572 and permission of instructor. 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 and permission of instructor. Diagnostic and interpretative work with selected cases under direct supervision.

*Educational—psychology courses.
591 **PSYCHOLOGY OF OCCUPATIONS** 3 credits
Prerequisite: Psychology 431 and permission of instructor. Sources of occupational materials, theories of career development; applications to vocational counseling.

592, 593 **DESIGN AND ANALYSIS OF EXPERIMENTS** 2 credits each
Prerequisite: Psychology 473; 592 prerequisite to 593. Multidimensional analysis of variance, trend analysis, and analysis of covariance.

594 **FOUNDATIONS OF MEASUREMENT** 4 credits
Prerequisite: Psychology 473. Theory basic to construction and application of psychological tests and scaling techniques.

595 **CORRELATION THEORY** 3 credits
Prerequisite: Psychology 473. Rectilinear, curvilinear, multiple and partial correlation; sampling theory applied to correlation.

596a,b,c **REVIEW OF PSYCHOLOGICAL APPRAISAL AND TREATMENT** 2 credits each
Prerequisite: Psychology 501b.

596a Survey of Intelligence and Aptitude Tests.
Prerequisite: a course in principles of psychological testing. Research and theory related to more widely used individual and group tests.

596b Survey of the Techniques of Personality Evaluation.
Objective and projective personality tests for children and adults.

596c Survey of Therapeutic Practices and Clinical Procedures.
Major systematic approaches to psychotherapy; critical evaluation of use of drugs, shock, psychosurgery, hypnosis and other special techniques.

599 **THESIS** 6 credits

**RECREATION**
(See page 159)

**RUSSIAN**
(See page 100)
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 212, 412, 413, 414
  3 to 8 credits from Biology 240, 301; Botany 253; Zoology 263
  Additional electives under advisement, with a minimum of 11 credits in each area of physical, biological, and geological studies.

*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 (See Physical Education Department—page 152)

*PHYSICAL SCIENCE MAJOR (secondary) 45 credits

  General Science 405
  Chemistry 121, 122, 131, 251
  Physics 231, 232, 233, (or 131, 132, 133), 301
  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. Lahti, of the Physics Department, has been assigned as consulting adviser.

Arts and Sciences

HEALTH SCIENCE MINOR (See Physical Education Department—page 153)
COURSES

General Science

405 HISTORY OF SCIENCE 3 credits
Prerequisite: 30 credits in biological and/or physical science. The nature, methods, and development of science and the role of science in society; recommended for all science majors.

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

360 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 PROJECTS IN SCIENCE FOR THE ELEMENTARY SCHOOL 2 to 5 cr.
Prerequisites: Biology 104, and one course for the elementary school, or teaching experience; permission of instructor.

490 SPECIAL PROJECTS IN SCIENCE TEACHING IN THE JUNIOR AND SENIOR HIGH SCHOOL 2 to 5 credits
Prerequisites: Physical Science 492 or Biology 493; permission of instructor.

500 SPECIAL PROJECTS IN SCIENCE 2 to 5 credits
Prerequisite: permission of instructor.

501 DEVELOPMENT OF A SCIENCE PROGRAM IN THE PUBLIC SCHOOL 3 to 5 cr.
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. Problems concerning content, utilization of community resources, materials of the environment, development of special areas for instruction, integration with other activities in the school program, and organization of courses of study.

582 IMPROVEMENT OF SCIENCE INSTRUCTION IN THE ELEMENTARY SCHOOL 2 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.

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

CONCENTRATIONS

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
- Social Studies Education 426
- Political Science 250 or Economics 201

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 will select 28 credits of the above under departmental advisement.

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
Associate Professors: Anastasio (acting chairman), Mazur, Tweddell
Assistant Professors: Call, Douglas, Spaulding, Thomas
Instructor: Bronsdon

CONCENTRATIONS

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 123), 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 binominal probability with emphasis on their application to statistical research in sociology and anthropology.

301h 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.

348 INTRODUCTION TO LINGUISTICS 5 credits
Languages of the world; techniques of linguistic analysis; role of language in society; relation of linguistics to other disciplines.

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 DEVIAN'T 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.

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 America.

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 3 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

401 SEMINARS 3 credits
Selected topics in anthropology, varying from quarter to quarter. Consult Class Schedule for specific prerequisites applicable to a given seminar.
Topics offered 1964-1966:
401a The Child in Society
401d Interaction and Group Dynamics
401g Primate Behavior
401r Social Stratification
401s Culture and Personality

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.

448 LANGUAGE IN CULTURE AND SOCIETY 5 credits
Prerequisite: Sociology-Anthropology 201 and Anthropology 348. Language as related to semantics and world view; speech communities, processes of change in language.

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.

496e,b,c HONORS TUTORIAL 2 to 5 credits each

COURSES IN SOCIOLOGY

Several courses are listed as Anthropology as well as Sociology. 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 binominal 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 under-developed 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 **SOCILOGY 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 **SOCIOLGY 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  
Prerequisite: Sociology-Anthropology 201 or equivalent; Sociology 275 or 370 recommended. The nature of “community,” analyzed in terms of changing demographic, institutional, and interpersonal patterns.

370 **INTRODUCTION TO RESEARCH METHODS** 5 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 August 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

401 **SEMINARS** 3 credits  
Selected topics in sociology, varying from quarter to quarter. Consult Class Schedule for specific prerequisites applicable to a given seminar.  
Topics offered 1964-1966:  
401a The Child in Society  
401d Interaction Theory and Group Dynamics  
401h Honors Seminar  
401r Social Stratification  
401s Culture and Personality  
401w Sociology of Science  
401z North American Minority Groups and Acculturation

413 **POPULATION OF WASHINGTON STATE** 3 credits  
Prerequisite: permission of instructor. Population growth, distribution and composition; a course for administrators, educators, and sociologists.
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.

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.

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.

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.

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.

HISTORY OF SOCIAL WELFARE 3 credits
Development of social welfare services in Western European civilization with particular emphasis upon twentieth-century United States.

LAW AND WELFARE IN WASHINGTON STATE 3 credits
The practice of social welfare in Washington State with particular emphasis upon legal aspects.

RESEARCH 2 to 6 credits
Prerequisite: permission of instructor. An opportunity to investigate a problem through field or library research.

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.

SOCIAL CHANGE AND THE MORAL ORDER IN RECENT LITERATURE 4 credits
Also offered as English 483 and Philosophy 483.

READING AND CONFERENCE IN SOCIOLOGY 1 to 5 credits
Prerequisite: 15 credits in sociology or anthropology or permission of instructor. Selected reading in major works in the fields of sociology. Discussion on a specific topic chosen for the quarter.

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.

HONORS TUTORIAL 2 to 5 credits each
Prerequisite: permission of instructor.

SPANISH
(See page 101)
DEPARTMENT of  S P E E C H  

FACULTY

Professor:  Carlile (Chairman)
Associate Professors:  Brewster, Herbold, Napiecinski, Schinske
Assistant Professors:  Flanders, Sigler, Webb
Instructors:  Birner, Gustafson, Jenness, Waldo
Lecturer:  Borchers

CONCENTRATIONS

Teacher Education

MAJOR (elementary—general classroom) 45 credits
Speech 201 or 204 or 205, 233, 330, 350, 355, 356, 373, 461, and four credits in clinical practice
17 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, 330, 350, 355, 373, 461, six credits in clinical practice, plus additional credits selected under departmental advisement
Directed Teaching, under the supervision of a speech therapist

MAJOR (secondary) 45 credits
Speech 105, 130, 201, 204 or 205, 236, 305, 350, 355, 373, 437, 485
Additional elective hours selected under departmental advisement

MINOR (secondary) 25 credits
Speech 105, 130, 201, 204 or 205 or 206, 236, 373, 437, 485
Additional course selected under departmental advisement.

Arts and Sciences

MAJOR  50 credits
Speech, 130, 201, 233 or 341, 355, and 373
20 credits in one of the areas listed below, plus 5 credits in each of the remaining two areas.
Public Address:  Speech 202, 204, 205, 206, 207, 208, 305, 480, 490

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
Open to majors and minors in speech. Laboratory work designed to improve articulation and increase voice proficiency in the classroom, on the stage, and lecture platform and in everyday life.

130 INTRODUCTION TO THE THEATRE 3 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 EXTEMPORNE 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, 232, 232 THE ACTED DRAMA 1 to 3 credits each
Admission by tryout only. Participation in plays offered for public production. Three credits may be awarded 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, practice, and organization of planning, drafting, construction, and rigging of scenery; technical analysis and laboratory work on current productions.

237 STAGE LIGHTING 3 credits
Technical and artistic study of light and color as they affect other theatre arts and contribute to artistic design; laboratory work in production.
238 STAGE MAKE-UP 1 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 extemporaneous speaking, for non-majors or minors. Summer only.

320 SHAKESPEARE 5 credits
A survey of the principal plays. Also offered as English 343.

330 INTRODUCTION TO CHILD DRAMA 3 credits
The various aspects of child drama, relationships between formal theatre and informal dramatics, and the role of child drama in education, recreation, and speech therapy.

336 DESIGN FOR THE STAGE 3 credits
Prerequisite: Speech 236. Design for modern theatre with emphasis on interpretation of the play through design; practical design and techniques.

337 ACTING 3 credits
Prerequisite: Speech 233 or permission of 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 3 credits
Prerequisite: Speech 340 or permission of instructor. Laboratory practice before the microphone and camera; applying the methods of oral communication to the broadcast media.

350 SPEECH SCIENCE 3 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.

356 ARTICULATION AND VOICE DISORDERS 3 credits
Prerequisites: Speech 355. Symptomatology, etiology, and therapy for voice and articulation disorders.

357 OBSERVATION OF CLINICAL PRACTICE 1 credit
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 practice 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, organizations, 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.

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.

430 CREATIVE DRAMATICS 3 credits
Prerequisite: Speech 330. Developing original dramatizations with children; observation of children's classes in creative dramatics; story selection, story telling, and story dramatization.

433 CHILDREN'S THEATRE 3 credits
Prerequisite: Speech 330. 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 or permission of instructor. An introductory course in program production and directing for radio and television with emphasis on educational broadcasting.

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.
ORGANIC SPEECH DISORDERS 3 credits
Prerequisite: Speech 355 and 357. Symptomatology, etiology, and therapy for cerebral palsy, cleft palate, aphasia, dysarthria, and laryngectomy.

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.

INTRODUCTION TO HEARING 3 credits
Prerequisite: Speech 355 and 356, and 373. Structure and functioning of the auditory mechanism, emphasizing the psycho-physiology of audition; symptomatology and pathology of hearing disorders.

AUDIOMETRIC TESTING 3 credits
Prerequisite: Speech 461. Determining types and kinds of hearing loss; practice in testing the hearing function and interpreting the results.

HEARING REHABILITATION 3 credits
Prerequisite: Speech 461. Principles, procedures, and techniques of auditory training, speech conservation, speech reading, and language development for the hearing handicapped.

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.

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.

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.

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.

CLASSICAL RHETORIC 3 credits
Principles of rhetoric, as proposed by Aristotle, Quintilian, and Cicero, and the relationship of these principles to modern speech-making.

SPECIAL PROBLEMS 1 to 3 credits
Prerequisite: permission of instructor. For advanced students who wish to investigate special problems.

SEMINAR IN PERSUASION AND ARGUMENTATION 3 credits
Prerequisite: undergraduate major in speech, or permission of instructor. Evaluation of experimental research in persuasion and argumentation.

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.

SEMINAR IN DRAMATIC THEORY AND CRITICISM 3 credits
Prerequisite: undergraduate major in speech or permission of instructor. Evaluating concepts, principles, and issues dominant in main periods of dramatic thought.
540 SEMINAR IN MASS COMMUNICATIONS 3 credits
Prerequisite: undergraduate major in speech or permission of instructor. Critical issues in the development structure, and function of mass communications in a democratic society; responsibilities, means of control and regulation.

551 SEMINAR IN SPEECH DISORDERS: THEORY AND THERAPY 3 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.

ZOOGOGY
(See page 66)
Organization and Personnel

BOARD OF TRUSTEES

JOSEPH T. PEMBERTON, LL.B. ................................................................. Bellingham
MARSHALL FORREST, J.D. ........................................................................ Bellingham
DAVID SPRAGUE, M.A. ............................................................................. Seattle
BERNICE M. HALL, B.A. in Ed. ............................................................... Bellingham
STEPHEN CHASE, B.A. ............................................................................ Everett

ADMINISTRATIVE OFFICERS

HARVEY C. BUNKER, Ph.D. ....................................................................... President
CHARLES J. FLORA, Ph.D. ......................................................................... Academic Dean
MERLE S. KUDER, Ph.D. ........................................................................... Dean of Students
J. ALAN ROSS, Ph.D. ................................................................................ Dean of Graduate Studies and the Summer Session
HERBERT C. TAYLOR, Ph.D. ..................................................................... Associate Dean, Research
GERALD W. BROCK, B.S. ........................................................................ Director of Housing
SAM BUCHANAN ...................................................................................... Comptroller
WILLIAM C. BUDD, Ph.D. ........................................................................ College Examiner
DOROTHY BUTTON, M.Ed ......................................................................... Assistant Registrar
F. RICHARD FERINGER, Ed.D. ................................................................. Director of Extension Services
DONALD A. FERRIS, M.A. ....................................................................... Coordinator of Space and Schedules
HAROLD A. GOLTZ, M.A. .......................................................................... Assistant to the President
CORINNE HAMILTON, M.A. ................................................................. Director of Placement in Business and Government
WILLIAM T. HATCH, M.A. ...................................................................... Financial Aids Officer
HALDOR KARASON, Ph.D. ...................................................................... Director of General Studies
C. W. MCDONALD, M.A. ....................................................................... Dean of Men
HOWARD F. McGAW, Ed.D. .................................................................. Director of the Library
CALVIN E. MATHEWS, M.A. ................................................................. Associate Registrar and Coordinator of College Relations
JAMES H. MULLIGAN, M.A. ................................................................ Public Information Officer
FRANK A. NUGENT, Ph.D. ..................................................................... Director of Counseling Center
JOE NUSBAUM, B.A. ............................................................................... Business Manager
EUGENE OMEY, M.A. ............................................................................. Director of Admissions
WILLIAM J. O'NEIL, M.Ed. ...................................................................... Registrar
LORRAINE POWERS, M.A. .................................................................... Dean of Women
FRANK N. PUNCHES, M.A. ................................................................. Director of Educational Placement and Alumni Relations
RICHARD C. REYNOLDS, M.Ed. ............................................................ Director of Students Affairs
BEARNICE SKEEN, Ed.D. ...................................................................... Director of the Campus School
RICHARD O. STARBIRD, Ed.D. ............................................................... Director of Field Experiences
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.

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

MAY LOVEGREN BETTMAN ............................................. Instructor Emeritus in Commercial Studies
Vashon College; Washington State University; Western Michigan College of
Education, Kalamazoo; Western Washington State College.

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

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

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

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

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

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

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

THOMAS F. HUNT ............................................. Associate Professor Emeritus of Geography
B.A., University of Minnesota; M.A., Clark University; University of Chicago;
University of California.
LUCY KANGLEY ......................................... Professor Emeritus of English
B.A., M.A., University of Washington; Ph.D., Columbia University; Cambridge
University; University of London; University of Minnesota; University of Colorado.

PRISCILLA KINSMAN ................................ Assistant Professor Emeritus of Education
Ph.B., University of Chicago; M.A., Teachers College, Columbia University; Uni-
versity of Washington

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

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

CHARLES M. RICE ...................................... Associate Professor Emeritus of Industrial Arts
B.F.A., M.A., Washington State University; University of Washington; University
of Oregon; Carnegie A.I.A. Art Sessions; Ed.D., Oregon State University.

LEONA M. SUNDQUIST ...................................... Professor Emeritus of Biology
B.A., M.S., University of Washington; Teachers College, Columbia University.

The 1965-1966 Faculty and Administrative Officers

(The following list is complete as of June 1 when the Catalogue went to press. Addition
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) ......................... Assistant Professor of German
B.A., M.A., University of California, Berkeley.

HENRY I. ADAMS (1957) ................................ Professor of Psychology
B.A., M.A., University of Kentucky; Ph.D., University of Illinois.

PHILIP AGER (1955) ................................ Assistant Professor of Music
B.A. in Ed., Western Washington State College; University of Washington.

MARGARET AITKEN (1946) ..................... Associate Professor of Physical Education
and Chairman of the Department

JAMES A. ALLAN (1964) ................................ Instructor in English
B.A., University of Vermont; Brown University.

EVELYN E. AMES (1964) ............................... Instructor of Physical Education
B.S., University of Nevada; M.S., Washington State University.
ANGELO ANASTASIO (1955) Associate Professor of Anthropology and Sociology and Acting Chairman of the Department A.A., Boston University; M.A., Ph.D., University of Chicago.

MEIDEL APPLEGATE (1964) Assistant Professor of Art A.B., M.A., University of California (Berkeley); M.A., San Diego State College.

CHAPPELLE ARNETT (1960) Assistant Professor of Physical Education B.S., Centenary College; M.S., Purdue University; University of Washington.

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.

GUADALUPE GARCIA BARRAGON (1965) Lecturer in Spanish M.A., New Galicia; University of Guadalajara.

DECLAN BARRON (1946) Associate Professor of Biological Science B.A. in Ed., Western Washington State College; M.A., Yale University, Stanford University.

HORACE O. BEIDIN (1965) Associate Professor of Education B.S., M.S., University of Oregon; Ph.D., Syracuse University.

WILLIAM BENDER (1960) Professor of Physics B.A., M.S., University of Colorado; Ph.D., Yale University.

**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 Washington.

BARBARA BIELER (1965) Assistant Professor of Home Economics B.S., M.H.Ed., Oregon State University; Pennsylvania State University.

THOMAS BILLINGS (1964) Assistant Professor of Education B.S., Ph.D., University of Oregon.

WILLIAM B. BIRNER (1964) Instructor of Speech B.A., Brooklyn College; M.A., University of Kansas.

DON F. BLOOD (1951) Associate Professor of Psychology B.A., in Ed., Central Washington State College; M.A., Ph.D., State University of Iowa.


JEANNE BOURGUES (1965) .................................................. Lecturer in French
License d'Anglais, Faculte des Lettres, Toulouse, France.

BERNARD L. BOYLAN (1956) ........................................... Associate Professor of History
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LAURENCE W. BREWSTER (1948) ..................................... Associate Professor of Speech
B.A., Yankton College; M.A., Ph.D., State University of Iowa.

THOMAS J. BRIDGE (1965) .............................................. Instructor of English
B.A., University of British Columbia; M.A., Ohio State University.

ALFRED C. BROAD (1964) ............................................. Professor of Biology and Chairman of the Department
B.A., M.A., University of North Carolina; Ph.D., Duke University.

GERALD W. BROCK (1964) ............................................. Director of Housing
B.S., Oregon State University.

HENRICH BROCKHAUS (1965) ......................................... Assistant Professor of German
B.A., M.A., University of British Columbia; University of Washington.

MADELINE BRONSDEN (1965) ......................................... Instructor of Anthropology
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DON W. BROWN (1954) .................................................. Associate Professor of Education
B.S., M.A., University of Nebraska; Ed.D., Colorado State College.

ROBERT D. BROWN (1965) ............................................ Professor of English and
A.B., M.A., Ph.D., Indiana University. Chairman of the Department

WILLIAM C. BUDD (1953) ............................................ Professor of Psychology and College Examiner
B.A., Hamline University; B.S., M.A., Ph.D., University of Minnesota.

WILLIAM A. BULTMANN (1965) ...................................... Professor of History
A.B., Ph.D., University of California, Los Angeles.

HARVEY C. BUNKE (January, 1965) .................................. Professor of Economics and
B.S., M.S., Ph.D., University of Illinois. President of the College

NITA G. BUNNELL (1965) .............................................. Instructor of English
B.A., Louisiana State University; M.A., University of Oregon.

DOROTHY BUTTON (1953) .............................................. Assistant Professor of Education
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ton State College.

DONALD J. CALL (1958) .................................................. Assistant Professor of Sociology
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*SENE R. CARLILE (1947) ........................................... Professor of Speech and Chairman of the Department
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*On leave Fall, 1965
MEREDITH B. CARY (1964) ........................................... Instructor of English
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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 (1933) ...................... Professor of English
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ROBIN CHANEY (1964) .................................. Assistant Professor of Mathematics
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B.S., Armed Forces College, Korea; M.A., Duke University; Ph.D., Massachusetts Institute of Technology.

EDNA CHANNER (1940) .................................. Associate Professor of Industrial Arts
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ROBERT CHRISTMAN (1960) ............................ Associate Professor of Geology
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EDWIN R. CLAPP (1960) ............................ Professor of English
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NITA CLOTHIER (1964) .................................. Lecturer in Humanities

JAY W. CONQUEST (1952) ............................ Assistant Professor of Education
B.S., University of Idaho; M.S.Ed., University of Pennsylvania; Colorado State College; University of Hawaii.

HOWARD J. CRITCHFIELD (1951) ............ Professor of Geography and
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LOWELL T. CROW (1952) ............................ Assistant Professor of Psychology
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*FRANK L. D'ANDREA (1945) ................. Professor of Music and Chairman of the Department

STANLEY M. DAUGERT (1962) .................... Professor of Philosophy and
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CAROL J. DIERS (1963) .......................... Associate Professor of Psychology
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LOWELL P. EDDY (1957) ........................................... Associate Professor of Chemistry
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JOHN E. ERICKSON (1964) ........................................... Assistant Professor of Biology
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EUNICE DAY FABER (1959) ........................................... Lecturer in French and Spanish
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LELAND W. FARLEY (1965) ........................................... Instructor of English
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J. KAYE FAULKNER (1962) ........................................... Assistant Professor of Economics
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F. RICHARD FERINGER (1962) ........................... Director of Extension Services
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DONALD A. FERRIS (1947) ........................................... Associate Professor of Education and
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ROBERT FIGY (1965) ................................................... Instructor of Geography
B.A., Michigan State University; University of Minnesota.

MORRIS FINDER (1963) ........................................... Associate Professor of English
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MARK W. FLANDERS (1953) 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 and Academic Dean
B.S., Purdue University; M.Ed., Ed.D., University of Florida; University of British Columbia.

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.

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

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
B.A., M.A., M.L.S., University of Washington. and Head Catalog Librarian

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

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) Assistant Professor of Mathematics
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THOMAS H. GROVE (1962) Assistant Professor of Education
B.A., M.A., Ph.D., University of Washington.

DAVID A. GUSTAFSON (1965) Instructor of Speech
B.A., Knox College; University of Oregon.

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
C. CORINNE HAMILTON (1965) Director of Placement in Business and Government  
B.A., State College of Iowa; M.A., State University of Iowa.

ALTA J. HANSEN (1961) Associate Professor of Physical Education  
B.S., Pacific University; M.S., Ph.D., University of Oregon.

LAWRENCE HANSON (1963) Instructor of Art  
B.A., M.F.A., University of Minnesota.

*CHARLES W. HARWOOD (1953) Professor of Psychology and  
B.S., M.S., Ph.D., University of Washington  
Chairman of the Department

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.

NINA B. HAYNES (1963) Instructor of English  
A.B., Duke University; M.A., University of North Carolina.

HERBERT R. HEARSEY (1941) Associate Professor of Library Science and Public Services Librarian  

WALLACE G. HEATH (1962) Assistant Professor of Biological Sciences  
B.S., Ph.D., University of Arizona.

JOHN J. HEBAL (1962) Associate Professor of Political Science  
Ph.B., University of Wisconsin; M.A., University of Alabama; Ph.D., University of Minnesota.

PAUL E. HERBOLD (1952) Associate Professor of Speech  
B.A. in Ed., Western Washington State College; M.A., University of Washington; Ph.D., University of Minnesota.

MILDRED HERRICK (1945) Associate Professor of Library Science and Technical Services Librarian  

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.

CLAUDE HILL (1964) Instructor of Industrial Arts  
A.B., University of Washington.

*On leave Spring, 1968
HARLEY E. HILLER (1957) Associate Professor of History
B.A., Westmar College; M.A., Ph.D., University of Minnesota.

EVELYN M. HINDS (1960) Assistant Professor of Music

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 (1954) Assistant Professor of History
B.A., University of Pittsburgh; M.A., Ph.D., University of California, Berkeley.

ANNIS J. HOYDE (1948) Associate Professor of English
B.A., M.A., University of Washington; Stanford University.

ROBERT HUFF (1964) Assistant Professor of English
A.B., M.A., Wayne State University; Indiana University.

DOROTHY HUMISTON (1965) Visiting Professor of Physical Education
A.B., University of Minnesota; M.A., Teachers College, Columbia University;
Ph.D., New York 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.

ROBERT W. JAHNS (1964) Assistant Professor of Library Science
and Acquisitions Librarian
B.A., University of Iowa; B.D., Yale University; M.L.S., University of California;
Berkeley.

TOM E. JENNESS (1965) Instructor of Speech
A.B., Brigham Young University.

ALICE K. JOHNSON (1965) Instructor of Library Science
and Documents Librarian

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., Uni-
versity of California, Los Angeles.
HALLDOR C. KARASON (1949) Associate Professor of Education and of Philosophy and Director of General Studies
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SAMUEL P. KELLY (1965) Assistant Professor of Education

RUTH KELSEY (1948) Associate Professor of Art
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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.

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.

B. L. KINZ (1965) Assistant Professor of Psychology
A.B., M.A., Ph.D., State University of Iowa.

MARY G. KNIBBS (1963) Lecturer in History

*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
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**FRED W. KNAPP (1942) Professor of Chemistry
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GERALD F. KRAFT (1961) Assistant Professor of Zoology
B.A., San Jose State College; M.S., Washington State University; Ph.D., Oregon State University.

MERLE S. KUDER (1937) Professor of Education and of Psychology and Dean of Students
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MAURICE M. LA BELLE (1965) Instructor of English
B.A., Washington State University.

ARNOLD M. LAHTI (1955) Professor of Physics
B.A., B.A. in Ed., Western Washington State College; Ph.D., University of Minnesota.

*On leave Fall Quarter, 1965
**On leave Spring Quarter, 1966
WILLIAM J. LAIDLAW (1969) .......................... Assistant Professor of Psychology
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GEORGE S. LAMB (1965) .......................... Associate Professor of Education
A.B., Macalester College; M.A., University of Washington.

ROGER LAMB (1965) .......................... Assistant Professor of Philosophy
A.B., Hastings College; University of Rochester.

GARY M. LAMPMAN (1964) .......................... Assistant Professor of Chemistry
B.S., University of California, Los Angeles; Ph.D., University of Washington.

CHARLES F. LAPPENBUSCH (1933) ................ Associate Professor of Physical Education
B.S., M.A., University of Washington; Whitworth College; Boston University;
University of Washington.

EDITH B. LARRABEE (1957) .......................... Assistant Professor of Home Economics
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***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., Ph.D., 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. LEPOROTTI (1964) ................ Associate Professor of Physical Education
B.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.

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 E. LOUNSBERRY (1959) ................ Associate Professor of Physical Education

*On leave 1965-66.

***On leave 1965-66.
WILLIAM R. MacKAY (1962) Assistant Professor of Psychology
A.B., Brown University; M.A., Ed.D., University of California, Berkeley.

RICHARD C. McALLISTER (1961) Assistant Professor of Economics

JAMES G. McAREE (1961) Associate Professor of History
B.A., M.A., University of Southern California; Ph.D., University of Minnesota;
University of London; University of Florence.

BYRON McCANDLESS (1965) Professor of Mathematics
B.S., Colorado State University; A.M., Ph.D., Indiana University.

ROBERT A. MCCRECKEN (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., DePauw 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
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RAYMOND G. McINNIS (1965) Instructor of Library Science and Reference Librarian
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DONALD B. McLEOD (1963) Instructor of English
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B.A., M.A., University of British Columbia; Ph.D., Purdue University.

FLORENCE McNEILL (1965) Instructor of English
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MASON D. McQUISTON (1965) Associate Professor of Psychology
B.S., M.S., Ph.D., University of Oregon.

*On leave, Winter, Spring, 1966
STEPHEN MARGARITIS (1963) Associate Professor of Education  
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*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) Professor of Botany  
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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  

CALVIN E. MATHEWS (1964) Associate Registrar and Coordinator of College Relations  
B.A., Olivet Nazarene College; M.A., Colorado State College.

ERWIN S. MAYER (1953) Professor of Economics and Chairman of the Department  
B.A., Hunter College; Ph.D., University of Washington.

ROBIN C. MAYOR (1962) Assistant Professor of Art  
N.D.D. Drawing, Painting, Art History, St. Martin's School of Art, England.

*D. PETER MAZUR (1960) Associate Professor of Sociology  
B.A., Stetson University; M.A., University of Colorado; Ph.D., University of Washington.

ROBERT MEADE (1965) Associate Professor of Psychology  
B.A., Indiana University; M.A., Ph.D., University of Pennsylvania.

STEPHEN L. MERRILL (1963) Instructor of English  
A.B., Whitman College; M.A., Boston University; Indiana University.

JANE MERRITT (1965) Instructor of English  
B.A., M.A., Texas Technological College.

ROBERT R. MICHENER (1962) Assistant Professor 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; M.A., 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.

MICHAEL K. MISCHAIKOW (1964) Associate Professor of Economics  
B.A., School of Commerce & Finance; Hochschule f. Wirtschaft (Bulgaria); M.B.A.; M.A., Ph.D., Indiana University.

*On leave 1965-1966
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; University of Heidelberg; M.A., (Psychology); M.A. (German), University of Colorado.

JACQUES MOISSON (1965) .......................... Lecturer in French
B.A. (Law), B.A. (Lettres), University of Paris.

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. MULDROW (1960) .......................... Assistant Professor of English
B.J., M.A., University of Missouri; Ph.D., Stanford University.

WAYNE C. MULLER (1965) .......................... Instructor of Political Science
B.A., Huron College; M.A., University of Minnesota.

JAMES H. MULLIGAN (1961) .......................... Director of Public Information
B.A., M.A., University of Washington.

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.

THOMAS H. NAPIECKINSKI (1965) .......................... Associate Professor of Speech
B.A., M.A., 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.

GERALD G. NEWMAN (1965) .......................... Instructor of History
B.A., M.A., University of Washington.

ALDEN L. NICKELSON (1962) .......................... Assistant Professor of Education
B.S., M.A., Ph.D., University of Washington.

SYNYA K. NICOL (1937) .......................... Associate Professor of Education
B.A., Fresno State College; M.A., Teachers College, Columbia University; University of California, University of Oslo.

FRANK A. NUGENT (1961) .......................... Professor of Psychology and Director of Counseling Center
B.S., New Jersey State Teachers College; M.A., Columbia University; Ph.D., University of California, Berkeley.
JOE E. NUSSAUM (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.

PATRICIA O'BRIEN (1964) .................................................. Lecturer in Education
B.A., Oberlin College; M.S., 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 College, Wisconsin; Ph.D., Ohio State University.

B. EUGENE OMEY (1964) .................................................. Director of Admissions
B.A., Washington State University.

WILLIAM J. O'NEIL (1950) .................................................. Registrar

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 PAECLIS (1961) .................................................. Instructor of Library Science and Catalog Librarian
Mag. Phil., University of Latvia; M.A.L.S., University of Michigan.

HAROLD O. PALMER (1956) .................................................. Professor of Business Education
B.A., College of Emporia, Kansas; Ed.M., University of Oregon; Ed.D., Oregon State University.

DAVID M. PANEK .................................................. Assistant Professor of Psychology
B.A., Beloit College; M.S., University of Wisconsin; Washington State University.

DICK S. PAYNE (1961) .................................................. Associate 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.

FLORAMAE PHILLIPS (1965) .................................................. Assistant Professor of Library Science and Education Librarian
B.A., University of Puget Sound; M.L.S., University of Washington.

SAM R. PORTER (1962) .................................................. Assistant Professor of Industrial Arts
A.B., Iowa State Teachers College; M.A., Teachers College, Columbia University, 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 Educational Placement and Alumni Relations
B.A., University of Washington; M.A., Washington State University.

ELIZABETH B. PURTILL (1965) ........................................... Lecturer in Mathematics
B.Ed., Duquesne University; M.A., Michigan State University, University of Chicago.

RICHARD I. PURTILL (1962) ............................................ Assistant Professor of Philosophy
B.A., M.A., University of Chicago; Ph.D., University of California, Los Angeles.

AUGUST RADKE (1953) .................................................. Professor of History
B.A., M.A., Ph.D., University of Washington.

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.

CHARLES R. RANDALL, JR. (1962) ................................ Assistant Professor of Physical Education

MARY RANK (1965) .................................................. Instructor of English
A.B., M.A., University of Michigan.

*JOHN R. REAY (1963) ............................................ Associate Professor of Mathematics
B.A., Pacific Lutheran University; M.S., University of Idaho; Ph.D., University of Washington.

BERNARD W. REGIER (1945) ............................................. 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

WILLARD P. RIDDLE (1962) ........................................... Assistant Professor of Education
B.A., M.A., Arizona State University; Ed.D., University of Colorado.

WALTER L. ROBINSON (1960) ..................................... Associate Professor of German and
Chairman of the Department of Foreign Languages
B.A., M.A., Ph.D., University of Texas; University of Innsbruck, Austria; University
of Vienna.

ALFRED L. ROE (1962) ............................................. Assistant Professor of History
B.A., St. Olaf College; University of Minnesota.

CHARLES A. ROSS (1964) ............................................. Assistant Professor of Geology
B.A., University of Colorado; M.S., Ph.D., Yale University.

*On leave, 1955-66
J. ALAN ROSS (1964)  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.

MARGORIE RYAN (1961)  Associate Professor of English
A.B., M.A., University of Michigan; Ph.D., University of Minnesota.

PAUL T. RYGG (1962)  Associate Professor of Mathematics
B.A., Montana State University; M.S., Ph.D., Iowa State University.

TRUE SACKRISON (1964)  Assistant Professor of Music
Diploma, Curtis Institute of Music.

DONOVAN F. SANDERSON (1963)  Assistant Professor of Mathematics
B.S., M.S., Ph.D., Iowa State University.

DAVID B. SCHIAUB (1953)  Associate Professor of Music
B.A., Mus.B., Lawrence College; M.A., Harvard University; Ph.D., University of California, Berkeley.

ERHART A. SCHINSKE (1957)  Associate Professor of Speech
B.A., Hamline University; M.A., Ph.D., University of Minnesota.

THOMAS SCHLOTTEBACK (1965)  Assistant Professor of Art

CARL U. SCHULER (1959)  Associate Professor of History
B.S., M.A., Ph.D., University of Wisconsin.

RAY A. SCHWALM (1949)  Professor of Industrial Arts
B.S., Millersville State College; M.S., Ed.D., Oregon State University.

DONALD J. SCHWEMMIN (1960)  Associate Professor of Biology
B.S., M.S., Ph.D., University of Michigan.

WILLIAM H. O. SCOTT (1960)  Assistant Professor of Library Science
A.B., A.M., A.M.L.S., University of Michigan; A.M., Circulation Librarian

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. SENGIER (1963)  Associate Professor of Biology
B.A., Reed College; M.S., Purdue University; Ph.D., Utah State University.

EDWARD H. SHAFFER (1965)  Assistant Professor of Economics
B.A., M.A., University of Michigan.

STANLEY SHEIBERT (1963)  Instructor of Classics
B.A., University of Nebraska; University of Washington

BYRON E. SIGLIER (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.

BEARNICE SKEEN (1947) .............................................. Professor of Education
B.S., M.S., University of Oregon; Ed.D., Washington State University.

KNUTE SKINNER (1962) ............................................... Lecturer in English
A.B., Colorado State College; M.A., Middlebury College; Ph.D., State University of Iowa.

IRWIN L. SLESNICK (1968) ........................................... Associate Professor of Biology
B.A., M.S., Bowling Green University; M.S., University of Michigan; Ph.D., Ohio State University.

JAMES A. SMITH (1968) .............................................. Assistant Professor of Physical Education
B.S., Portland State College; M.Ed., University of Oregon.

PHILIP T. SPAULDING (1966) ...................................... Assistant Professor of Sociology
B.A., University of Alaska; M.A., University of Oregon; University of Washington.

DONALD L. SPRAGUE (January, 1965) ............................ Assistant Professor of Physics
B.S., M.S., 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. STRAUGHAN (1964) .................................... Associate Professor of Psychology
B.A., University of Florida; Ph.D., Indiana University.

HERBERT C. TAYLOR, Jr. (1951) .................................. Professor of Anthropology and
Associate Dean, Research
B.A., M.A., University of Texas; Ph.D., University of Chicago.

RONALD TAYLOR (1964) ........................................... Assistant Professor of Biology
B.A., Idaho State College; M.A., University of Wyoming; Ph.D., Washington State University.

ROBERT W. TESHERA (1965) ...................................... Assistant Professor of Geography

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.

* On leave 1965-66.
RALPH H. THOMPSON (1950) .................................. Professor of Education
and Chairman of the Department
B.A., Dickinson College; M.A., University of Delaware; Ed.D., University of
Illinois.

ROBERT G. TIPTON (1965) .................................. Instructor of English
B.A., M.A., University of Nebraska.

WILLIAM A. TOMARAS (1961) .... Associate Professor of Physical Education,
Director of Athletics, and Chairman of the Department
B.A., M.S., University of Illinois; Ed.D., University of Oregon.

MILTON TOWNE (1964) .................................. Lecturer in Education and Principal
of the Campus School

MARTIN TUCKER (1961) .................................. Assistant Professor of Art
B.S., State University of New York; M.S., M.F.A., University of Wisconsin.

COLIN E. TWEDDELL (1965) .................................. Associate Professor of Anthropology
B.A., M.A., Ph.D., University of Washington.

VERNON O. TYLER, Jr. .................................. Assistant Professor of Psychology
B.S., University of Washington; M.A., State University of Iowa; Ph.D., University
of Nebraska.

ALBERT VAN AVER (1939) .................................. Professor of English
B.A., Reed College; M.A., Claremont College; Fellow, State University of Iowa,
University of Washington; Ph.D., University of Cincinnati.

MARGARETHA J. van VOORST VADER (1964) ........... Lecturer in French
Candidate's title, University of Amsterdam.

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. VIVE (1962) .................................. Assistant Professor of Art

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

*PAUL R. WALDO (1961) .................................. Instructor of Speech
B.S., Portland State College; M.A., University of Michigan, University of Oregon.

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) .................................. Professor of Education
A.B., University of Nebraska; M.A., Gonzaga University; Ed.D., University of
Washington; Southampton University, England.

LOREN L. WEBB (1965) .................................. Assistant Professor of Speech
B.S., University of California, Berkeley; M.A., Redlands University; University of
Washington.

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) .................................. 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

JOHN C. WHITMER (1965) .................................. Assistant Professor of Chemistry
B.S., University of Rochester; M.S., University of Michigan.

STEPHEN L. WILKINSON (1965) .................................. Instructor of Economics
B.B.A., M.B.A., University of Iowa.

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.

GRANT R. WOOD .................................. Assistant Professor of Industrial Arts
A.B., College of Southern Utah; B.S., M.S., Utah State University; University of
Missouri.

PAUL D. WOODRING (1939) .................................. Distinguished Service Professor of the College
B.S.Ed., Bowling Green State University; M.A., Ph.D., Ohio State University;
Honorary degrees—L.H.D. Kalamazoo College; Ph.D., Coe College; Litt.D., Ripon
College; L.H.D. Bowling Green State University.

EILEEN T. WU (1964) .................................. Assistant Professor of Mathematics
B.S., San Diego State College; 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.

* On leave 1965-66.
* On leave fall quarter, 1965.
ANDRÉ LOUIS YANDL (1965) .......................................................... Associate Professor of Mathematics
B.S., M.A., University of Washington.

FREDERICK H. YOUNG (1964) .......................................................... Professor of Mathematics
B.A., M.A., Oregon State College; Ph.D., University of Oregon.

RAYMOND A. YOUNG (1961) .......................................................... Associate Professor of Spanish
B.A., University of British Columbia; M.Lib., University of Washington; Ph.D.,
University of Madrid.

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

AFFILIATED TEACHERS OF MUSIC

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

NANCY BUSSARD .......................................................... Piano
A.B., Whitman.

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

NONIE STONEHOUSE .......................................................... Wind Instruments
B.M.E., Northwestern University.

ARTHUR THAL .......................................................... Violin
Study under Felix Weingart, New England Conservatory of Music, Boston; and
under Scott Willits, American Conservatory, Chicago; special study with members
of the Budapest String Quartet.

DOLORES J. WICKS .......................................................... Piano
B.A., Western Washington State College; Juilliard School of Music Diploma.

CONSULTANT

BUELL G. KINGSLY (1963) .......................................................... Consultant, Counseling Center
B.A., Dartmouth College; M.D., University of Oregon.

CAMPUS SCHOOL ASSOCIATES

MARY R. IRVIN .......................................................... Teaching Associate

THEODORE A. MORK (1964) .......................................................... Teaching Associate

MICHAEL MURPHY (1964) .......................................................... Teaching Associate
B.S., Washington State University; M.A., Western Washington State College.

LELIA MCCOY (1961) .......................................................... Campus School Librarian

KAREN OLSON (1965) .......................................................... Teaching Associate
B.A., Western Washington State College; University of Washington.

RESEARCH ASSOCIATES

WARREN A. CHAPMAN (1963)
B.S., Massachusetts Institute of Technology; M.D., University of Chicago School
of Medicine.

JAMES D'ARGAVILLE CLARK (1964)
B.Sc., Capetown; B.Sc., University of London; Ph.D., Institute of Paper Chemistry,
Lawrence College

JUNE P. ROSS (1965)
B.Sc., Ph.D., University of Sydney, Australia.
SUMMARY OF ENROLLMENT

Resident

Summer Quarter, 1964 ........................................... 2538
Fall, Winter, Spring, 1964-65 .................................. 5067
(minus duplicate names)

Extension

Correspondence ......................................................... 387
Evening classes (on campus) ......................................... 1304
Extension classes (off-campus) ................................. 431
Total Extension Enrollment ..................................... 2122

Campus School

Kindergarten through sixth grade, 1964-65 .................. 188
Summer Session, 1964 ............................................. 53

Degrees and Certificates

Degrees granted from August, 1964, to June, 1965, inclusive:

Master of Education ................................................... 92
Bachelor of Arts in Education ...................................... 551
Bachelor of Arts ......................................................... 187
Total ................................................................. 830

Teaching Certificates issued from August, 1964, to June, 1965, inclusive:

Three-Year Elementary ............................................. 16
Provisional ........................................................... 548
Total ................................................................. 564

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

Standard Certificate ............................................... 275
<table>
<thead>
<tr>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Advisement</td>
</tr>
<tr>
<td>Academic Probation</td>
</tr>
<tr>
<td>Academic Regulations</td>
</tr>
<tr>
<td>Accreditation of the College</td>
</tr>
<tr>
<td>Activities, Student</td>
</tr>
<tr>
<td>Administrative Officers</td>
</tr>
<tr>
<td>Admission — Freshmen</td>
</tr>
<tr>
<td>Admission — Transfers</td>
</tr>
<tr>
<td>Admission to Teacher Education</td>
</tr>
<tr>
<td>Admissions Office</td>
</tr>
<tr>
<td>Advanced Placement</td>
</tr>
<tr>
<td>Anthropology</td>
</tr>
<tr>
<td>Art</td>
</tr>
<tr>
<td>Arts and Sciences Program</td>
</tr>
<tr>
<td>Assistantships, Graduate</td>
</tr>
<tr>
<td>Attendance Regulations</td>
</tr>
<tr>
<td>Audio-Visual Center</td>
</tr>
<tr>
<td>Auditors</td>
</tr>
<tr>
<td>Bachelor of Arts in Education</td>
</tr>
<tr>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td>Biology</td>
</tr>
<tr>
<td>Board of Trustees</td>
</tr>
<tr>
<td>Board and Room</td>
</tr>
<tr>
<td>Botany</td>
</tr>
<tr>
<td>Business Education</td>
</tr>
<tr>
<td>Buildings</td>
</tr>
<tr>
<td>Calendar, Official</td>
</tr>
<tr>
<td>Campus Map</td>
</tr>
<tr>
<td>Certificates Issued, 1964-1965</td>
</tr>
<tr>
<td>Certification, Teacher</td>
</tr>
<tr>
<td>Changes in Registration</td>
</tr>
<tr>
<td>Chemistry</td>
</tr>
<tr>
<td>College Examiner</td>
</tr>
<tr>
<td>College Objectives</td>
</tr>
<tr>
<td>Computer Center</td>
</tr>
<tr>
<td>Concert-Lecture Series</td>
</tr>
<tr>
<td>Costs, Estimated Total</td>
</tr>
<tr>
<td>Costs, Living</td>
</tr>
<tr>
<td>Counseling Center</td>
</tr>
<tr>
<td>Course Listings, Guide To Back Cover</td>
</tr>
<tr>
<td>Course Numbering System</td>
</tr>
<tr>
<td>Credit by Examination</td>
</tr>
<tr>
<td>Credits, Definition of</td>
</tr>
<tr>
<td>Dean of Students</td>
</tr>
<tr>
<td>Deans of Men and Women</td>
</tr>
<tr>
<td>Deficiencies — English, Mathematics</td>
</tr>
<tr>
<td>Deficiency Reports</td>
</tr>
<tr>
<td>Degrees Granted, 1964-1965</td>
</tr>
<tr>
<td>Delinquent Accounts</td>
</tr>
<tr>
<td>Deposit, Enrollment</td>
</tr>
<tr>
<td>Discipline</td>
</tr>
<tr>
<td>Economics</td>
</tr>
<tr>
<td>Education, Department of</td>
</tr>
<tr>
<td>Elementary Teachers</td>
</tr>
<tr>
<td>Employment, Part-Time</td>
</tr>
<tr>
<td>English</td>
</tr>
<tr>
<td>Enrollment Summary, 1964-1965</td>
</tr>
<tr>
<td>Entrance Tests</td>
</tr>
<tr>
<td>Examinations, Final</td>
</tr>
<tr>
<td>Extension Services</td>
</tr>
<tr>
<td>Faculty</td>
</tr>
<tr>
<td>Faculty — Emeritus</td>
</tr>
<tr>
<td>Fees</td>
</tr>
<tr>
<td>Fees, Refund</td>
</tr>
<tr>
<td>Fifth Year Program</td>
</tr>
<tr>
<td>Teacher Education</td>
</tr>
<tr>
<td>Finances, Student</td>
</tr>
<tr>
<td>Financial Assistance</td>
</tr>
<tr>
<td>Foreign Languages</td>
</tr>
<tr>
<td>French</td>
</tr>
<tr>
<td>General Education</td>
</tr>
<tr>
<td>General Science</td>
</tr>
<tr>
<td>Geography</td>
</tr>
<tr>
<td>Geology</td>
</tr>
<tr>
<td>German</td>
</tr>
<tr>
<td>Grade Points</td>
</tr>
<tr>
<td>Grade Reports</td>
</tr>
<tr>
<td>Grading System</td>
</tr>
<tr>
<td>Graduate Study</td>
</tr>
<tr>
<td>Graduation Requirements</td>
</tr>
<tr>
<td>Greek</td>
</tr>
<tr>
<td>Health Education</td>
</tr>
<tr>
<td>Health Examination</td>
</tr>
<tr>
<td>Health Service</td>
</tr>
<tr>
<td>Health Science</td>
</tr>
<tr>
<td>History</td>
</tr>
<tr>
<td>Home Economics</td>
</tr>
<tr>
<td>Honors Courses</td>
</tr>
<tr>
<td>Honors Program</td>
</tr>
<tr>
<td>Housing, On-Campus</td>
</tr>
<tr>
<td>Housing, Off-Campus</td>
</tr>
<tr>
<td>Industrial Arts</td>
</tr>
<tr>
<td>Intramural Sports Program</td>
</tr>
<tr>
<td>Junior High Teachers</td>
</tr>
<tr>
<td>Latin</td>
</tr>
<tr>
<td>Library</td>
</tr>
<tr>
<td>Library Science</td>
</tr>
<tr>
<td>Living Costs</td>
</tr>
<tr>
<td>Load, Academic</td>
</tr>
<tr>
<td>Loans, Student</td>
</tr>
<tr>
<td>Majors and Minors, Arts and Sciences</td>
</tr>
<tr>
<td>Majors and Minors, Teacher Education</td>
</tr>
<tr>
<td>Topic</td>
</tr>
<tr>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Master of Education</td>
</tr>
<tr>
<td>Master of Arts and Master of Science</td>
</tr>
<tr>
<td>Mathematics</td>
</tr>
<tr>
<td>Music</td>
</tr>
<tr>
<td>Music Awards</td>
</tr>
<tr>
<td>National Defense Education</td>
</tr>
<tr>
<td>Act Loans</td>
</tr>
<tr>
<td>Objectives of the College</td>
</tr>
<tr>
<td>Organizations, Student</td>
</tr>
<tr>
<td>Orientation Program</td>
</tr>
<tr>
<td>Philosophy</td>
</tr>
<tr>
<td>Physical Education</td>
</tr>
<tr>
<td>Physical Science</td>
</tr>
<tr>
<td>Physics</td>
</tr>
<tr>
<td>Placement Offices</td>
</tr>
<tr>
<td>Political Science</td>
</tr>
<tr>
<td>Probation, Academic</td>
</tr>
<tr>
<td>Psychology</td>
</tr>
<tr>
<td>Recreation</td>
</tr>
<tr>
<td>Refund of Fees</td>
</tr>
<tr>
<td>Registrar</td>
</tr>
<tr>
<td>Registration</td>
</tr>
<tr>
<td>Registration, Late</td>
</tr>
<tr>
<td>Repeating Courses</td>
</tr>
<tr>
<td>Research</td>
</tr>
<tr>
<td>Reservations, Room</td>
</tr>
<tr>
<td>Residences, Student</td>
</tr>
<tr>
<td>Russian</td>
</tr>
<tr>
<td>Scholarship Donors</td>
</tr>
<tr>
<td>Scholarships</td>
</tr>
<tr>
<td>Scholarship, Low</td>
</tr>
<tr>
<td>Science, Interdepartment</td>
</tr>
<tr>
<td>Offerings</td>
</tr>
<tr>
<td>Science Education</td>
</tr>
<tr>
<td>Senior High Teachers</td>
</tr>
<tr>
<td>Sequence of Courses</td>
</tr>
<tr>
<td>Social Studies Education</td>
</tr>
<tr>
<td>Sociology</td>
</tr>
<tr>
<td>Spanish</td>
</tr>
<tr>
<td>Speech</td>
</tr>
<tr>
<td>Student Activities</td>
</tr>
<tr>
<td>Student Affairs, Office of</td>
</tr>
<tr>
<td>Student Finances</td>
</tr>
<tr>
<td>Student Living</td>
</tr>
<tr>
<td>Student Organizations</td>
</tr>
<tr>
<td>Student Personnel Offices</td>
</tr>
<tr>
<td>Student Personnel Services</td>
</tr>
<tr>
<td>Supervised Teaching</td>
</tr>
<tr>
<td>Teachers Certification, Washington</td>
</tr>
<tr>
<td>Teacher Education Curriculum</td>
</tr>
<tr>
<td>Termination of Enrollment</td>
</tr>
<tr>
<td>Tests at Entrance</td>
</tr>
<tr>
<td>Transfer Programs</td>
</tr>
<tr>
<td>Trustees, Board of</td>
</tr>
<tr>
<td>Tuition</td>
</tr>
<tr>
<td>Warning, Low Scholarship</td>
</tr>
<tr>
<td>Withdrawal from College</td>
</tr>
<tr>
<td>Withdrawal from Courses</td>
</tr>
<tr>
<td>Zoology</td>
</tr>
</tbody>
</table>
Index to Courses and Concentrations

<table>
<thead>
<tr>
<th>Subject</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthropology</td>
<td>180</td>
</tr>
<tr>
<td>Art</td>
<td>56</td>
</tr>
<tr>
<td>Biology</td>
<td>62</td>
</tr>
<tr>
<td>Botany</td>
<td>65</td>
</tr>
<tr>
<td>Business Education</td>
<td>78</td>
</tr>
<tr>
<td>Chemistry</td>
<td>68</td>
</tr>
<tr>
<td>Economics</td>
<td>73</td>
</tr>
<tr>
<td>Education</td>
<td>80</td>
</tr>
<tr>
<td>English</td>
<td>88</td>
</tr>
<tr>
<td>Foreign Languages</td>
<td>94</td>
</tr>
<tr>
<td>French</td>
<td>95</td>
</tr>
<tr>
<td>General Education</td>
<td>103</td>
</tr>
<tr>
<td>General Science</td>
<td>177</td>
</tr>
<tr>
<td>Geography</td>
<td>104</td>
</tr>
<tr>
<td>Geology</td>
<td>109</td>
</tr>
<tr>
<td>German</td>
<td>97</td>
</tr>
<tr>
<td>Greek</td>
<td>98</td>
</tr>
<tr>
<td>Health Education</td>
<td>159</td>
</tr>
<tr>
<td>Health Science</td>
<td>152</td>
</tr>
<tr>
<td>History</td>
<td>113</td>
</tr>
<tr>
<td>Home Economics</td>
<td>119</td>
</tr>
<tr>
<td>Honors</td>
<td>123</td>
</tr>
<tr>
<td>Industrial Arts</td>
<td>124</td>
</tr>
<tr>
<td>Latin</td>
<td>99</td>
</tr>
<tr>
<td>Library Science</td>
<td>130</td>
</tr>
<tr>
<td>Mathematics</td>
<td>132</td>
</tr>
<tr>
<td>Music</td>
<td>139</td>
</tr>
<tr>
<td>Philosophy</td>
<td>147</td>
</tr>
<tr>
<td>Physical Education</td>
<td>150</td>
</tr>
<tr>
<td>Physical Science</td>
<td>177</td>
</tr>
<tr>
<td>Physics</td>
<td>161</td>
</tr>
<tr>
<td>Political Science</td>
<td>166</td>
</tr>
<tr>
<td>Psychology</td>
<td>171</td>
</tr>
<tr>
<td>Recreation</td>
<td>159</td>
</tr>
<tr>
<td>Russian</td>
<td>100</td>
</tr>
<tr>
<td>Science Education</td>
<td>177</td>
</tr>
<tr>
<td>Social Studies Education</td>
<td>179</td>
</tr>
<tr>
<td>Sociology</td>
<td>180</td>
</tr>
<tr>
<td>Spanish</td>
<td>101</td>
</tr>
<tr>
<td>Speech</td>
<td>186</td>
</tr>
<tr>
<td>Zoology</td>
<td>66</td>
</tr>
</tbody>
</table>

**HOW TO USE THE 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.