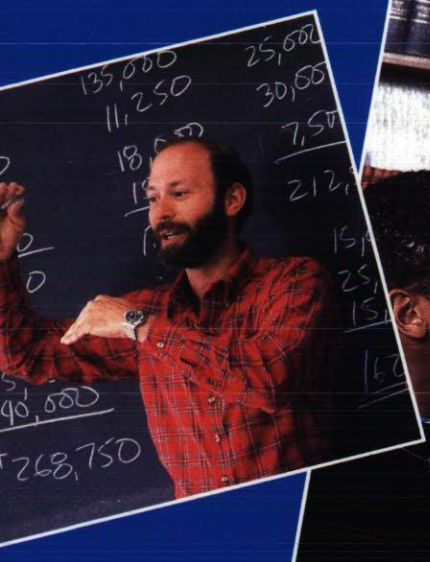
1987

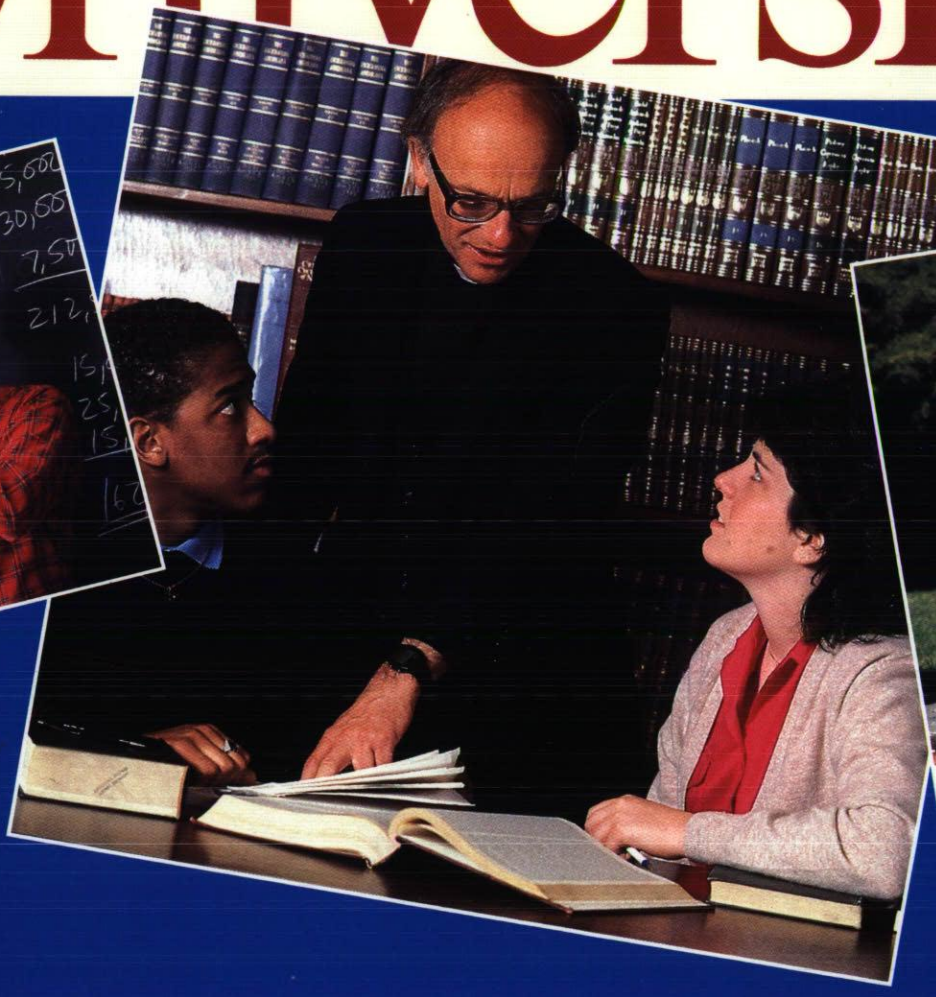
1987-88 Bulletin of Information - Undergraduate

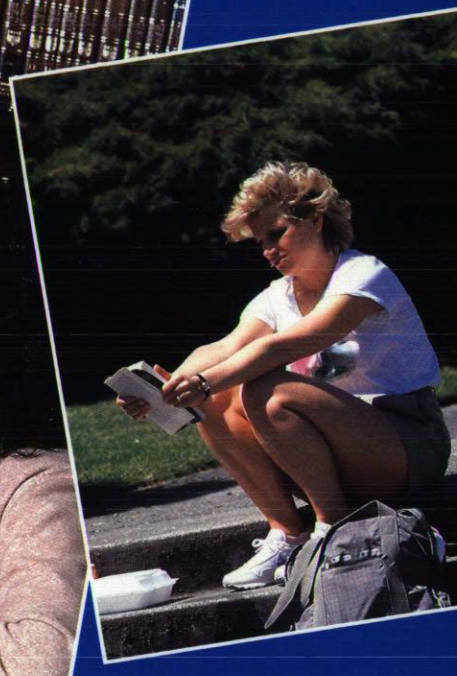
Seattle University

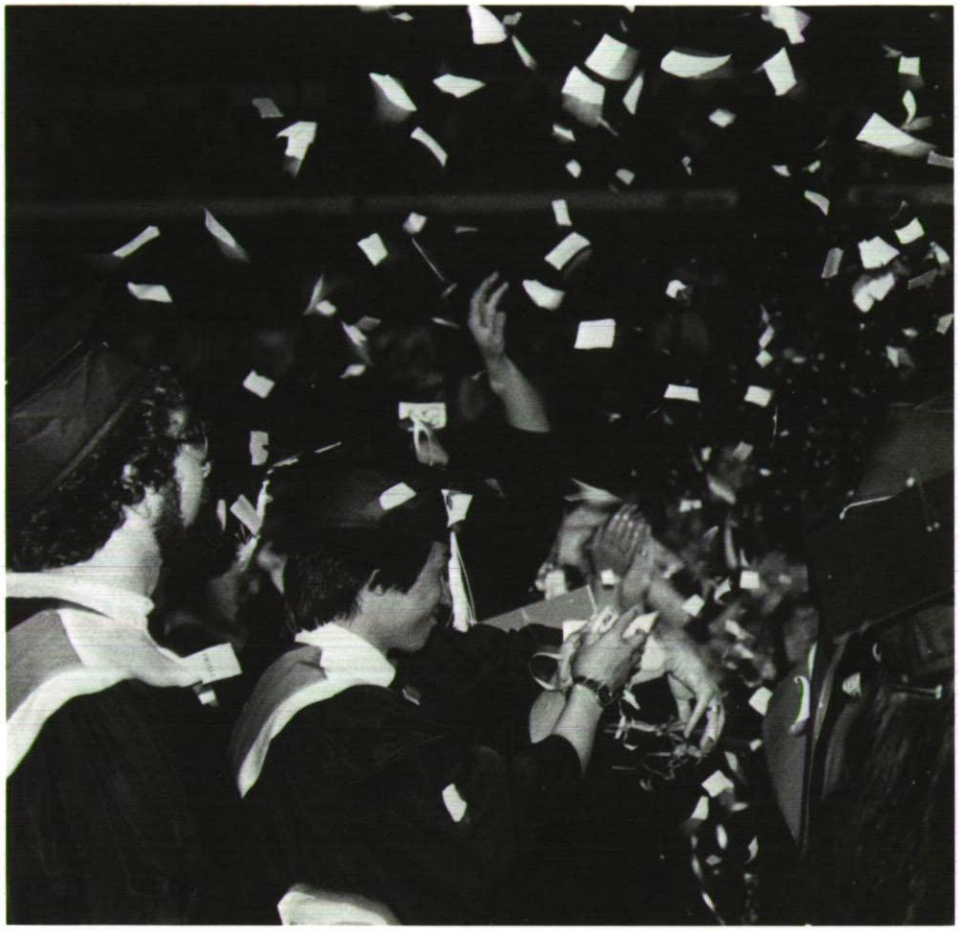
Seattle University

BULLETIN OF INFORMATION 1987-1988









Seattle University
Bulletin of Information
Editor / Jean Merlino

Photography by Jean Merlino
Todd Fletcher
Cheri Ostman
Floyd Saiki

Information concerning graduate and summer school programs may be obtained in supplementary bulletins.

The University reserves the right to change the fees, rules and calendar regulating admission and registration, instruction in, and graduation from the University and its various divisions and to change any other regulations affecting the student body. Changes go into effect whenever the proper authorities so determine and apply not only to prospective students but also to those who at that time are matriculated in the University. The University also reserves the right to discontinue courses at any time.

As a general rule, students follow the academic programs contained in the Bulletin of Information in effect at the time of their matriculation. However, students from the School of Business, School of Nursing, and School of Science and Engineering who withdraw from the University for one calendar year or more are subject to the requirements for the major which are in effect at the time that they are readmitted.

Seattle University is an affirmative action, equal opportunity employer. The University does not discriminate on the basis of race, color, religion, sex, age, handicap or national origin, in admission or access to its programs and activities, or in its employment policies or practices.

SEATTLE UNIVERSITY
SEATTLE, WASHINGTON 98122
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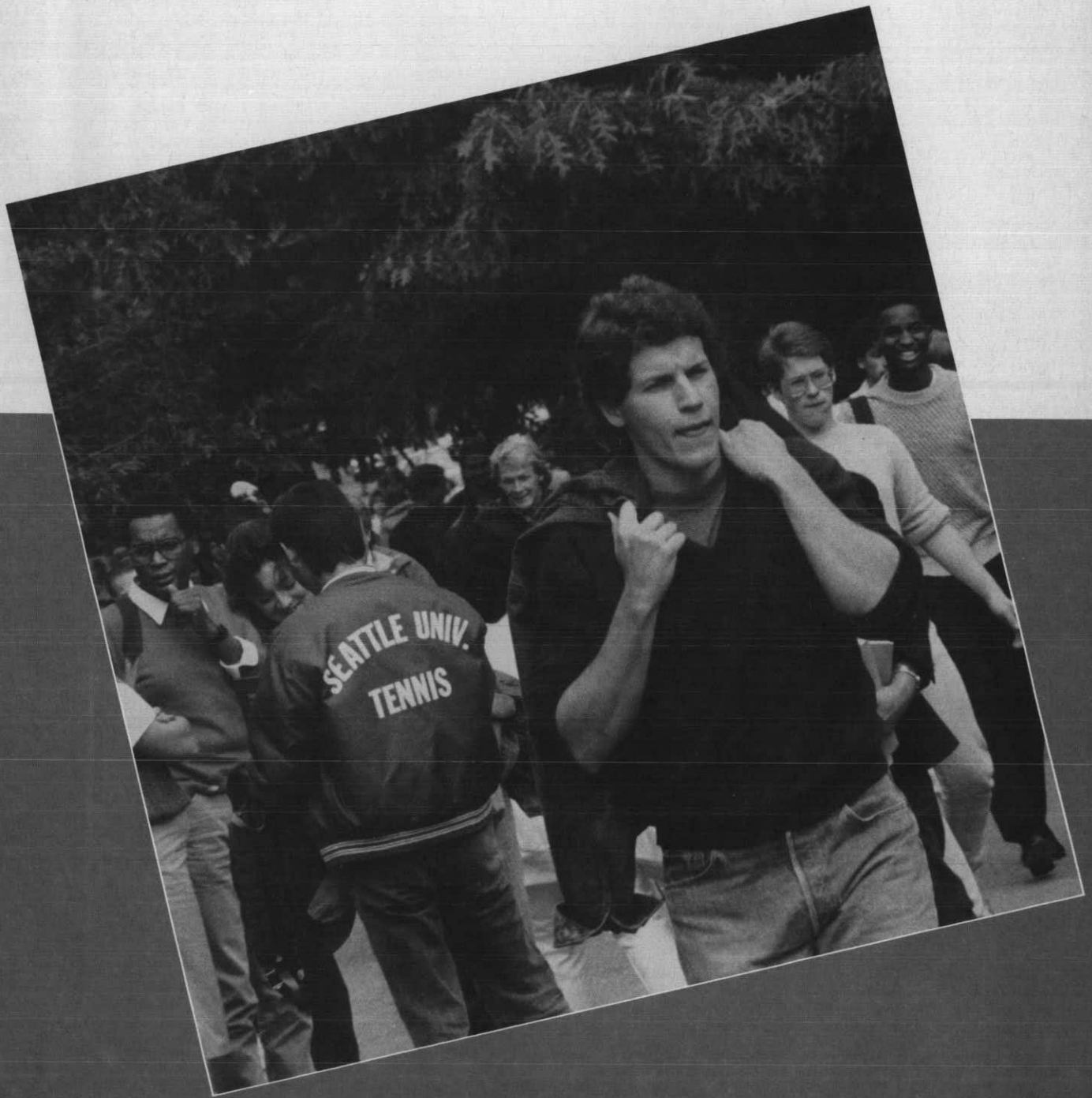

Academic Year

Winter Quarter 1987

January 5	Registration
January 5	Evening Classes Begin (classes beginning after 1600)
January 6	Day Classes Begin
January 7	Late Registration Fees Apply
January 12	Last Day to Register or Drop/Add
January 19	Martin Luther King's Birthday — No Classes
February 2	Closing Day for Degree Applications
February 16	President's Day — No Day Classes; All Classes After 1600 Will Meet as Scheduled
February 17	Last Day to Remove I Grades from Fall, 86
February 17-23	Advance Registration — Spring, 87
February 25	Last Day to Withdraw with W Grade
March 2	Closing Date to Remove N Grade Previous Year
March 10	Last Class Day
March 11-13	Final Examinations
March 17	Grades Due

Spring Quarter 1987

March 23	Registration
March 23	Evening Classes Begin (classes beginning after 1600)
March 24	Day Classes Begin
March 25	Late Registration Fees Apply
March 30	Last Day to Register or Drop/Add
April 17	Good Friday — No Classes
April 20-24	Advance Registration — Fall, 87
April 20-24	Advance Registration — Summer, 87
May 1	Closing Date to Remove N Grade Previous Year
May 4	Last Day to Remove I Grades from Winter, 87
May 19	Last Day to Withdraw with W Grade
May 25	Memorial Day — No Classes
May 29	Last Class Day
June 1, 2, 4	Final Examinations
June 3	Grades Due — Seniors
June 6	Baccalaureate Mass
June 7	Commencement
June 9	Grades Due — Others

Summer Quarter 1987

April 20-24	Advance Registration
June 19	Registration
June 22	Classes Begin
June 23	Late Fees Apply
June 26	Last Day to Add/Drop — First and Full Term
July 3	Independence Day — No Classes
July 13	Last Day to Withdraw — First Term
July 20	Registration and Classes Begin — Second Term
July 24	Last Day to Add/Drop — Second Term
July 31	Last Day to Withdraw — Second and Full Term
August 7	Last Class Day — 7 Week Session
August 7	Last Day to Remove N Grade — Summer, 86
August 6-7	Final Examinations — 7 Week Session
August 14	Last Class Day — 8 Week Session
August 13-14	Final Examinations — 8 Week Session
August 18	Grades Due

Fall Quarter 1987

April 20-24	Advance Registration
September 21-22	Registration and Drop/Add
September 23	Classes Begin
September 24	Late Registration Fees Apply
September 29	Last Day to Register or Drop/Add
November 3	Last Day to Remove I Grades from Spring/Summer, 1987
November 9	Veterans' Day Observed — No Classes
November 16-20	Advance Registration — Winter, 88
November 25-27	Thanksgiving — No Classes
November 24	Last Day to Withdraw with W Grade
December 1	Closing Date to Remove N Grade Previous Year
December 4	Last Class Day
December 7-9	Final Examinations
December 14	Grades Due

Winter Quarter 1988

January 4	Registration
January 4	Evening Classes Begin (classes beginning after 1600)
January 5	Day Classes Begin
January 6	Late Registration Fees Apply
January 11	Last Day to Register or Drop/Add
January 18	Martin Luther King's Birthday — No Classes
February 1	Closing Day for Degree Applications
February 15	President's Day — No Day Classes; All Classes After 1600 Will Meet as Scheduled
February 16	Last Day to Remove I Grades from Fall, 86
February 16-22	Advance Registration — Spring, 88
February 26	Last Day to Withdraw with W Grade
March 1	Closing Date to Remove N Grade Previous Year
March 8	Last Class Day
March 9-11	Final Examinations
March 15	Grades Due

Spring Quarter 1988

March 21	Registration
March 21	Evening Classes Begin (classes beginning after 1600)
March 22	Day Classes Begin
March 23	Late Registration Fees Apply
March 28	Last Day to Register or Drop/Add
April 1	Good Friday — No Classes
April 25-29	Advance Registration — Fall, 88
April 25-29	Advance Registration — Summer, 88
May 2	Closing Date to Remove N Grade Previous Year
May 3	Last Day to Remove I Grades from Winter, 87
May 18	Last Day to Withdraw with W Grade
May 30	Memorial Day — No Classes
May 27	Last Class Day
May 31, June 2, 3	Final Examinations
June 1	Grades Due — Seniors
June 4	Baccalaureate Mass
June 5	Commencement
June 7	Grades Due — Others

Summer Quarter 1988

April 25-29	Advance Registration
June 17	Registration
June 20	Classes Begin
June 21	Late Fees Apply
June 24	Last Day to Add/Drop — First and Full Term
July 4	Independence Day — No Classes
July 11	Last Day to Withdraw — First Term
July 18	Registration and Classes Begin — Second Term
July 22	Last Day to Add/Drop — Second Term
July 29	Last Day to Withdraw — Second and Full Term
August 5	Last Class Day — 7 Week Session
August 1	Last Day to Remove N Grade — Summer, 87
August 4-5	Final Examinations — 7 Week Session
August 12	Last Class Day — 8 Week Session
August 11-12	Final Examinations — 8 Week Session
August 16	Grades Due

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SCHOOL OF EDUCATION

INSTITUTE OF PUBLIC SERVICE

MATTEO RICCI COLLEGE-II

SCHOOL OF NURSING

SCHOOL OF SCIENCE AND ENGINEERING

GRADUATE SCHOOL

ADMINISTRATION AND FACULTY

Purpose and Scope

Seattle University, an institution of higher learning, has for its object and purpose:

- the conservation, interpretation and transmission of knowledge, ideas and values;
- the extension of the frontiers of knowledge by critical and exhaustive investigation or experimentation;
- the preparation for some of the professions by thorough and intelligent training in the theory and principles underlying those professions.

As a University, it attains its end not only through the sciences and humanities, including philosophy and theology, but also through its professional schools.

As a University conducted under the auspices of the Jesuits:

- it affirms its belief in a support of Christian ideals and values;
- it affirms its belief in the unity and totality of all human knowledge, whether experimental, speculative, or divinely revealed;
- it seeks, by a faculty inspired with the Spirit of Christ and by the creation of a liberal atmosphere inside and outside the classroom, to develop an unbiased, truly liberated and enlightened intelligence in its faculty and student body.

History

Seattle University's development as one of the Pacific Northwest's leading centers of higher education is closely interwoven with the history of Seattle and the Puget Sound area. It is also a story of a relentless effort on the part of the University to serve the educational needs of a growing metropolitan community.

Like most universities whose roots go back a century or so, Seattle University had a humble and unpretentious beginning. In 1890, Bishop Aegidius Junger of the then Nisqually Diocese, concerned over the lack of educational opportunity for Catholic youth in the Seattle area, sent repeated requests to the Jesuits of the Rocky Mountain Mission territory to establish both a parish and a school in the young city. In response to the intrepid Bishop's appeals, Fathers Victor Garrand and Adrian Sweere arrived from the Yakima station in the spring of 1891.

The two Jesuits immediately leased St. Francis Hall, a building that had been constructed at 6th and Spring in downtown Seattle the previous year by Fr. Francis X. Prefontaine, the area's first resident priest. Rededicating the building as the parish and school of the Immaculate Conception, and aided by two Holy Names sisters serving as full-time teachers, the good Fathers began their modest educational effort.

With the advice and assistance of Father Prefontaine, the mission procurator purchased property at the same time which ultimately became the Broadway campus, and in 1893, the cornerstone of its first building was laid, and the new parish and school was opened for classes for the "older boys" in September, 1894.

Growth continued with the introduction of the first "Academic" or high school level class in 1898 and the filing of articles of incorporation changing the parish school for boys into Seattle College, but these were also years of struggle and disappointment. Nevertheless, overcoming the still prevailing frontier mentality that saw little need for higher education other than in the professions, a college department in "Humanities" was instituted in 1900, and in 1909, the first three graduates were awarded bachelor of arts degrees.

A temporary casualty of World War I, college classes were suspended from 1918 to 1922, but in 1919, the successful high school department moved to a new seven acre campus on Interlaken Boulevard, a gift of Mr. Thomas C. McHugh that included two highly suitable buildings. On its reinstatement in 1922, the college department was also housed at the new campus.

In 1931, with an enrollment of less than 50 students, the College returned to a partially renovated building at the Broadway campus, a move that was to prove beneficial to both levels. Within two years, women were enrolled in credit courses, and in 1936, the first women received their degrees. Just prior to that, the first professional degree program was established with the introduction of the School of Education, and in 1937, the College was fully accredited by the Northwest Association of Secondary and Higher Schools. The School of Nursing was officially opened in 1940, and the School of Engineering followed in 1941.

Returning World War II veterans in 1945 discovered the newly established School of Commerce and Finance, the College's fifth major academic unit, and by 1948, the enrollment in all programs was nearing 3,000 students. Appropriately that year, an amendment to the articles of incorporation changed the institutional name officially to Seattle University.

Rapid expansion of both the physical boundaries and educational facilities of the University marked the decades of the 1950's and 1960's. With just three permanent buildings and three war surplus structures in 1950, the University added or converted twelve major buildings over the next 20 years, most of the development taking place under the direction of Fr. A. A. Lemieux, S.J., president of the University from 1948 to 1965.

Extensive curriculum expansion highlighted the 1970's with innovative new schools and programs. Chief among these additions were the School of Science and Engineering (1972), the Institute of Public Service (1974), and Matteo Ricci College (1977). The Doctorate in Educational Leadership, the University's first doctoral degree program, was instituted in 1976.

The list of recent academic innovations includes master level programs in software engineering and in therapeutic psychology, along with a baccalaureate program in computer science. The latest academic division, the Institute for Theological Studies, was initiated in 1985.

Facility development continues, as well, with the recent addition of the Gene E. Lynn Building, home of the School of Nursing; the outdoor intramural and recreational field, the Marguerite M. Casey Building for Arts and Sciences faculty and the Engineering and Computer Science Building.

Organization

As an independent, coeducational institution, Seattle University is incorporated under the laws of the State of Washington and operated by its own Board of Trustees. The University, administered under the auspices of the Society of Jesus, is one of 28 Jesuit institutions of higher education, which derives its tradition and objectives from the academic experience and educational ideals of the Society of Jesus and the Christian tradition.

The University is composed of nine major academic units:

The College of Arts and Sciences comprises 12 departments. These are English/speech, fine arts, foreign languages, history, journalism, military science, philosophy, political science, psychology, rehabilitation, sociology, and theology and religious studies. Program divisions are: alcohol studies, criminal justice, general studies, global studies, honors and prelaw.

The Albers School of Business offers programs in accounting, economics, finance, general business, management and marketing.

The School of Education offers programs which qualify its students for teaching certificates, principals' credentials and counselors' certificates issued by the State Department of Public Instruction.

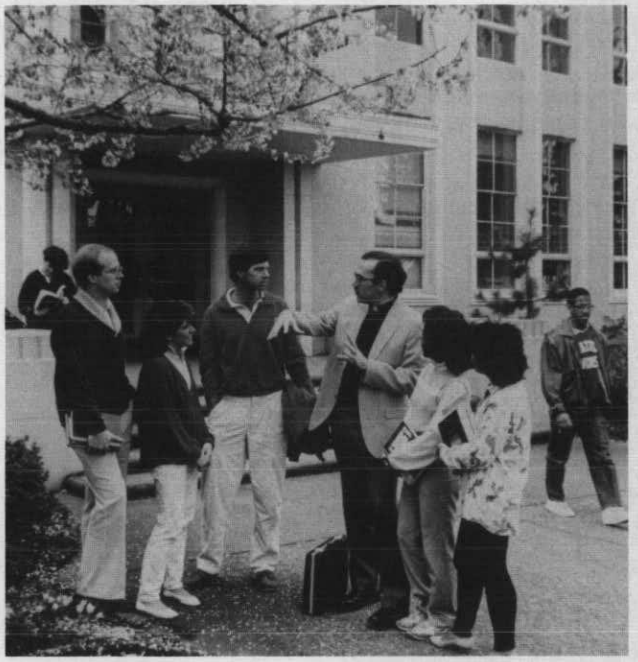
The Institute of Public Service offers a baccalaureate program in Public Administration.

The Institute for Theological Studies is a collaborative effort between the University and the Seattle Archdiocese, which offers degree programs in Ministry.

Matteo Ricci College is a six year combined high school college program leading to a baccalaureate degree.

The School of Nursing offers a baccalaureate program in professional nursing which qualifies students for registration through state licensure. Registered Nurse students wishing to complete requirements for the Bachelor of Science degree are admitted to the program.

The School of Science and Engineering comprises the departments of allied health technology, biology, chemistry, computer science, general science, health information administration, mathematics, physics and civil, electrical, mechanical and software engineering.



The Graduate School has programs leading to master's degrees in business, education, ministry, psychology, public administration, rehabilitation, religious education, and software engineering. An Educational Specialist degree can be earned in Administration or Educational Diagnostics/School Psychology. A Doctor of Education degree with a major in Educational Leadership is also offered.

Accreditation

Seattle University enjoys the highest accreditation and its students are accepted for graduate and advanced study by leading colleges and universities in all parts of the country.

The University is accredited by:

Northwest Association of Schools and Colleges
Accreditation Board for Engineering and Technology (Civil Engineering, Electrical Engineering and Mechanical Engineering)
American Assembly of Collegiate Schools of Business
American Chemical Society (Chemistry)
Committee on Allied Health Education and Accreditation (Diagnostic Ultrasound, Health Information Administration, Nuclear Medicine Technology)
Council on Rehabilitation Education
National Council for Accreditation of Teacher Education
National League for Nursing

is approved by:

Washington State Board of Education
Washington State Board of Nursing

The University is a member of:

American Association of Colleges of Nursing, American Association of Colleges for Teacher Education, American Association of Collegiate Registrars and Admissions Officers, American Council on Education, Association of Higher Education, Association of Jesuit Colleges and Universities, Council of Baccalaureate and Higher Degree Programs, Independent Colleges of Washington, National Commission on Accrediting, National League for Nursing, Northwest Association of Colleges, Western Interstate Commission for Higher Education.

Campus

On a 52-acre campus on Seattle's historic First Hill, Seattle University is within walking distance of the city's major cultural and recreational facilities, business and shopping centers and the Elliott Bay waterfront.

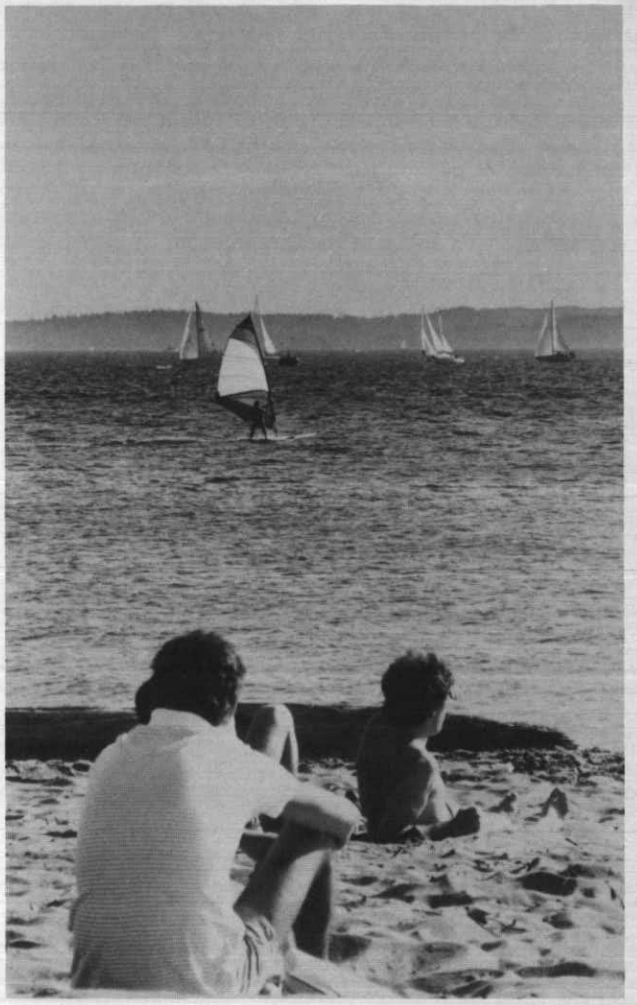
As part of a student population of approximately 4,300, you will enjoy a modern campus of 24 buildings, including contemporary classrooms, student residences and service units.

Your on-campus facilities are extensive, with seating for 1,100 students in the A. A. Lemieux Library (1967), the major study and resource center. A variety of student areas, including individual carrels, study lounges and conference rooms will add to your comfort and convenience. On-campus housing is provided in Bellarmine Hall, Xavier Hall and Campion Tower, all coed.

You'll make good use of the Connolly Center (1969), the indoor sports and recreation facility, which has two swimming pools, basketball, badminton, tennis and racquetball courts and a weight room and dance area.

The office of the Vice President for Student Life is located in the Student Union Building (1953), the Chieftain, where you will also find student offices, dining, lounge and meeting areas. You may also take advantage of a wide variety of films, lectures, meetings and musical presentations in the many auditoriums, including the A. A. Lemieux Library and the William Pigott (1957), Thomas J. Bannan (1961) and Gene E. Lynn (1979) buildings.

The McGoldrick Student Development Center, opened in 1976, presents further opportunities. Here you will find the Career Development Center, the Counseling Center, the Minority Student Affairs office, and the Campus Ministry office.



Other major campus structures that will soon become familiar are the Liberal Arts Building (1941), the Book Store Building (1964), and Loyola Hall (1955), the Jesuit faculty residence.

The new Marguerite M. Casey Building for Arts and Sciences Faculty and the Engineering and Computer Science Building, will open in the fall of 1987.

Seattle University is located in a seaport city surrounded by unsurpassed natural beauty. Seattle, the largest city in the Pacific Northwest and one of the 25 largest in the United States, has all the scenic and cultural variety of a metropolitan city with the unique advantage of mountains and water at its back door.

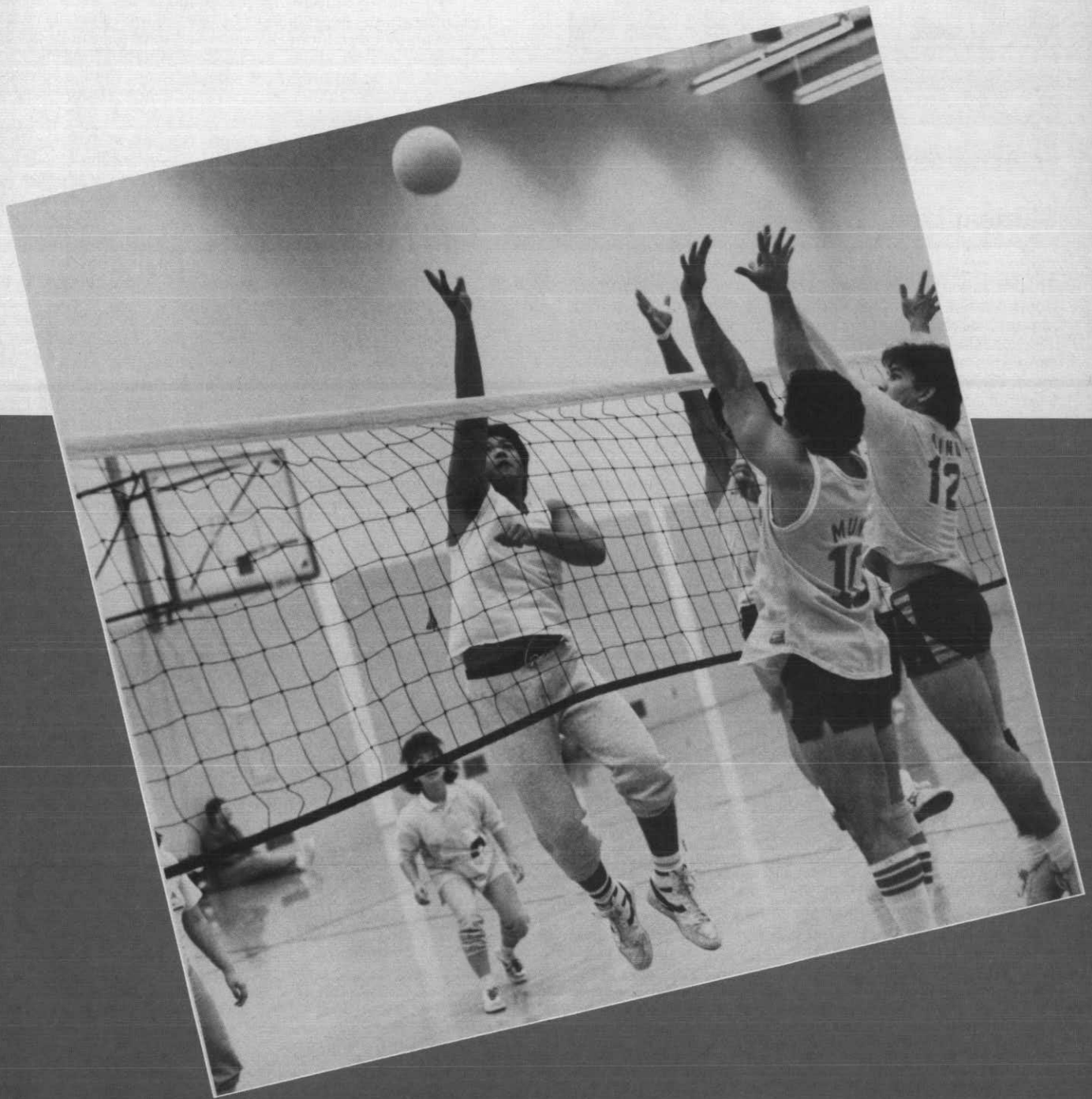
Within city boundaries, Lake Union and Lake Washington provide the opportunity for sailing, boating, water skiing and swimming.

Ski areas are within an hour's drive of the city, with night and weekend skiing during winter months. Easy hikes, with trails marked and guide books available, are popular in the spring and summer months, as well as more difficult hikes for seasoned enthusiasts.

Bicycling has become increasingly popular and trails are set aside in various areas of the city.

Golf courses, tennis courts, and indoor and outdoor pools for year-round swimming are available in addition to fishing and hunting opportunities.

Student Life



Student Life

One of the primary aims of the educational mission at Seattle University is the total development of students. This holistic growth process is enhanced by integrating opportunities for social, emotional, cultural, physical and spiritual development, in addition to intellectual growth. The Division of Student Life is committed to providing programs and services conducive to fostering an educational environment which will assist students in achieving their full potential.

Located in the McGoldrick Student Development Center, the Student Union, the Connolly Center, the Child Development Center, the International Student Center, and the three University residence halls, the professionals who comprise the Student Life staff are committed to meeting the developmental needs of Seattle University's diverse student population.

The Office of the Vice President for Student Life provides the administrative leadership for the Divison of Student Life and serves as a source of information and help for many of the student's non-academic needs.

The Office for Student Leadership supervises orientation, student activities, clubs and organizations, Student Union programs, and student government (ASSU). This office provides leadership opportunities and leadership development programs for all students.

The Campus Ministry team is committed to the mission of the University, particularly in the areas of personal and spiritual growth. The Campus Ministers endeavor to promote collaboration among Jesuits, lay faculty, staff and students through liturgical celebrations, retreats, volunteer programs and education for peace and justice. The Search Program is specifically for students and provides a unique experience of Christian community, service and the opportunity for leadership training.

The Counseling Center offers opportunities for personal counseling for students focused on developing self-awareness, improving individual communication skills and interpersonal relationships. Vocational counseling is available on a personal basis, using interest inventory testing as a guide for individual planning. The Center also sponsors various workshops offered throughout the school year on subjects such as stress management, assertion training, weight control, and test anxiety.

The Career Development Center office makes available career counseling, job referral services, and workshops on resume writing, interviewing, and job-seeking skills to students. Coordination of the part-time work-study student employment program is also accomplished through this office as is the development of employment opportunities throughout the Puget Sound area.

The International Student Center is the campus gathering place for all students from abroad, including those who transfer to Seattle University from other American colleges. The center provides a "home base" for these students, facilitating the assimilation of the international students into the University community.

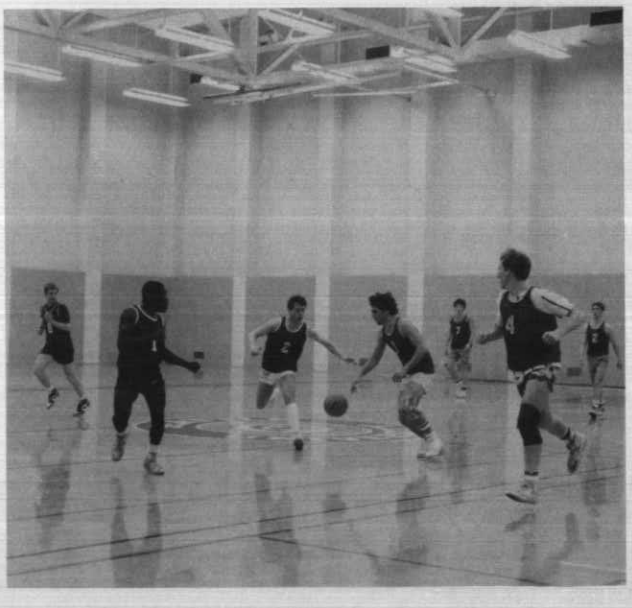
The Minority Student Affairs Office promotes an understanding and appreciation of the cultural diversity in the University community. It is an advocate for the personal, academic, and social success of American ethnic students. On going programs include Asian Pacific Heritage Week, Martin Luther King Week, Black History Month, Pow-Wow, and counseling.

The Child Development Center is open to children from families of students and employees of Seattle University, and supplements the University's community program by also serving children from families within the surrounding Central City community.

The Book Store is the source of all required textbooks and course-related supplies. In addition, it offers a selection of apparel and gift items with Seattle University imprinting. Other sections include greeting cards, snack foods and sundries. Any book not in stock may be special ordered, film may be left for processing, and, at the end of each quarter, used books may be sold back for cash.

Disabled Student Resources enables students with disabilities to fulfill their academic, career and personal goals. Coordination of support services, counseling and community referrals are available. Seattle University has a continuing commitment to improve campus accessibility.

The Learning Center is a program for the academic enhancement of all SU students. The focus is to provide opportunities to increase and refine learning strategies so that students may monitor and enrich their educational experience. Tutoring is available on a limited basis.



The Student Union Building is considered the hub of campus activities. It offers the Chieftain dining area and student lounges. Student Life administrative offices, the Student Government (ASSU), the Spectator, (student newspaper), various club and organization offices and the Campus Assistance Center are also located in the Student Union.

The Campus Assistance Center is a one-step information, resource, and referral service available for all students. This Center will also, in coopertion with the Admissions Office, coordinate campus tours for prospective students.

Orientation programs are sponsored each summer and fall by the Office for Student Leadership to facilitate social and academic adjustment of new freshmen and transfer students. A transfer student orientation is also held during winter and spring quarters.

Academic Honoraries
Alpha Sigma Nu—national Jesuit honorary recognizing outstanding scholastic attainment, loyalty and service.
Alpha Epsilon Delta—international premedical honorary.
Beta Alpha Psi—national accounting honorary.
Beta Gamma Sigma—national business honorary.
Beta Beta Beta—national Biology honorary.
Kappa Delta Phi—national education honorary.
Omicron Delta Epsilon—national economics honorary.
Psi Chi—national psychology honorary.
Sigma Theta Tau—national nursing honorary.
Tau Beta Pi—national engineering honorary.

Student Clubs and Organizations provide Seattle University students with opportunities to develop leadership skills, broaden their social and professional backgrounds, and make a significant contribution to both the University and the community. Student government (ASSU), student publications, preprofessional organizations, service clubs, scholastic honoraries, and community outreach are among the varied groups in which students may choose to participate.

Safety and Security Services provide 24 hour security for the University campus community and its facilities. Security personnel are available to assist students in a variety of ways including first aid, escort services, crime prevention, lost and found, and assistance with vehicles with dead batteries or keys locked inside. Security persons are uniformed and easily recognizable should assistance be needed. For service or information call 626-5356 (24 hours). Emergency only, 626-5911 (24 hours).

Other Student Services

Academic Advisement is coordinated through the various schools within the University by the deans and department chairpersons in a student's major area. Adviser assignments are normally made during the fall orientation period.

The Student Health Center is open to all regularly-enrolled students. Full-time students and their dependents are also eligible to participate in the University's health insurance program.

University Sports
Seattle University is a member of the National Association of Intercollegiate Athletics. The University competes in soccer, basketball and tennis for men and women. The University places a high priority on its intramural and recreation programs, and provides a wide variety of activities indoor, outdoor and off-campus. The Connolly Center serves as the major sports facility for intercollegiate athletics, intramurals, and recreation activities. A three acre field complex provides outdoor facilities for soccer, flag football, softball and jogging. University Sports offers opportunities for students of all ages and skill levels.

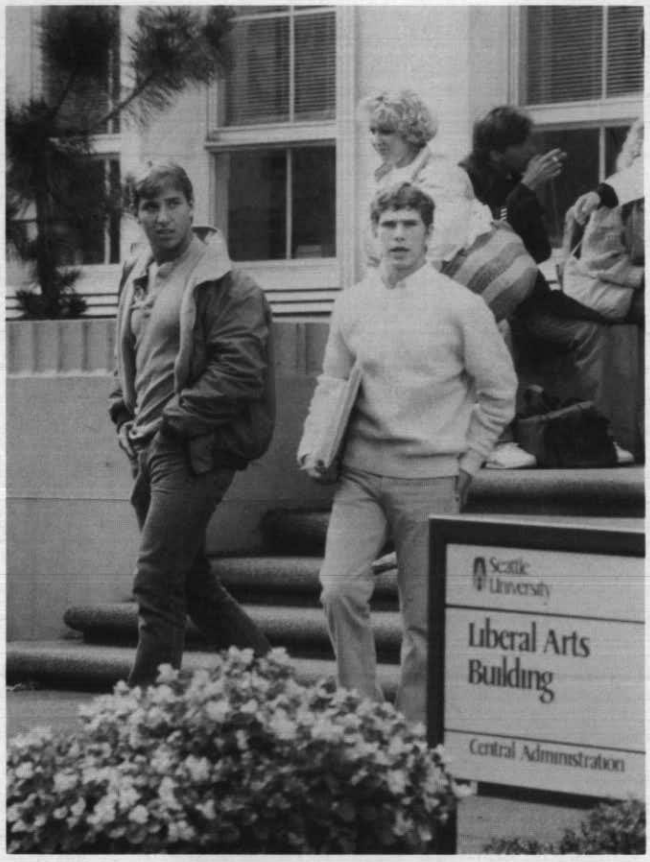
University Food Service
Food service is provided in the Marketplace, Chieftain and Campion Cave.

Resident students, except those residing in Campion Tower, are required to purchase food credits on the University Vali-Dine system. Credits are good at any campus food service. Off-campus students may also purchase Vali-Dine food credits. Further information may be obtained from the SAGA business office, Bellarmine Hall, room 115.

Housing
Seattle University requires full-time freshman students under 21 years of age to live in University housing unless they are married, living with parents or have been granted an advance waiver by the Director for Resident Student Services.

Residence Halls
Three coeducational residence halls offer convenient living accommodations, lounges and facilities for study and recreation. Bellarmine Hall, a seven-story dormitory housing over 400 students, also provides the main dining room for resident students. The largest residence hall is twelve-story Campion Tower, although only five floors are used for student occupancy. Xavier Hall, the third campus residence, has a 200 student capacity. Residence halls are supervised by resident directors, floor moderators and student resident assistants.

Application for Housing
Requests for on campus student housing are made through the Director for Resident Student Services. An eighty-five dollar ($85.00) deposit is required for reservations. See page 16 for housing cost information. Cancellation of reservations must be received by the Director for Resident Student Services no later than August 1, or the deposit will be forfeited. Residents who terminate their stay in University residence halls before the end of the quarter will suffer a financial loss.



Admission Policy

Regulations in this Bulletin are supplemented by policy memoranda that set forth policy in greater detail. References to applicable policy statements are noted parenthetically. Copies of these policy memoranda may be obtained from the Registrar's Office.

Seattle University selects for admission those students who have demonstrated in their prior studies an ability to achieve a level of academic performance necessary to earn a degree. The University admission policy is administered by the Vice President for Academic Affairs through the Dean of Admissions. All academic documents submitted by applicants become the property of Seattle University. In addition to the requirements for admission set forth in this section of the Bulletin, reference must be made to additional or distinctive requirements in the individual Colleges or Schools of the University. Such information will be found in the section of the Bulletin pertaining to a specific College or School.

Admission may be granted to qualified applicants for any of the four quarters of the academic year. All applicants for admission must remit a $15 application fee to the University. Inquiries concerning admission should be addressed to the DEAN OF ADMISSIONS, SEATTLE UNIVERSITY, SEATTLE, WASHINGTON 98122.

Special Consideration
Students who show exceptional promise may be admitted without rigid adherence to minimum unit requirements, even if they have not graduated from high school or have graduated from a non-accredited high school. All admissions decisions in these cases are made by the Vice President for Academic Affairs and the University's Board of Admissions.

Seattle University offers the opportunities and experiences of higher education to all students without regard to race, religion, age, sex, handicap or national origin. It does so in keeping with the guidelines and requirements of laws and regulations as promulgated by state and federal agencies.

Seattle University does not discriminate on the basis of handicap in conformity with section 504 of the Rehabilitation Act of 1973 in admission or access to its programs and activities, or in its employment policies or practices.

George Pierce, Ph.D., is the responsible employee designated by Seattle University to coordinate its effort to comply with section 504 of the Rehabilitation Act of 1973.

This constitutes the official notice called for in Section 504, No. 84.8, Paragraph a.

Admission From Secondary Schools

To be considered for admission to the University as an undergraduate student, you must meet the following entrance requirements:

Have graduated or will graduate from an accredited high school.

Have a high school grade point average in the 16 college preparatory units noted below of 2.50 or above as measured on the 4.00 scale, or rank in the upper 50 per cent of the senior class.

Have completed 16 units of college preparatory courses.

Have submitted scores from one (1) of the following examinations: Washington Pre-College Test (WPCT) or Scholastic Aptitude Test (SAT) or American College Test (ACT).

Applicants with a grade point average below 2.50 as computed by the University Admissions Office will be reviewed by a special board. Applicants with a grade point average below 2.00 will not be admitted to the University on either a regular or probationary status.

Unit Requirements
Admission is granted subject to graduation from an accredited high school, with a minimum of 16 academic units, distributed as follows (one unit equals one year of study):

English	3
Mathematics (Algebra, Geometry)*	2
History	1
Laboratory Science*	1
Academic Electives (approved)*	9

*Applicants for most science and engineering degrees must have completed 3 units of mathematics, 2 units of laboratory science, and 7 academic electives.

If you lack one of the above required units, you may be permitted by way of exception, to enter with provisional standing.

Application
In the State of Washington, application forms for those wishing to enter as freshmen may be obtained by writing Dean of Admissions, Seattle University, Seattle, Washington 98122 or from any high school counseling office in the state. Out of state applicants may obtain forms by writing to the Dean of Admissions.

To apply for admission, follow these procedures after completion of at least the sixth semester of high school.

1. Complete Section I of the Application for Undergraduate Admission and leave the entire form with your counselor to have the back page completed and forwarded directly to the Office of Admissions.
2. Submit a non-refundable application fee of $15 to the Office of Admissions, payable to Seattle University.
3. Have your high school transcript and transcripts of any post-secondary course work you have completed sent to the Admissions Office. ONLY OFFICIAL TRANSCRIPTS ARE ACCEPTABLE. Official transcripts must arrive in the Admissions Office in a sealed envelope from the issuing institution.
4. Have your scores from one of the following examinations sent to the Admissions Office:
   Washington Pre-College Test (WPCT)
   Scholastic Aptitude Test (SAT)
   American College Testing Program (ACT)

Notification of acceptance or refusal for Fall quarters will begin December 1 of the previous year and continue as files are completed. However, students whose records do not give sufficient evidence of the ability to pursue college level work will be notified that a final decision will not be made until the specified information is received.

High school students are encouraged to apply before May 1. All applications for admission and supporting documents should be received no later than one month before the beginning of each quarter.

Advanced Placement
(Policies 75-16 and 75-17)
Entering students who may qualify for advanced placement in subject matter other than unit requirement should plan to take the Advanced Placement (AP) Tests of the College Board. You can find out more about these tests from your high school counselor or by writing to the Educational Testing Service. The Educational Testing Service will forward test results directly to Seattle University. A score of 3 or better on an AP examination may earn college credit. Advanced placement or credit may also be granted on the basis of the subject examinations of the College Level Examination Program (CLEP) of the College Board. To receive course credit through CLEP, you must submit your test results one month before the quarter you plan to enroll.

Early Admission
High school students with a grade point average of 3.3 or above on the 4.0 scale, who are recommended by their high school principal and their high school counselor, may be considered for enrollment after completing their junior year in high school.

Early Decision Plan
Students who select Seattle University as their first-choice college, and who have clearly demonstrated a high level of scholastic ability, are eligible to apply for admission under this plan. Complete admission credentials should be submitted as soon as possible after the close of the sixth semester, but no later than November 1 of the senior year. Notification will be sent as soon as all credentials are received.

Placement Examinations
Placement tests in chemistry, mathematics and foreign languages are administered by these departments during Orientation. These examinations offer entering freshmen the opportunity to show the extent of their preparation, while simultaneously allowing departments to determine the level at which entering freshmen begin college work.

Probation
Students admitted on probation will be placed in the General Studies Program under the guidance of the General Studies Director. Probation students must achieve regular status by the end of the freshman year or be subject to dismissal from the University.

Admission From Other Postsecondary Institutions

A student who has established a satisfactory record in another accredited college or university may apply for admission with advanced standing at Seattle University. An applicant for transfer admission must:

1. Submit to the Dean of Admissions an Application for Undergraduate Admission, a $15 application fee (make remittances payable to Seattle University) and one (1) official copy of a transcript from each postsecondary institution previously attended. Failure to furnish previous postsecondary records when applying for freshman standing, or to supply complete postsecondary credentials when applying for advanced standing, places students under penalty of immediate dismissal. The University has the option to declare all credit not presented at the time of application as non-transferable.
2. Present a minimum 2.00 academic grade point average or the minimum required by a school/college; (see appropriate sections of this Bulletin) for postsecondary work attempted transfer. Courses completed at the lowest passing grade are acceptable for transfer, but the dean or department chairman may require that such courses in the major field be repeated. No transfer applicant will be admitted with a grade point average below 2.00.
3. Transfer applicants who have completed less than one full year (45 quarter or 30 semester hours of transferable credit) at another postsecondary institution must fulfill secondary school unit requirements for admission to the freshman class. In such cases, an official copy of the high school transcript must also be submitted.

Transfer students who have been placed on probation, suspended or dismissed will not be eligible for admission unless one calendar year has elapsed since the dismissal, suspension or probation. At the end of this period, admission may be granted only by the Board of Admissions. In such cases, two letters of recommendation are required.

In assessing the student's record for admission, grades in non-credit courses will not be counted. For work done in postsecondary institutions whose academic standing is unknown/or for work with private teachers, admission and advanced credit will be granted only upon examination. Examinations to establish credit for such work may be taken only after the completion of 15 credits in residence. (See Credit by Examination on page 18.)

(Policies 77-1 and 79-1)
For the purpose of guidance and registration, the Academic Evaluation Unit in the Office of Admissions and Records will make a tentative evaluation of transfer credits at the time of admission to Seattle University. All evaluations are subject to the approval of the Academic Vice President and the Dean of the appropriate school. (See Transfer of Credit from Other Institutions on page 23 for additional information.)

Audit Students

Admission as an auditor must be approved by the instructor of the course. An auditor will not be required to participate in class discussion or laboratory work. Assignments may be made at the discretion of the instructor.

International Students

(Policy 76-6)
Specific admission requirements and procedures for all international students are listed on the University's international student application form. These criteria differ from those applied to United States citizens. International applicants should read carefully the International Student application.

Permanent Resident Students

Students whose official immigration status is that of permanent resident must submit Test of English as a Foreign Language (TOEFL) scores.

Special Students

(Policy 75-25)
Special students may take such undergraduate courses with the approval of the Dean of the school or college. Special students are not eligible for a degree until they have met all requirements for admission to that school and have been granted regular status.

Transitional Students

Admission as a transitional student is granted to a student in good standing at any recognized college or university who meets Seattle University's admission standards and who is not enrolled in a degree program at Seattle University.

By special arrangement, superior high school students may be admitted to specific courses with transitional student status.

University credit will be awarded for successful completion of courses taken as a transitional student. Such credit may be applied toward a degree from Seattle University only after you have been admitted to a degree program.

FINANCIAL AID

Meeting College Costs

Although the cost of a college education can seem formidable at first glance, Seattle University's financial aid program is surprisingly comprehensive in meeting the needs of a great many deserving students. Available to students without any racial or religious discrimination, assistance is offered to both new and continuing students and may be used for normal educational expenses as well as living expenses.

Naturally, academic qualifications and financial need are prerequisites, and Seattle University expects students and their families to contribute a reasonable amount to help offset the total cost, but the University maintains a sensible perspective in all cases. The College Scholarship Service (CSS) determines the expected contribution through a financial need analysis, after which the University will attempt to supplement that contribution with a financial aid award. This usually consists of a combination of grants, loans and/or part-time employment. The continuing objective of the Financial Aid Office is to meet the total cost of attending Seattle University through a combination of these three sources, student, family and financial aid.

With all these factors working in your best interests, you are expected to arrive on registration day with sufficient funds to cover any portion of tuition, room and board and other fees not covered by financial aid. If you were late in applying for a guaranteed student loan, or if for some other reason, you foresee a shortage of funds at the time of registration, you should make arrangements to secure a short-term loan from a relative, employer or other funding source.

Types of Financial Aid

Eligible students are likely to receive a combination of three types of aid, commonly called a financial aid "package".

1. GRANT and SCHOLARSHIP — An award that does not require repayment.
2. LOAN — Low interest loans which allow liberal repayment periods.
3. WORK STUDY — An opportunity to work on or off campus while attending school.

Seattle University reserves the right to change its financial aid policy without notice.

How to Apply for Financial Aid

1) Apply for admission to Seattle University. A student must be ACCEPTED to Seattle University before being considered for financial aid.
2) Send the Financial Aid Form with the required fee to College Scholarship Service in Berkeley, California or Princeton, New Jersey. Be sure to indicate Seattle University as a recipient of the need analysis which will be calculated from the information you provide CSS.
3) Submit all three copies of the Pell Grant Student Aid Report (SAR) to the SU Financial Aid Office. A SAR will be generated from the information supplied on the Financial Aid Form.

The preferred deadline for receipt of all materials to the Financial Aid Office is March 1. Meeting this deadline maximizes your opportunity to receive the best possible financial aid package. Submitting your Financial Aid Form to the College Scholarship Service no later than January 31 will ensure prompt processing of your Seattle University financial aid application.

Priority consideration is given to students who meet these deadlines. All new students applying for financial aid must be formally admitted to the University by March 1 to receive maximum consideration for financial aid. Transfer students should remember to submit financial aid transcripts to the Financial Aid Office by the March 1 deadline.

All students applying for financial aid for Fall quarter, including students who are currently enrolled, must observe the March 1 deadline. Students applying for other quarters should contact the Financial Aid Office to determine the deadline. Continuing students must reapply for financial aid each year.

Applicants are advised to make and retain copies of all documents submitted.

Grants

A limited number of grants are awarded annually to entering new students, transfer students and currently enrolled students. Grants are based on scholastic achievement, financial need, participation in school and community activities and leadership potential. Applicants need not prepare a separate application for grants, except as indicated below. Grants range from partial to full tuition. Other financial aid may apply to living expenses.

Aetna Casualty Scholarship Foundation

Alpac Corporation

Alpha Kappa Psi

Alphonse & Mary Brenner & John Brenner Grant Fund
A grant to a deserving Catholic student from the Yakima diocese

Alumni Scholarship

Associated Grocer's Scholarship

The Blume Family

The Boeing Company
A renewable grant awarded to students in engineering or business

Ben B. Cheney Foundation

Chevron

Woodrow Clevinger Scholarship

William J. Codd, S.J. Memorial Scholarship

Continental Mills Scholarship

Cook, Lovella Foundation

DiJulio-Naylor Scholarship

Emard Scholarship

John C. Erickson Memorial Scholarship
A renewable scholarship awarded to junior Civil Engineering Students.

Farmers Insurance Group
Renewable grants awarded to University students in business or mathematics

Friendly Sons of St. Patrick

Geneva Foundation Drama Scholarship

Seattle University Guild Endowment Scholarship Fund
A scholarship fund available to freshmen

Haas Foundation

Harold Lemon Scholarship

Richard and Kathie Ann Jones Charitable Trust
A partial grant awarded to upperclass students

Kokua Fund

Gene E. Lynn Rural Nursing Endowment Fund
(See loans)

Joseph A. Maguire, SJ, Scholarship

Edmund Maxwell Scholarship

Rosemary McCone Memorial

James B. McGoldrick, S.J., Scholarship

Rev. Edmund B. McNulty, S.J., Memorial Fund

Michel's Family Scholarship for International Study
A partial scholarship designated by the Dean of the College of Arts and Sciences

Naef Scholarship Program

John and Margaret Nelson Trust

Pacific Coca-Cola

Rainier Bancorporation

ROTC (Army)

SAFECO Insurance

Senior Challenge

Alfred & Tillie Shemanski Fund
Two scholarships awarded to students enrolled in the Corpus Program

Ellen B. Stephenson Scholarship Fund

H.H. Thibeau Memorial Scholarships

Washington State Automobile Dealers

Western Gear Foundation
Renewable grants awarded to students in engineering in honor of the late Philip L. Bannan, Sr. These grants are renewable if the student maintains a high scholastic standing

William R. Woods Business Grant
A $1000 award to a deserving upperclass or graduate student. Contact the Dean of the Albers School of Business

Wright Schuchart Scholarship
A renewable scholarship awarded to a sophomore engineering student

Loans

Loans are an integral part of the financial aid award "package" offered to students. Some loans do not require payment of principal or interest until the student graduates or leaves school. At that time low interest payments, which may extend over a long period, begin. Loans are an excellent means for the student and family to assume part of the cost of education. Students must be United States citizens, a resident of a Trust Territory, or have permanent resident status, approved by the Immigration Department, to be eligible for loans which involve federal funds.

National Direct Student Loan (NDSL)

An NDSL is a long term loan based on financial need. Eligible students may borrow a total of $9,000 for undergraduate education or $18,000 for combined undergraduate and graduate education. Repayment begins six months after the student graduates, drops to less than half-time, or leaves school. The annual interest fee is five percent and repayment may extend 10 years, but payments may not be less than $30.00 per month. The NDSL repayment program also includes limited deferment provisions and cancellation features.

Guaranteed Student Loan (GSL)

A Guaranteed Student Loan (GSL) is a long-term need-based loan arranged with a lender selected by the student. Commercial banks, credit unions, and savings and loan associations are possible lenders. Guaranteed Student Loans are guaranteed by the Washington Student Loan Guarantee Association, or equivalent agency.

Students applying for Guaranteed Student Loans must qualify on the basis of financial need and must be enrolled at least half-time. The student's financial need for the loan will be determined through the use of the College Scholarship Service's Financial Aid Form. The determination of financial need for the loan will be calculated by Seattle University and reported on the student's Guaranteed Student Loan Application form.

Annual loan limits are $2,625-4,000 for undergraduate students and $7,500 for graduate students. Students may borrow up to $20,000 during their undergraduate years. Graduate and professional students may borrow $54,750 for their undergraduate and graduate career.

All GSL's will be charged a 5% loan origination fee by the lender. An amount equal to 5% of the student's Guaranteed Student Loan will be withheld by the lender to offset the interest charged on the student's loan while the student is enrolled. With the exception of the 5% origination fee, the student does not have to pay any other interest charges while enrolled as a full-time student.

Repayment of the loan begins six months after the student ceases to be a half-time student. Repayment is quarterly, with interest at 8% per year on the unpaid balance beginning at the time of repayment.

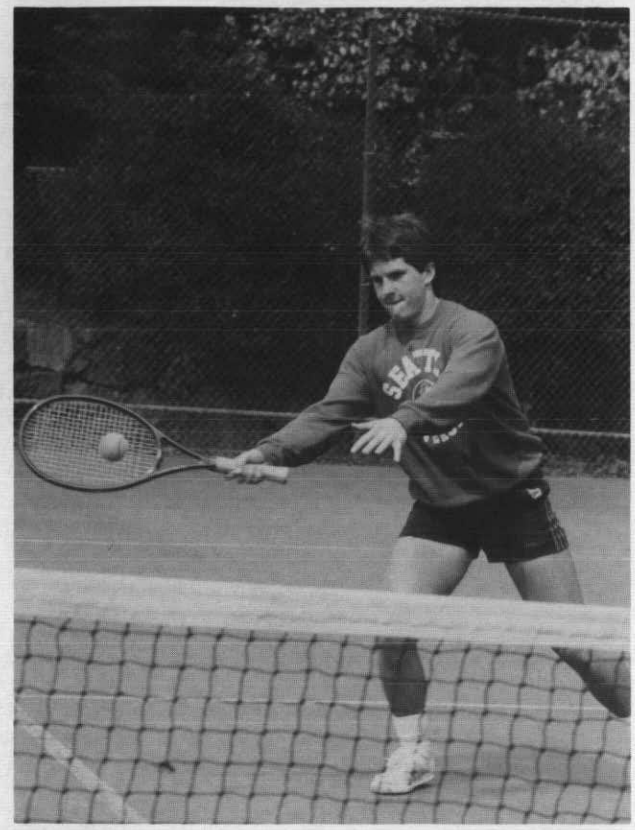
Students are required to repay the loan at a minimum of at least $50 per month. Early application for the Guaranteed Student Loan is advised, since processing of the loan paperwork may take from six to eight weeks.

Payment deferrals are available for students in military or Peace Corps service, Public Health Service Officers, and volunteers for non-profit organizations. Those enrolled in required professional internships are also eligible for deferrals.

Gene E. Lynn Rural Nursing Endowment Fund

The Gene E. Lynn Rural Nursing Endowment program provides financial support for eligible students entering the School of Nursing during the fall quarter of each academic year. Financial assistance under this program is provided through interest-free loans while recipients are enrolled at Seattle University. Normally such loans will be made within the guidelines established by the Guaranteed Student Loan Program. In determining the amount of such loans, all other forms of financial aid will be taken into consideration.

When recipients of these awards graduate and begin their nursing careers in appropriate and approved community health-care facilities, the Gene E. Lynn Rural Nursing Endowment of Seattle University will repay the balance at a rate of 25% per year for each year of service in a rural or small-town setting. Applications for this program are available from the Financial Aid Office.



Government Grants

Several forms of grants are offered as part of the financial aid award package which may also include loans and employment. These are non-repayable federal and state grants, as well as Seattle University tuition grants, which provide partial tuition. Need, rather than grade point average, is the primary consideration for eligibility.

Supplemental Educational Opportunity Grant (SEOG)

The Supplemental Educational Opportunity Grant is a federally funded grant awarded to needy students. SEOG awards usually range from $100 to $4,000 in the initial year and may continue in subsequent years. SEOG awards do not require repayment. Students with baccalaureate degrees are not eligible for SEOG funds.

The Pell Grant Program

Students considering Seattle University are encouraged to apply for aid using the CSS Financial Aid Form. In approximately six weeks, the federal government will return to the student a Student Aid Report (SAR). Regardless of the reported eligibility, it is necessary for the student to forward all copies of the SAR to the Seattle University Financial Aid Office. The Financial Aid Office uses the SAR to determine the amount of the Pell Grant award. Pell Grants do not have to be paid back. Up to $2,300 per year may be available to eligible students. Students currently enrolled at Seattle University and receiving financial aid are required to file an application for a Pell Grant and submit the Student Aid Report. Students with baccalaureate degrees are not eligible to receive Pell Grant funds.

Washington State Need Grant (WSNG)

A grant designed to assist needy and/or disadvantaged Washington state residents in obtaining postsecondary education. Selection is made by the Council for Postsecondary Education from nominations submitted by the University. Theology majors are not eligible. Students with baccalaureate degrees are not eligible to receive WSNG funds.

ROTC Grants Army/Air Force

United States Army awards are made to selected high school seniors and college freshmen, sophomores and juniors who enroll in the Army Reserve Officer Training Corps. These are two or three year merit scholarships covering tuition, fees, textbook allowance, and a $1,000 yearly tax-free subsistence allowance. Room and board grants are also available to scholarship students. An annual subsistence stipend of $1,000 is paid to all advanced course students. Write to the Seattle University Professor of Military Science for information on application procedures.

The United States Air Force awards scholarships to selected students enrolled in the Air Force ROTC programs. Write to the professor of Aerospace Studies, University of Washington, Seattle, Washington 98195.

Veterans, Widows & War Orphans Educational Assistance

Veterans (or spouses of deceased veterans) may receive up to 45 months of educational assistance under terms of the GI Bill. War orphans and dependents of disabled veterans may also receive up to 45 months of educational assistance. Contact the Seattle University Veterans Office.

Student Employment

A financial aid award frequently includes work-study eligibility along with a loan and/or a grant. Work-study eligible students earn funds by being employed under the work-study program. This earned income is used to pay either tuition or living costs. It is important to note that funds earned during the academic year under the work-study program are not yet available at the time of Fall quarter registration.

Work-Study

Work-study eligible students are not required to work nor is employment guaranteed. The Seattle University Career Planning and Placement Office assists students in obtaining employment on or off campus.

Federal College Work-Study Program

Students with established financial need are eligible for part time employment in on-campus positions.

Washington State Work-Study Program

Students who qualify under a state established need formula are eligible for part time employment in positions with employers other than Seattle University.

Student Placement Center

The Career Development Center maintains a listing of employment available on campus and with Seattle area employers. Literature and instruction in job-seeking skills are provided for students and alumni.

COSTS — GENERAL INFORMATION

TUITION RATES 1987-88

Regular Courses (Fall, Winter, Spring) ..... 166.00 per credit hour

Full Time Student — Annual Tuition	$7,470.00
45 credit hours per year (15 credit hours per quarter)	

Certificate Programs

Alcohol/Drug Studies	$145.00 per credit hour
Applied Social Research/ Corrections	$166.00 per credit hour
Health Information	$166.00 per credit hour
Human Resources (I.P.S.)	$166.00 per credit hour
Rehabilitation	$166.00 per credit hour
Military Science 311, 312, 313, 412, 413, 419	$166.00 per credit hour
Auditors Tuition	$ 53.00 per credit hour

A tuition prepayment of $100.00 is required of all new undergraduate students admitted for Fall quarter. This prepayment will apply toward tuition and is not refundable if the student decides after May 1 not to enroll at the University.

Laboratory Fees 1987-88 (Usually per course)

Private Music Lessons	$ 39
Computer Laboratory Courses	$ 36
Science and Engineering Laboratory Courses	$ 36
Psychology 385, 401, 402	$ 36
Education 330	$ 27
Nursing 205, 312	$ 27
Psychology 382	$ 27
Physical Education and Recreation 120, 124, 131, 135, 146, 155	$ 17
Nursing 206, 335, 337, 341, 409, 433 (per credit hour)	$ 16

Fees — Other (Non-Refundable) 1987-88

Application — undergraduate and graduate	$ 15
Application — transient students	$ 15
Late Registration — per day $10; maximum	$100
Matriculation — undergraduate and graduate	$ 50
Credit by Examination — per credit hour	$ 50
Validation of Field Experience — per credit hour	$ 50
Removal of Incomplete — per course	$ 20
Graduation — undergraduate per degree	$ 50
Certificate fee	$ 35
International Student Fee — per quarter	$ 15
Parking — per quarter	$ 30

Graduate tuition and fee rates are published in the Graduate Bulletin.

RESIDENCE CHARGES 1987-88

Double Occupancy	$2,208.00 for academic year
	$ 736.00 per quarter
Single Occupancy	$2,958.00 for academic year
	$ 986.00 per quarter
Deposit	$ 85.00

BOARD

Alternate a la carte meal plans are available, ranging in price from $825-$1200. All residence hall students, except those living in Campion are required to purchase a plan. Campion students can use existing kitchen facilities and choose not to purchase a plan. For information contact the Director of Resident Student Services, 626-5920.

TUITION PAYMENT

Payment of tuition and fees includes library and health service fees, student newspaper, student organization allotments, building fund, and admission to athletic events. After a student registers for a course, the University has committed a space in each course for each student. It is the student's responsibility to pay for all fees in full whether the student attended the course(s) or not. Fees are due and payable on or before the "classes begin" date of the calendar published on page two of this bulletin unless the student has formally withdrawn prior to that date. Payments made after that date are subject to the late registration and refund policies.

Failure to pay in full all tuition and fees of any quarter or session may result in a hold on the student's transcript and may prevent registration in subsequent quarters.

Seattle University reserves the right to change its charges at any time without previous notice.

Electronic Monthly Payments (EMP) is a service to help students and parents meet educational expenses by spreading tuition costs into 10 regularly scheduled monthly payments. The cost of the service is $35 per year per application. Arrangements should be made prior to May 15 to enroll for the following academic year. For information contact the Controller's Office, 626-5747.

Late Registration fees of $10 per day to a maximum of $100 are charged if tuition and fees are not paid in full as of the date classes begin noted on the calendar on page two of this bulletin. Late registration fees shall apply to all checks not honored by banks and returned to Seattle University.

Family Tuition Plan

Two or more members of a family living in the same household and dependent upon a common support and attending the University concurrently may apply for a tuition discount. Further information on the Family Tuition Plan can be obtained from the Financial Aid Office.

Refunds

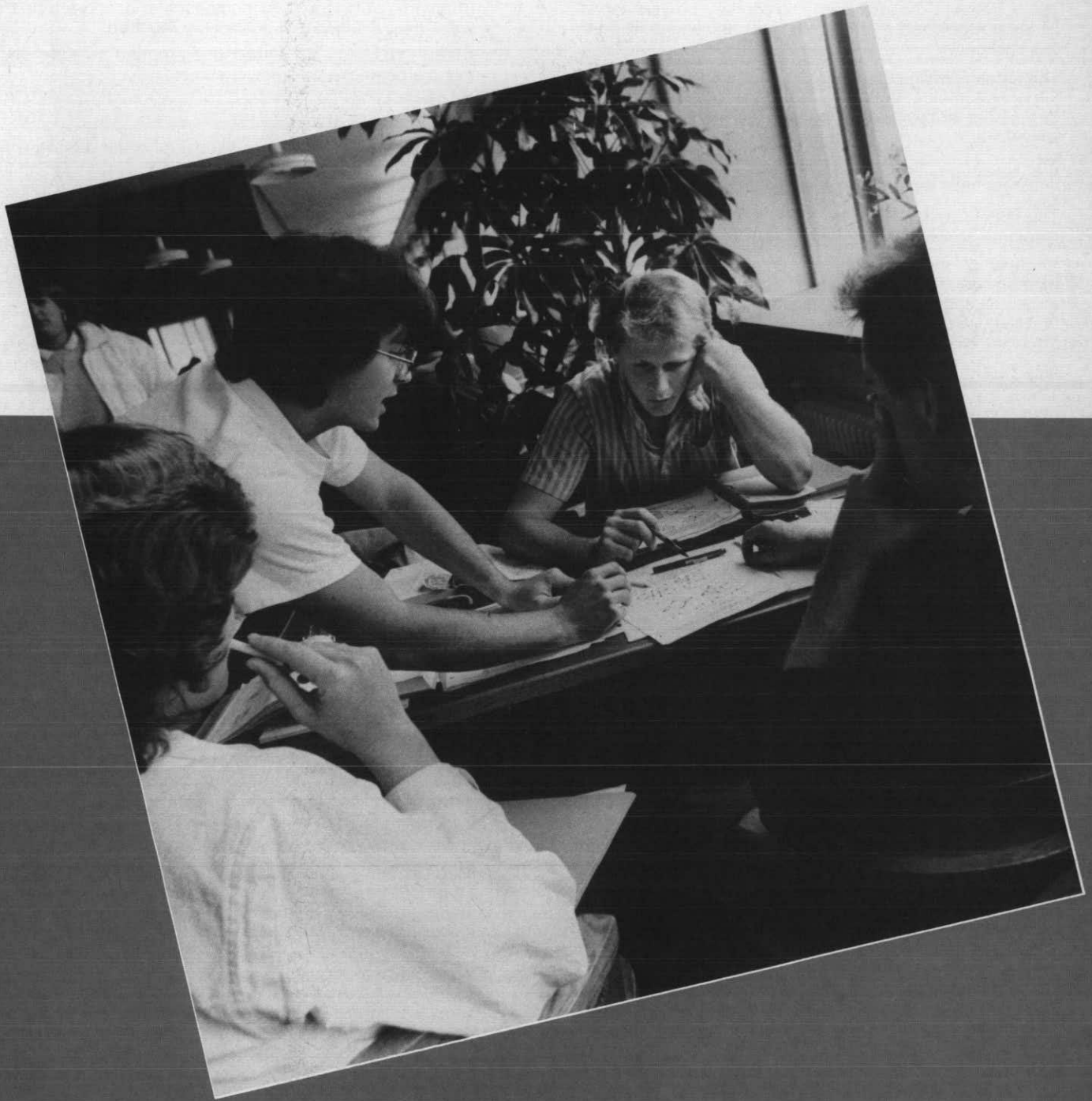
Withdrawals (full or partial)

2-10 class days .. 80 percent	16-20 class days .. 40 percent
11-15 class days .. 60 percent	Thereafter ..... No refund

Refunds are based on the number of consecutive days from the first class day of the term until the official date of withdrawal or reduction in class load occurs. The official date is considered to be the date the student submits the withdrawal or change form to the Registrar. A refund to a financial aid recipient is applied first to the student's financial aid source(s) and the balance, if any, is remitted to the student. Financial aid recipients will, therefore, in all likelihood, not receive refunds.

If the tuition and/or fees have not yet been paid, the portion normally not refunded is due and payable together with late fees. Failure to pay the non-refundable tuition and fees may result in transcript holds and may prevent registration in subsequent quarters.

Academics



Academic Regulations

Program of Study

A student's program of study must be approved by a member of the faculty at registration. However, such approval neither gives official sanction to any failure to meet University requirements nor does it free the student of responsibility for intelligent personal choice.

Students should not rely on oral representations of degree requirements or waivers thereof; they should obtain information from the designated level of authority and see that all agreements are entered in writing in their official academic file in the Office of the Registrar.

The Academic Council has discretionary powers for all cases not covered by the rules and regulations listed in this section.

The enrollment and graduation of each student, the awarding of academic credits, and the granting of any award or degree are strictly subject to the disciplinary power of the University.

The University reserves the right to cancel any class that does not meet the required minimum enrollment.

The University reserves the right to change any requirement and to ask a student to withdraw at any time.

Regulations in this Bulletin are supplemented by policy memoranda that set forth policy in greater detail. References to applicable policy statements are noted parenthetically. Copies of these policy memoranda may be obtained from the Registrar's office.

Academic Conduct

There are two documents which govern student academic conduct: the Academic Honesty Code, and the Academic Grievance Procedure. Both are published in the "Student Handbook" and the student is reponsible for knowing them. Individual schools may have policies which further specify the Academic Honesty Code, and so the student should consult his or her school policy as well.

Academic Terms

ACCREDITED — Certified as fulfilling standards set by regional or professional accrediting agencies. Indicates that course work is generally transferable to other colleges and universities. The University's accreditation appears on page 5.

ADVANCED PLACEMENT — The University encourages advanced placement of students entering from high school through approved departmental examinations or by the Advanced Placement Examination of the College Entrance Examination Board.

ADVISER — A member of the faculty designated to assist a student in planning a program of study.

AUDITOR — A student who is permitted to register for courses without obtaining college credit. Auditors must be admitted and must obtain permission from the faculty. (The Alumni Audit program is available to alumni through the Office of Alumni Relations).

CERTIFICATE — A document awarded by the University upon completion of a series of courses in a professional specialty.

COLLEGE — An academic division within the University in which academic departments reside.

CORE CURRICULUM — A program of liberal study which is the foundation of Seattle University's undergraduate program.

COREQUISITE — A course which must be taken in the same quarter with another specified course.

CREDIT BY EXAMINATION — Examination for advanced credit in courses offered by the University for work done in private study or work not transferable to the University. Forms for approval of Credit By Examination are available in the Office of the Registrar.

CREDIT HOUR — The unit by which the University measures course work. One credit hour is awarded for a class meeting fifty minutes a week over the period of a quarter; in laboratory and activity courses, two or more hours a week over a period of a quarter are required.

CURRICULUM — An established program of study leading to a degree in a particular subject field.

DEGREE — An award by the University upon completion of a program of study.

DEPARTMENT — An instructional or administrative division of a school or college within the University which concentrates on a specific subject field.

ELECTIVE — A course chosen by a student which is not a requirement in the program of study.

FIFTH YEAR STUDENT — A student who has completed a baccalaureate degree who is admitted for further undergraduate study toward a second baccalaureate degree, teacher certification, or no specific objective.

FULL-TIME — For academic reporting purposes, 12 credits is full-time for undergraduate students, and 8 credits is full-time for graduate students.

GRADE POINT AVERAGE — An average computed on the basis of numerical values assigned to grades; the grade point average is equal to quality points (numerical point value x credit value for each course) divided by credits attempted.

Cumulative g.p.a. is the average based on all Seattle University work. Transfer credit is not included in the cumulative g.p.a.

Major g.p.a. is the average based on all Seattle University work used to complete course and credit requirements of the major as well as the supporting courses in allied fields specifically required by the program.

GRADUATE STUDENT — One who has been admitted to the Graduate School to pursue an advanced degree.

MAJOR — A principal field of study. Majors are described in the school and college sections of this Bulletin.

MATRICULATE — Enrollment at the University for the first time to pursue a degree or professional or fifth year program.

MINOR — A secondary field of study. Minors are described in the school and college sections of this Bulletin.

PART-TIME — For academic reporting purposes, a program of fewer than 12 credits is considered part-time for undergraduate students; half-time is 6 credits. For graduate students, 8 credits is a full-time load, 4 credits is half-time.

PLACEMENT TESTS — Tests in specific fields such as mathematics, chemistry, and foreign languages given to entering students to determine their level of achievement for placement in college courses.

PREREQUISITE — A course which must be completed before a student may register for a more advanced course.

PROBATION — Status resulting from academic performance below the minimum University requirement.

PROVISIONAL STUDENT — One who is admitted by special action with an entrance requirement unsatisfied. Enrollment beyond the first quarter is contingent upon the satisfaction of that requirement.

QUARTER — The term of instruction at Seattle University. There are three quarters in the regular academic year, Fall, Winter and Spring. Summer quarter extends from June through mid-August.

READMISSION — Procedure whereby a student who has not been registered for one or more quarters requests permission to re-enroll.

REGISTRATION — Official enrollment in the University in which a student sees an adviser, selects courses, and secures spaces in those courses each quarter.

REGULAR STUDENT — A matriculated student pursuing a degree.

SPECIAL STUDENT — A student who is admitted to a temporary status without transfer credit. Student will be reevaluated after two full-time quarters or the equivalent per policy 75-25.

SCHOOL — An academic division within the University in which academic departments reside.

TRANSCRIPT — A copy of the student's permanent record at Seattle University.

TRANSFER CREDIT — Credit awarded to a student for work completed at another accredited college or university.

TRANSFER STUDENT — One who is admitted to Seattle University having previously completed work at another college or university.

TRANSITIONAL STUDENT — A non-matriculated student admitted for one quarter only to take undergraduate course work. Transitional students who wish to continue enrollment after one quarter must apply for regular status.

WITHDRAWAL — Official notification to the University by a student that he or she will not complete a course. Withdrawals are filed with the Registrar.

Attendance Requirement

Attendance may be an essential and intrinsic element of the educative process. In any course in which attendance is necessary to the achievement of a clearly defined set of course objectives, it may be a valid consideration in determining the student's grade. While there is no all-University regulation requiring class attendance, it is the responsibility of the instructor to state the relevance of attendance at the beginning of each course.

Change of Major

To transfer from one school of the University to another, or from one major to another, a student must obtain a change of major form from the Registrar, notify the former department by obtaining the chairman's signature and present the change of major form to the new department chairman for approval. The approved form is returned to the Registrar by the department and the student's record will be corrected to show the new major.

Classification of Students

(Policy 82-2)

Regular undergraduate students are classified as follows:

Freshman—	0-44 credits completed
Sophomore—	45-89 credits completed
Junior—	90-134 credits completed
Senior—	135 or more credits completed

Other students are classified as follows:

5th year—	post baccalaureate students not seeking an advanced degree but seeking a second bachelor's or a certificate
Graduate—	post baccalaureate students admitted to Graduate School for a master's or doctorate degree program
Special—	an undergraduate student awaiting approval for regular status
Transitional—	non-matriculated students registering for one or two quarters only
Auditors—	non-matriculated students registering for audit only.

Commencement With Deficiencies

(Policy 83-1)

Undergraduate students who have not completed all degree requirements may participate in commencement exercises under the following conditions:

1. Students must be 10 or fewer credits short of degree requirements, with all minimum grade point average requirements satisfied.
2. Students commencing with deficiencies are not eligible for honors until they complete all degree requirements.
3. All degree requirements must be met within 12 months after commencing with deficiencies.
4. Applications for commencement with deficiencies must be filed in the Registrar's Office on or before the closing date for regular graduation applications (February 1).

Concurrent Enrollment at Two Colleges
(Policy 75-6)

University regulations require students to seek written permission to be enrolled at another institution simultaneously with enrollment here. Credits completed at a second institution are not transferable unless prior to enrolling elsewhere an academic action authorizing dual enrollment is approved by the Dean and Registrar.

Course Numbering System

The course numbering system at Seattle University is as follows:

100 to 199 are freshman courses
200 to 299 are sophomore courses
300 to 399 are junior courses
400 to 499 are senior courses
500 and above are graduate courses — graduate standing required to register for courses numbered 500 or above.

Credit by Examination

Examinations for advanced credit in courses offered by the University may be taken by a student for work done in private study or on subject matter taken at a non-accredited college or university, with the following restrictions:

1. Student must be currently registered at Seattle University.
2. No student may take an advanced credit examination in a course in which he/she has already been registered.
3. The maximum number of credits obtainable by advanced credit examination is 30, not more than 15 of which may be obtained in one subject matter field. All credits obtained by examination will be counted as extension credit and included in the maximum 45 extension credits allowed.
4. No credit will be granted unless the applicant has earned a minimum of 15 resident credits with a minimum grade point average of 2.50.
5. No student within a given field of study may received advanced credit in subject matter more elementary than that for which he has previously received credit.
6. No student will be permitted to repeat an examination for advanced credit.
7. No student may take examinations for more than 15 advanced credits in any one quarter.
8. No student may receive advanced credit for examination for lower division foreign language courses in his/her native language or from earlier schooling.
9. Students who wish to qualify for credit by examination must apply to the Dean, Registrar and Controller for approval.
10. No graduate credit is given by examination.
11. Nursing students who are graduates of hospital diploma programs may, under special circumstances, earn credit by examination for courses specified in Policy 85-1.

Credit Load

The normal load for undergraduates is 15 credits per quarter. No student may carry excess credit hours without permission from the dean of the school.

Students on academic probation may be required by the dean of their school to carry less than the normal credit load.

Credit/No Credit Option
(Policy 76-1)

Undergraduate students may elect a credit/no credit (CR/NC) option in elective courses under the following conditions:

1. Student must include CR/NC on the registration form; student may change to or from CR/NC only during the five-day drop/add period.
2. Eight courses (except those mentioned in 5 below) regardless of credit hours per course, is the maximum number of CR/NC classes acceptable toward a bachelor's degree. Transfer students will be allowed the following number of CR/NC courses at Seattle University:

Transfer Credits	
0-44	7 courses
45-89	6 courses
90-134	4 courses
135 and above	0 courses

3. CR/NC may apply to a maximum of two courses in the major or departmental requirements outside the University core; students may not select this CR/NC option for any courses in the University's core.
4. Only one CR/NC course may be selected in a given quarter. (Mandatory CR/NC courses are excluded from this limit).
5. Mandatory CR/NC courses include music practice courses and some field experience courses as designated by individual departments.
6. No graduate courses (500-699) are open to CR/NC grading.
7. All courses elected as CR/NC will appear on the student's permanent record and will be graded:
   CR (credit)
   NC (no credit)
8. Ninety (90) credits graded A, B, C, D, must be completed at Seattle University to qualify for honors. Courses graded CR/NC do not count toward this total of 90.

CR and NC courses will not be computed in credits attempted and therefore will be excluded from computations of grade point averages. Courses in which a CR grade is given will be counted as completed credits. When student selects the CR/NC option this becomes a matter of record with the Registrar, but it is not reported to instructors.

Dismissal
(Policies 75-14, 75-3, 81-2, 81-3, 81-4 and 84-2)

Students who have three quarters at Seattle University with a cumulative grade point average below 2.0, or who fail to maintain standards in a professional school, or those who receive failing grades in 10 or more credits in one quarter, or those with an excessive number of I or NC grades, are subject to dismissal. Students dismissed for academic reasons, may request reconsideration through the appropriate dean in accordance with the policy of the individual college.

A student withdrawing voluntarily from the University is entitled to a statement of honorable dismissal if he/she is not liable to dismissal on account of scholarship, absence, breach of discipline, or financial indebtedness to the University.

Examinations

Examinations in all courses are regularly held at the middle and end of each quarter, and at such other times as the instructor may determine. Absence from an announced written examination is excusable at the discretion of the instructor and subject to review by the dean. Students absenting themselves from a scheduled examination without justifiable cause will receive a failing grade for the examination.

Forgiveness Policy
(Policy 77-6)

Former SU students with poor academic records may resume their studies without the encumbrance of previously earned poor grades. After being absent from school for at least 8 years, former SU undergraduate students may apply for forgiveness at the time of readmission or during the first quarter resumed at SU. For further information consult the Office of the Registrar.

Full-Time Student

For academic reporting purposes, 12 credits per quarter is considered full-time for undergraduate students, while eight credits per quarter is full-time for graduate students.

Grade Changes

Once a grade is recorded it can be changed only through a request of grade change form which should be completed by the instructor and countersigned by the department chairman and dean of the school. Errors in grades must be reported within six months of date of issue of grade reports.

Grading System

Effective Summer 1983 the University began using the following system of grading to indicate the level of individual student achievement. Each letter grade has a quality point value assigned for the grade achieved. The quality point value is assigned to each letter grade as follows:

A 4.0 Superior performance
A- 3.7
B+ 3.3
B 3.0 Good performance
B- 2.7
C+ 2.3
C 2.0 Adequate performance
C- 1.7
D+ 1.3
D 1.0 Poor performance
D- 0.7
E 0.0 Failing

The grades of CR, I, M, N, NC, R, S, W, Y or YW have no negative quality point value.

CR **Credit** — grade assigned under credit/no credit option if work meets or is above minimum passing level.

I **Incomplete** — A temporary grade indicating that work in the course was acceptable, although some portion of it was not completed because of illness or other serious circumstances beyond the student's control. When the instructor assigns an I grade, a NOTICE OF INCOMPLETE GRADE FORM must be filed with the Dean, Registrar, student and instructor. This form will state what work remains to be completed to obtain a final grade. The student has six weeks after the beginning of the next quarter to complete the specified work. If the specified work has been completed, the student must file an official Incomplete Removal Form and pay the required fee to have the final grade posted to the transcript. However, if the grade is an E the final grade will be posted without student payment (I grades assigned spring quarter must be removed by six weeks after the beginning of the fall quarter).

Prior to the end of the I-removal period, the dean may notify the registrar of serious reasons that require an extension of this deadline to a certain time, but under no circumstances may this be extended beyond one calendar year from the date of initial posting of the I. All I grades must be removed within six months of date of issue or extended deadline.

While on the transcript, I grades will carry no penalty; i.e., they will not be counted in credit or grade point average computations.

M **Missing** — symbol used on grade reports to inform student that grade has not been received from instructor.

N **No Grade** — a suspended grade for courses in which work is not scheduled for completion until after the quarter closes, i.e., thesis or research courses at the graduate level. It is the responsibility of the student to arrange with the supervising instructor to remove the N within one calendar year of the quarter the grade is assigned, per the schedule given below. Once the closing date has passed, reregistration and payment of regular tuition is required in order to obtain credit for the work completed.

N Grades

Received	Must be Removed Before
Summer term	August 1 of the following calendar year
Fall term	December 1 of the following calendar year
Winter term	March 1 of the following calendar year
Spring term	May 1 of the following calendar year

NC **No Credit** — grade assigned under credit/no credit option if work is below minimum passing level, or grade assigned by Registrar when student registers, does not withdraw yet does not complete the course.

R **Research in Progress** — doctoral programs only.

S **Satisfactory** — a satisfactory grade that may be given for thesis, research, independent study, off-campus courses, field experience type courses and in non-credit courses.

W **Withdrawal** — official withdrawal.

Y **Audit** — course for which no credit is given.

YW **Audit Withdrawal** — registered but did not attend through end of course.

Grade Point Average
(Policy 75-2)

Seattle University requires that undergraduate students maintain a C average, which is equivalent to a cumulative 2.00 grade point average on a 4.00 scale. Requirements of professional schools may be higher and individual programs may have special grade requirements.

The grade point average is computed by dividing the total number of quality points achieved by the total number of credit hours attempted in which the student earns a letter grade.

Graduate students must maintain a B average, which is equivalent to a cumulative 3.00 grade point average on a 4.00 scale.

Grade Reports

Student quarterly grade reports are mailed at the end of each quarter. The University does not hold itself responsible for grade report errors unless the Registrar is notified of the error within six months after the date of issue of a grade point.

Majors

Major requirements within each Department or School are outlined in this Bulletin under "Departmental Requirements" or "Degree Requirements."

Minors

(Policy 84-1)

Department or Schools offering undergraduate minors outline specific requirements in this Bulletin under "Departmental Requirements" or "Degree Requirements." Minors are granted with the following conditions:

1. Minors will be posted to a student's record concurrent only with a first undergraduate degree.
2. Minors cannot be earned within the 135 credit MRC II program.
3. The Bulletin under which the student receives an undergraduate degree will stipulate course work for a minor.
4. Minors must include at least 30 quarter credits, including a minimum of 6 courses.
5. A maximum of 15 quarter credits of course work graded C (2.0) or better may be transferred from other regionally accredited post-secondary institutions.
6. No more than 5 quarter credits in a minor can be graded CR/NC. Additionally, the cumulative grade point average for all courses used in the minor can be no less than that applied to majors within the department sponsoring the minor.

Part-Time Student

For academic reporting purposes, fewer than 12 credits per quarter is considered part-time for undergraduate students, while fewer than eight credits per quarter is part-time for graduate students.

Probation

If a student falls below the standard required for graduation, he/she may be placed on probation and given the opportunity to improve the quality of work before final dismissal. A student will be placed on probation if the cumulative grade point average falls below 2.00 or the minimum required by a professional school.

Readmission

(Policy 76-10)

Students who have been absent from Seattle University for one or more quarters are required to fill out an application for readmission. A re-entering student who has attended another postsecondary institution since withdrawing from Seattle University must submit an official transcript to the Registrar before application for readmission can be considered. Credit for courses completed elsewhere may be transferred under the conditions listed under "Transfer of Credit from Other Institutions."

Records

(Policy 76-9)

As required by federal legislation, Seattle University has a policy on the rights of students to privacy of their educational records and access to the information on file. This policy is published annually in the student newspaper. Student directory information will be published by the University unless a student requests in writing that it not be released. Such requests must be filed with the Registrar by the fifth day of any term. Records policy includes the right of the University to place a hold against the transcript of a student with a financial obligation and to deny re-registration until all debts owed the University have been paid. The full policy statement including right of appeal may be obtained from the Registrar.

Registration

Newly admitted students and returning students must register on the dates published.

No registrations are permitted after the fifth class day. A late registration fee is assessed after the first official class day of the quarter. Students registering late are held responsible for absences thus incurred.

No person may attend any University course unless officially registered.

Registration Changes

Students are held accountable for completing every course entered on their registration forms. If it is necessary to drop or add a course, the student must obtain a change form from the Registrar, obtain an adviser's approval and return the signed form to the Registrar by 4:00 p.m. on the fifth class day of each term.

Repeating a Course

(Policy 77-2)

An undergraduate student who receives a grade of C- or below in a course may repeat the course. Some schools and major departments require that students repeat a required course under some conditions. The grade

earned the second time will be posted to the permanent record. The grade earned the second time will be used in computing the cumulative grade point average, although course credits will be counted only once toward a degree. The original grade will remain on the record. No student will be allowed to register for any single required course more than three times including registrations resulting in grades of NC, I and W.

If credit has been granted for a course taken at another institution and then the course is repeated at Seattle University, the transfer credit is revoked and the Seattle U credit and grade are granted. A transfer student who has registered three or more times for a course at another institution without successfully completing it will be allowed to register for the course at Seattle University only once.

A graduate student must repeat a required graduate course graded D+ or below and may repeat a graduate course graded C+ or below only once. The grade earned the second time will be used in computing the grade point average. The original grade will remain on the record.

Transcripts
(Policy 76-3)

Students may obtain official transcripts from the Registrar's office. No official transcript will be released for students with a financial obligation to the University.

Transcripts and other enrollment certifications should be requested at least one week before they are required. Transcripts cannot be issued during the period of registration, examinations, or commencement.

The University is not responsible for any error on a transcript that is not brought to the attention of the Registrar within six months of the closing date of the quarter in which the error occurred.

Transfer of Credit From Other Institutions
(Policies 77-1, 79-1, 75-16, 75-17 and 75-26)

Regular undergraduate students who have attended other colleges may have credits transferred to Seattle University under the following conditions:

1. An official transcript must be filed with the Registrar. Deadlines are as follows:

Courses completed Summer Term	December 1
Courses completed Fall Term	March 1
Courses completed Winter Term	May 1
Courses completed Spring Term	August 1

2. Work graded "D" (1.0) or higher will be allowed for transfer except for departmental requirements in the Schools of Arts and Sciences, Business, Engineering, and Nursing where "C" (2.0) is the minimum.
3. Credit transferred from two-year colleges may be applied to University freshman and sophomore years only. Transfer of such credit may not exceed 90 quarter credits.
4. No credit is transferable from a community college after junior level (90 quarter credits).
5. For admission with advanced standing, no more than 135 quarter credits will be accepted toward a bachelor's degree requiring four years of college study. All transfer students must take at least two courses in their major field of study at Seattle University and meet philosophy and theology requirements. Consult page 26 for a listing of required courses in philosophy and religious studies.
6. The final 45 credits of the degree must be completed at Seattle University.
7. Credit earned through extension courses may be accepted if the institution offering such work is a member of the National University Extension Association. No more than 45 quarter credits of extension credit will be accepted. Credit earned through correspondence shall not exceed 12 quarter credits and must be included in the extension credit total of 45 quarter credits.
8. Credits over 10 years old will be reviewed (Policy 77-1) to determine transferability.
9. Since the SU grade point reflects only work done at this University, the grade point average cannot be improved by repeating elsewhere a course failed at SU.
10. Credits from unaccredited and newly accredited schools and non-traditional programs are subject to additional review prior to being transferred. See Policy 79-1 for additional information.
11. Credits and degrees from branches of degree-granting institutions which reside outside of their regional accrediting bodies are subject to review per Policy 79-1.
12. Credits may be granted for appropriate military training in accordance with Policy 75-26.

Withdrawal

The Registrar's office must be officially notified when a student withdraws from one or more of his/her courses. The withdrawal form is obtained from the Registrar and presented to the adviser, instructor, dean and Registrar in that order for approval and signature. In an emergency, notification of withdrawal may be made by telephoning the dean of the school or Registrar.

The official withdrawal is completed only when the approved card is presented to the Registrar within the specified time limit. A grade of W will be allowed until the eighth class day from the end of the quarter.

Degrees

Official Commencement Exercises are held once a year in June. All responsibility for fulfilling the requirements for graduation rests with the individual student.

Application for a Degree

Application for a degree must be made at the Registrar's Office within the period indicated in the University calendar or other official publications. Candidates for a degree normally file applications during the quarter preceding their final registration. A receipt for the graduation fee must be presented to obtain the necessary application forms.

Application For a Certificate

Application for a certificate must be made at the Registrar's Office within the first four weeks of the student's last quarter in a certificate program. A receipt for the certificate fee must be presented to obtain the necessary application forms.

Degree Requirements—Bachelor's
(Policies 75-1 and 76-2)

Students are held to degree requirements in effect at the time of first enrollment. Students who are readmitted after an absence of one calendar year or who change their majors are held to degree requirements in effect at the time of readmission of change or major. Students may, by academic action, elect to graduate under degree requirements specified in subsequent **Bulletins of Information**; under no circumstances will the requirements from earlier **Bulletins of Information** be applied.

Candidates for an undergraduate degree must meet the requirements listed below:

1. Core curriculum requirements and specific requirements of the college or school from which the student expects to graduate must be fulfilled. A minimum overall grade point average of 2.00 must be achieved and a gpa of 2.00 is required in departmental requirements of the students major. Higher grade point average requirements pertain in certain programs. See individual program section for requirements.
2. A minimum of 180 credits is required for the baccalaureate degree, except for graduates of Matteo Ricci, where 135 credits is the minimum. However, only students matriculating as freshmen beginning September 1963 or later, and transfer students matriculating January 1966 or later, are eligible to graduate with 180 credits. Students who matriculated before these dates will be required to meet minimum requirements in effect at the time they were last enrolled as full time students.
3. A minimum of 15 credits in philosophy and 10 credits in theology and religious studies are required in all degree programs. See page 26 for specific requirements.
4. The senior year must be spent in residence at the University, which shall be understood to mean the final 45 credits of degree requirements. Such work is to be taken in the University under the direction of members of the faculty. In the case of Seattle University students enrolled in AFROTC at the University of Washington this requirement may be waived for Aerospace studies.
5. All degree requirements must be completed within 10 years of the date on which the college work was begun.
6. Financial obligations toward the University must be satisfied.
7. Students working for a second baccalaureate degree, either consecutively or concurrently, must complete a minimum of 45 credits beyond the requirements of the first baccalaureate degree and complete all specific requirements of the new program. These 45 credits must be completed in residence at Seattle University.

   A minimum of one course (5 credits) in philosophy and one course in theology and religious studies (5 credits) is required. Students who complete this minimum of 10 credits in philosophy and theology and religious studies at Seattle University or elsewhere as part of a first bachelor's degree have fulfilled this requirement.

Honors at Graduation
(Policies 75-12 and 75-21)

Graduation with honors requires completion of a minimum of 90 credits in residence at Seattle University; in courses graded A through D. Should a student elect the CR/NC option for any one course as part of the 90 credit minimum, honors eligibility is forfeited. In programs where CR/NC grades are mandatory for required courses, such courses may be allowed toward the minimum 90 credits, but no student may be considered for honors with less than 80 graded credits. Petitions for honors under this condition must be filed with the Dean and the Registrar by May 1.

For students graduating through June 1988:

Cum Laude	3.40
Magna Cum Laude	3.65
Summa Cum Laude	3.90

For students graduating August 1988 or later:

Cum Laude	3.50 and at least 90 SU graded credits
Magna Cum Laude	3.70 and at least 115 SU graded credits
Summa Cum Laude	3.90 and at least 135 SU graded credits

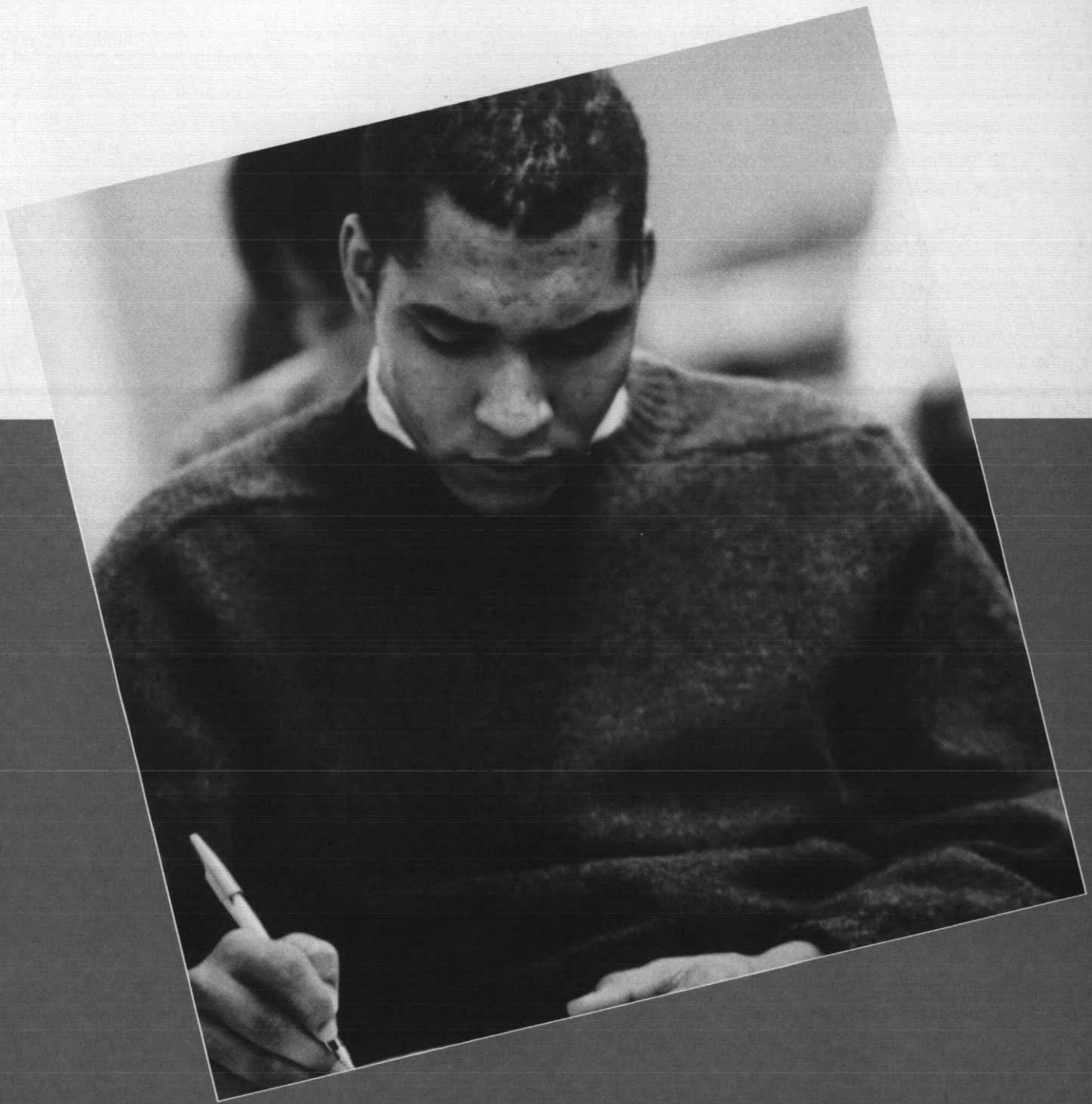
Special Awards

The President's Award — Awarded to the graduating senior who has maintained the highest scholarship throughout four years of college work, as determined by grades and the judgment of the academic deans.

Index of Discipline Codes

AH	ALLIED HEALTH
ALC	ALCOHOL STUDIES
ART	ART
BL	BIOLOGY
BUS	BUSINESS
CH	CHEMISTRY
CJP	CRIMINAL JUSTICE
CSC	COMPUTER SCIENCE
DR	DRAMA
EC	ECONOMICS
ECL	CIVIL ENGINEERING
ED	EDUCATION
EEL	ELECTRICAL ENGINEERING
EML	MECHANICAL ENGINEERING
EN	ENGLISH
ESW	SOFTWARE ENGINEERING
FA	FINE ARTS
FL	FOREIGN LANGUAGE
FR	FRENCH
GK	GREEK
GR	GERMAN
HI	HEALTH INFORMATION
HS	HISTORY
HU	HUMANITIES (HONORS)
HUM	HUMANITIES (MATTEO RICCI COLLEGE)
ISC	INTERDISCIPLINARY SCIENCE (SEE GENERAL SCIENCE)
ITS	INSTITUTE FOR THEOLOGICAL STUDIES
JR	JOURNALISM
LT	LATIN
MS	MILITARY SCIENCE
MT	MATHEMATICS
MU	MUSIC
N	NURSING
PH	PHYSICS
PL	PHILOSOPHY
PLS	POLITICAL SCIENCE
PSY	PSYCHOLOGY
PUB	PUBLIC SERVICE
RHB	REHABILITATION
RS	THEOLOGY AND RELIGIOUS STUDIES
SC	SOCIOLOGY
SP	SPANISH
SPH	SPEECH

Core Curriculum



A New Model Core Curriculum For Seattle University

"A Jesuit Liberal arts education assumes that you become what you desire. All the courses in art and literature, in mathematics and science, in history, economics or business, in philosophy or theology aim at helping you clarify, broaden and deepen your most important question in life: 'What do you REALLY want?' When that question is deepened, most of us discover that what we really want is the knowledge, skills, and power to build a world of justice and love."

John Topel, S.J., Vice President for Academic Affairs

The New Model Core Curriculum introduces all Seattle University students to the unique tradition of Jesuit liberal education. The curriculum results from four years of discussion and work by over 100 faculty and administrators in response to a call by students and teachers for a more integrated way of learning. In accord with Seattle University's Mission Statement, the New Model Core Curriculum has three aims:

1. To develop the whole person for a life of service.
2. To provide a foundation for questioning and learning in any major or profession throughout one's entire life.
3. To give a common intellectual experience to all Seattle University students.

This New Model Core Curriculum has several new characteristics:

- It provides an integrated freshman year and a special orientation for all students
- It gives order and sequence to student learning
- It provides experience in the methods and content of the range of liberal arts, sciences, philosophy, and theology
- It calls in all classes for active learning, for practice in writing and thinking, and for an awareness of values
- It encourages a global perspective and a sense of social and personal responsibility.

The New Model Core Curriculum provides this ordered experience in three phases.

PHASE ONE ('Foundations of Wisdom') gives a student the basis to move from experience to understanding and then to critical judgment and responsible choices. The goal of this first phase is to develop several foundations of liberal learning:

A. Foundational habits — facility in asking the right questions, in critical and creative thinking, in writing and speaking skills, and in mathematical literacy.

B. Foundations of culture — familiarity with the basic ways of knowing through a study of Western civilization, primarily in its history, literature, science, and fine arts.

PHASE TWO ('Person in Society') helps a student to expand horizons by confronting major modern issues. Here the student learns to interpret and to make judgments through the methods used in the human science, philosophy, and religious studies. Building on the foundational skills and awareness of literature, history, science, and fine arts (from Phase One), the student delves into the issues and questions raised by economics, political science, psychology, and sociology. Along with this study, he or she also discovers the philosophical and theological assumptions which underlie the patterns of human experience in society today.

PHASE THREE ('Responsibility and Service') has a new goal: to help the student prepare more directly for a life of service in the light of authentic human and Christian values. The first course in this phase is an ethics course, which is followed by a second theology course. In addition, the student takes one interdisciplinary course which addresses a major contemporary problem from a number of approaches. Finally, the student concludes his or her university education with a Senior Synthesis which ties together liberal learning with professional studies. What is special about Phase Three is its emphasis on evaluative activities which are an essential part of responsible service.

How do these parts of the core curriculum fit together? Since many of the courses are prepared by teams of teachers, the courses connect with one another and build in sequence so that the student gets a sense of putting things together. In Phase One, the courses in writing and critical thinking as well as the courses in history and literature are connected and taught to the same groups of students in 'clusters' or 'sequences' of ten credits each. The same connections are made in Phase Two between the Philosophy of the Person and the first Social Science course. Finally, the entire curriculum begins with an Orientation in the first quarter and ends with an Interdisciplinary course and a Senior Synthesis in the final year.

A special adaptation of the four-year core curriculum is being prepared to meet the needs of transfer students.

The NEW CORE CURRICULUM

Students at Seattle University take a basic program of liberal studies courses called the core curriculum. Additional requirements, exceptions, and stipulated courses are established by the schools and departments of the University and those sections of this Bulletin should be consulted before choosing core courses. Check course descriptions in the respective departmental sections for prerequisites. All courses fulfilling core requirements must be taken for a letter grade. For each student, no individual course may fulfill more than one core curriculum requirement.

The following three-phased core curriculum is required of all students entering as first year students in 1987-88. The two sequences in Phase One must normally be completed before a student may take courses in Phase Two. All of Phase Two must be completed before a student begins Phase Three. Exceptions to taking the core curriculum in sequence or in phases must have permission of the Dean of Arts and Sciences or the Director of the Core Curriculum. (Transfer students entering Seattle University in 1987-88 are to complete requirements of the previous Core Curriculum as outlined on page 28.

Phase One: Foundations of Wisdom

WRITING/THINKING SEQUENCE ..... 10 credits

EN 110	**Freshman English: Effective Thinking and Writing**	**5 credits**
PL 110	**Introduction to Philosophy and Critical Thinking**	**5 credits**

These two courses are to be taken in sequence in a 10 credit block during the Fall and Winter quarters of the freshman year. A one hour non-credit seminar, Orientation to the University, is required of all first year students.

HISTORY/LITERATURE SEQUENCE ..... 10 credits

HS 120-129	**Introduction to Western Civilization**	**5 credits**
EN 120-129	**Masterpieces of Literature**	**5 credits**

These two courses are to be taken in sequence or a cluster in a 10 credit correlated block during the Winter and Spring quarters of the freshman year. (Students in the School of Science and Engineering may take this sequence in Spring of the first year and Fall of the second year).

MATHEMATICS ..... 5 credits

Any 5 credit course in mathematics on the 100 level (or above) for which the student is qualified.

SCIENCE ..... 5 credits

Any 5 credit laboratory science course for which the student is qualified.

FINE ARTS ..... 5 credits

FA 120	**Exploration in the Arts**	**5 credits**

Phase Two: Studies of 'Person in Society'

STUDY OF PERSON SEQUENCE ..... 10 credits

PL 220	**Philosophy of the Human Person**	**5 credits**
PSY 120-9 (or) SC 120-9 (or) EC 120-9 (or) PLS 120-9		**5 credits**

These two courses are normally to be taken in sequence or in a cluster in a 10 credit block.

SOCIAL SCIENCE II ..... 5 credits

Any 5 credit course from among the following courses, as long as the discipline chosen is different from that taken in the preceding sequence:

PSY 220-9	**Person in Society: Psychology**	**5 credits**
SC 220-9	**Person in Society: Sociology**	**5 credits**
EC 220-9	**Person in Society: Economics**	**5 credits**
PLS 220-9	**Person in Society: Political Science**	**5 credits**

THEOLOGY AND RELIGIOUS STUDIES I ..... 5 credits

Any approved 5-credit course selected from RS 200-299

Phase Three: Responsibility and Service

ETHICS ..... 5 credits

Students have the option to select one of the following:

PL 250	**Ethics**	**5 credits**
PL 252	**Business Ethics**	**5 credits**
PL 255	**Medical Ethics**	**5 credits**
PL 256	**Engineering Ethics**	**5 credits**
PL 257	**Ethics and Criminal Justice**	**5 credits**

THEOLOGY AND RELIGIOUS STUDIES II ..... 5 credits

Any approved 5 credit courses selected from RS 300-399

INTERDISCIPLINARY COURSE ..... 3 — 5 credits

Any 3-5 credits which deal with a contemporary issue from a multidisciplinary perspective. A list of approved interdisciplinary courses will be published each quarter.

SENIOR SYNTHESIS ..... 3 credits

Any 3 credit course or project approved by the student's major department as fulfilling the objectives of the Senior Synthesis requirement.

The CORE CURRICULUM*

*This core curriculum applies only to transfer students and students enrolled prior to fall 1987.

Students at Seattle University take a basic program of liberal studies courses called the core curriculum. Additional requirements, exceptions and stipulated courses are established by the schools and departments of the University and those sections of this Bulletin should be consulted before choosing core courses. Check course descriptions in the respective departmental sections for prerequisites. All courses fulfilling core requirements must be taken for a letter grade.

Core Exceptions

Business, engineering, nursing and science students should consult individual program sections for their history, philosophy and social science requirements.

Required Sequences

ENGLISH SEQUENCE ..... 10 credits

EN 110 Freshman English ..... 5 credits

and any one of the following:

EN 132 Masterpieces of American Literature ..... 5 credits
EN 133 Masterpieces of World Literature ..... 5 credits
EN 175 Introduction to Literature ..... 5 credits
EN 230 Introduction to Fiction ..... 5 credits
EN 240 Introduction to Drama ..... 5 credits
EN 283 Classics of Black American Literature ..... 5 credits

HISTORY SEQUENCE ..... 10 credits

Students have the option to select one of the following:
Plan 1 — Hs 104: Western Civilization I and Hs 105: Western Civilization II

Plan 2 — Hs 104 and any of the following: Hs 231: Survey of the United States; Hs 241: Afro-American History; Hs 271: Survey of Russian History; Hs 281: Survey of the Far East since 1900.

Plan 3 — Hs 105 and any of the following: Hs 231: Survey of the United States; Hs 241: Afro-American History; Hs 271: Survey of Russian History; Hs 281: Survey of the Far East since 1900.

MATHEMATICS/SCIENCE SEQUENCE ..... 10 credits

Any two 5-credit courses in mathematics, science or engineering for which the student is qualified. The following are recommended:

BL 101 Principles of Biology ..... 5 credits
BL 182 Elementary Human Anatomy and Biology ... 5 credits
BL 185 Biology of Human Sexuality ..... 5 credits
BL 190 Principles of Physical Anthropology ..... 5 credits
CH 110 Fundamentals of Chemistry ..... 5 credits
CSC 113 Introductory Programming with BASIC ..... 5 credits
CSC 114 Introductory Programming with FORTRAN ..... 5 credits
ISC 110 Science, Technology and Society ..... 5 credits
ISC 201 To Feed the World ..... 5 credits
ISC 202 To See the Light ..... 5 credits
ISC 205 Biophysical Principles ..... 5 credits
ISC 207 Air and Water ..... 5 credits
ISC 208 Sun, Food and People ..... 5 credits
ICS 209 Energy and Mineral Resources ..... 5 credits
HI 230 Health Care Delivery System ..... 5 credits
MT 175 Mathematics for the Liberal Arts Student ..... 5 credits
PH 110 Introduction to Astronomy of the Solar System ..... 5 credits
PH 111 Introductory Stellar Astronomy ..... 5 credits

Business, nursing, mathematics, engineering and science majors should consult their departmental programs for mathematics/science requirements.

PHILOSOPHY SEQUENCE ..... 15 credits

PL 110 Philosophical Problems — The World ..... 5 credits
PL 220 Philosophical Problems — The Human Person ..... 5 credits

and any other 5-credit course in philosophy for which the student is qualified. Consult the course listing in the Philosophy department section of this Bulletin for third course options.

Transfer students with junior or senior standing (90 or more credits) are usually required to take two philosophy courses after transferring. Transfer students with freshman or sophomore standing (89 or fewer credits) are usually required to take three philosophy courses.

SOCIAL SCIENCE SEQUENCE ..... 10 credits

Any two 5-credit courses in economics, political science, psychology and/or sociology for which the student is qualified, excluding courses in statistics or research methods or design. Students who major in one of the social science disciplines must select two courses outside of their major department. The following are recommended:

EC 100 Nature of Economic Society ..... 5 credits
EC 271 Principles of Economics — Macro ..... 5 credits
EC 272 Principles of Economics — Micro ..... 5 credits
EC 371 History of Economic Thought ..... 5 credits
PLS 100 American National Government ..... 5 credits
PLS 202 Government and the Economy ..... 5 credits
PLS 208 The Judicial Process ..... 5 credits
PLS 210 Introduction to Local/State Politics ..... 5 credits
PLS 230 Industrial Democracies ..... 5 credits
PLS 260 Introduction to International Politics ..... 5 credits
PLS 253 Introduction to Political Philosophy ..... 5 credits
PSY 100 Introductory Psychology ..... 5 credits
PSY 210 Personality Adjustment ..... 5 credits
PSY 315 Abnormal Psychology ..... 5 credits
PSY 322 Psychology of Growth and Development ..... 5 credits
SC 101 Fundamentals of Sociology I ..... 5 credits
SC 200 Perspectives in Social Psychology ..... 5 credits
SC 210 American Society and Culture ..... 5 credits
SC 362 Deviant Behavior ..... 5 credits

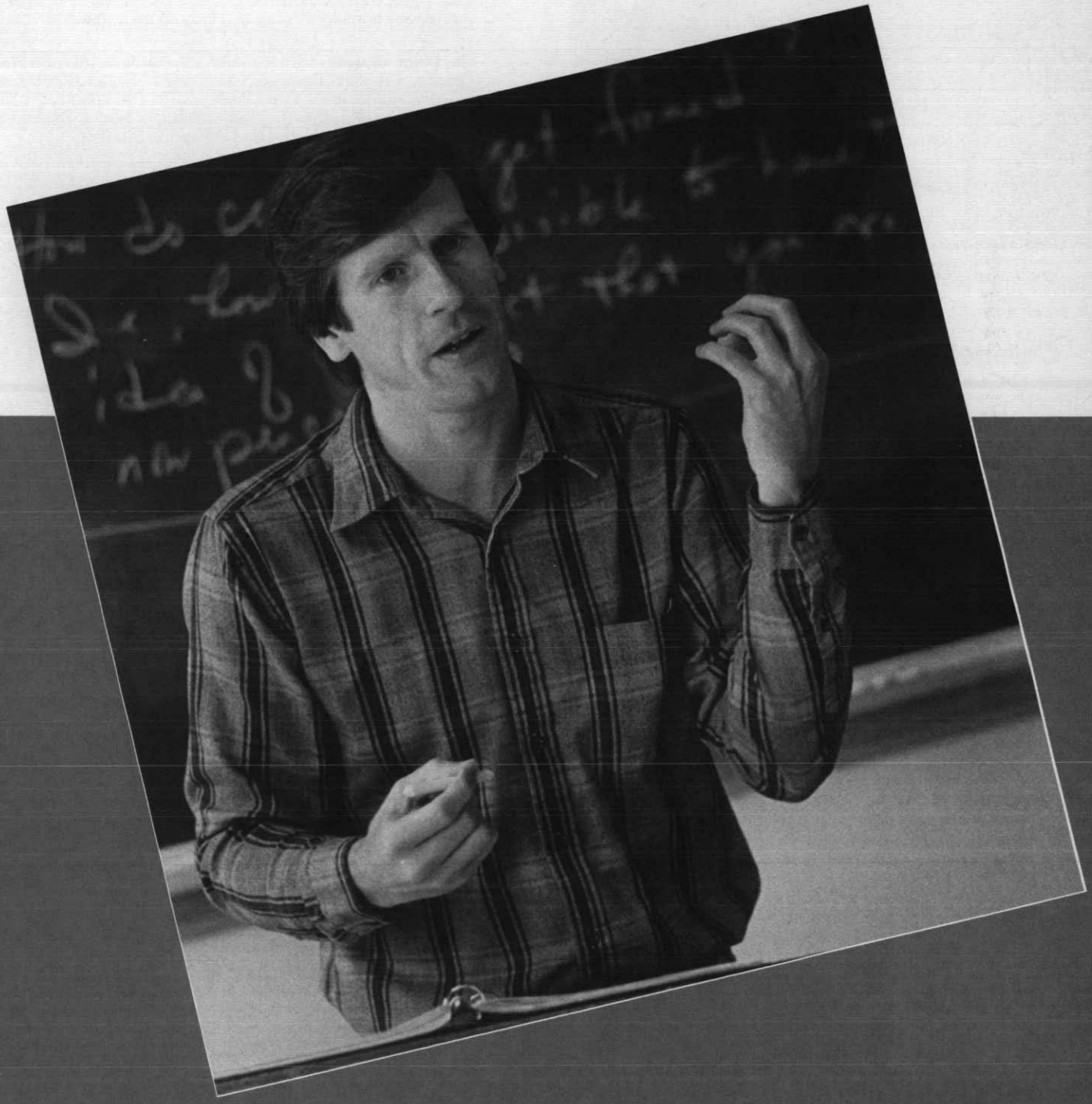
THEOLOGY AND RELIGIOUS STUDIES SEQUENCE ..... 10 credits

Students must take in sequence one 5-credit course from Level 1 (200 numbers in the Bulletin listings) and one from Level 2 (300 numbers). Numbers in the 400s are for majors, minors and for those desiring electives beyond the core.

Students should begin their theology sequence in the Sophomore Year or later and should have taken some philosophy courses.

Transfer students with junior or senior standing (90 or more credits) must take one theology course from Level 1 or the level their background fits them for (consult the Chairperson). Transfer students with freshman or sophomore standing (89 or fewer credits) must take two theology courses, one from Level 1 and one from Level 2, in sequence.

College of Arts and Sciences



College of Arts and Sciences

G. David Pollick, Ph.D., Dean

Objectives

The College of Arts and Sciences, the largest undergraduate division of Seattle University, is dedicated to the ideal that a liberal education in the arts and sciences best prepares a student for a rich and fruitful life. The philosophy upon which the College is based is one which recognizes not only that its students must be prepared to make a living, but live fully, in a rapidly moving and complex world. All undergraduate students in the University take core courses in the College, for in them are found the intellectual, social, cultural and spiritual riches of Western civilization.

The College aims at developing not only depth in some one area of knowledge, but also the breadth of learning, understanding and truth which is essential to a rich human life. The student is led, by means of the various academic disciplines, to see the world in its major aspects of reality. Students are helped to discover the interrelationships of the physical, social, and artistic dimensions of the world, along with their own relationship to the world—especially their power and responsibility to shape it for their future.

Organization

The College comprises 18 administrative subdivisions, of which 12 are departments in a specific academic subject. The departments are English, Fine Arts, Foreign Languages, History, Journalism, Military Science, Philosophy, Political Science, Psychology, Rehabilitation, Sociology, Theology and Religious Studies.

The program divisions are Criminal Justice, General Studies, Global Studies, Honors, Prelaw and Speech.

Certificate programs are offered in Alcohol Studies, Rehabilitation and Sociology.

Each department chairperson or program director, in collaboration with proper or assigned faculty, arranges study programs and counsels individual students. All programs are coordinated and supervised by the Dean of the College. Students wishing to inquire about programs in detail should consult either the Dean or the respective department chairperson or program director.

Admission Requirements

Students entering the College must satisfy all entrance requirements for the University as outlined in the Admission section in this bulletin. In addition, some departments list further requirements for admission into certain major programs. Concerning these the respective departmental sections in this bulletin should be consulted.

Bachelor of Arts with a major in: Art, Criminal Justice, Drama, English, Foreign Languages, General Studies, History, Humanities, Journalism, Music, Philosophy, Political Science, Psychology, Rehabilitation, Social Sciences, Sociology and Theology and Religious Studies.

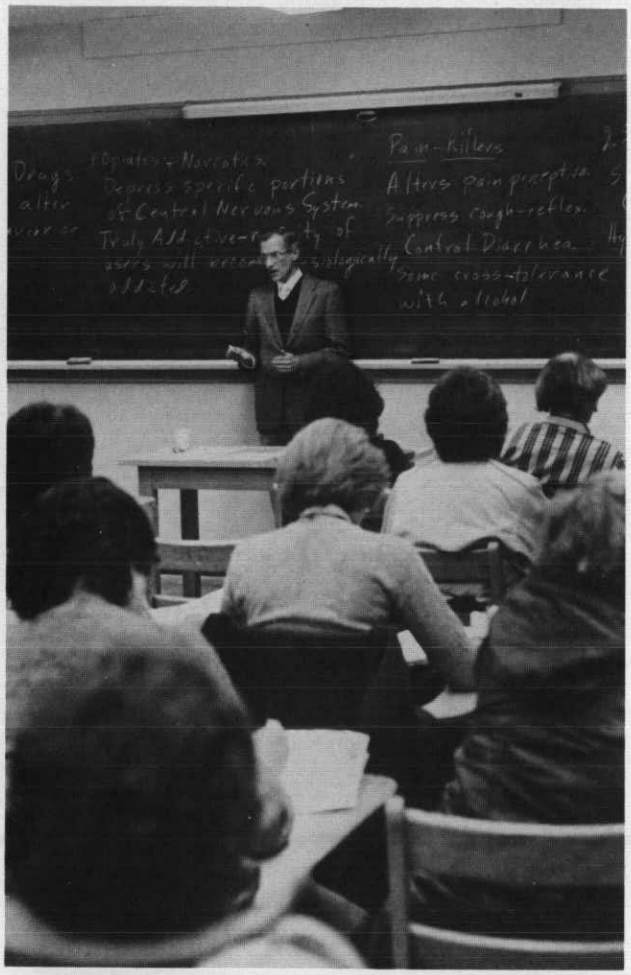
General Program Requirements

Students in the College of Arts and Sciences must satisfy the core curriculum requirements of the University given on pages 26-28 of this bulletin. An additional requirement of FA 120 is also required of all students.

Additional specific requirements are set by the department or program division in which the student's major program is pursued. For these requirements consult the respective sections in this bulletin.

Subject Majors

In all programs having a specific subject major, the number of required courses and hours varies according to the department or program division. The minimal number required in any subject major is 40 hours; majors in departments having core sequences must consist of 35 hours beyond the core sequence.



Alcohol Studies Programs

Jerome V. Schnell, Ph.D., Director

Objectives

This program is designed to provide a strong background for work in alcoholism and drug abuse treatment and rehabilitation, in education and prevention, in social services agencies, in industry or in referral centers.

It also supplements the training of degreed professionals as well as students preparing to work in psychiatry or psychology, nursing, social work, rehabilitation, criminal justice, community services or allied fields.

Degree Programs

The B.A. in Social Science with a Specialty in Alcohol Studies includes both the Certificate in Alcohol/Drug Studies and the Advanced Certificate (minimum of 41 credits of the 65 beyond the core, as in General Studies Program). The Certificate in Alcohol/Drug Studies may also be a part of the B.A. in Rehabilitation, Psychology, or Criminal Justice.

Master's degrees with a Specialty in Alcohol Studies may be earned in Rehabilitation or Counseling; field experiences must be done under the appropriate graduate programs instead of ALC 407-408, but will also count for the Certificate.

Certificate in Alcohol/Drug Studies

A Certificate in Alcohol/Drug Studies will be granted upon successful completion of 25 credits, which must include the following courses: Alc 400 (or Psy 490), 401, 402, 403, 405, 407, 408, 424, 425, with a 2.50 minimum g.p.a.

Certificate candidates may register as transient students. The Certificate in Alcohol/Drug Studies is a combination of classroom instruction (19 credits) and supervised field experience (6 credits) under experienced counselors. One of the field experiences must be taken in an approved alcoholism agency, and the other in an approved drug abuse agency. A Certificate program should be completed within three years.

Advanced Certificate in Alcohol/Drug Studies

An Advanced Certificate in Alcohol/Drug Studies is granted upon completion of 16 credits in approved alcohol-related courses with a minimum g.p.a. of 3.00, beyond the 25 credits applied to the above certificate. A new application must be submitted and only those who earned the Certificate in Alcohol/Drug Studies with a minimum g.p.a. of 3.00 will be considered as candidates for the Advanced Certificate.

Alcoholism and Drug Abuse Courses

ALC 400 (PSY 490) **Survey of Alcoholism (Symposium)** **3 credits**
History, scope, physiological, social, psychological and family aspects of alcohol problems. Drunk driving. Progression, symptoms, types of alcoholics. Nature of the addiction: disease concept, causality, treatment, prevention.

ALC 401 **Pharmacology and Physiology of Alcohol Use** **2 credits**
Ingestion, absorption, metabolism. Effects of different blood alcohol levels. Psychiatric complications: damage to brain, liver and other organs. Evaluation of results. Prerequisite: Alc 400.

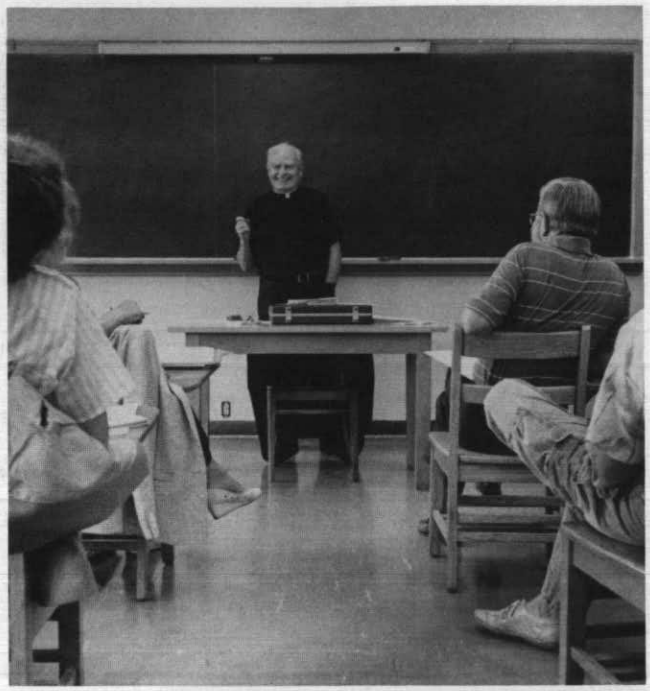
ALC 402 **Counseling Principles and Techniques** **4 credits**
Interview techniques. Intake and intervention vs. long-range therapy. Supportive, motivational, directive vs. non-directive counseling. Confrontation, role-playing, video-tape playback. Prerequisite: Alc 400.

ALC 403 **Personal and Social Rehabilitation** **2 credits**
Motivation and personality reconstruction in the recovering alcoholic. Post-detoxication, long-range sobriety; relapses, dry drunk. Spiritual aspects. Family and social adjustments. Prerequisite: Alc 400.

ALC 404 **Agency Administration** **2 credits**
Personnnel policies, budgeting, financing, office management, public relations, ethics. Informational and educational policies. Relations with school systems, courts, professions and agencies, clergy. Prerequisite: Alc 400.

ALC 405 **The Law and Alcohol** **2 credits**
Legal implications and consequences of alcohol-related offenses. Deferred prosecution. Uniform Alcoholism and Intoxication Act. Impaired driving laws. Court structure and jurisdictions. Prerequisite: Alc 400.

ALC 406 **Cross-Cultural Counseling** **2 credits**
Special problems and techniques, understanding of cultural background and instruction by members of minority groups. Prerequisite: Alc 400 and 402.



ALC 407 Field Experience I **3 credits**
Supervised work in an agency, clinic, rehabilitation center, referral center. Oral and written reports by student required. Prerequisite: Alc 400 and 402. Mandatory CR/NC

ALC 408 Field Experience II **3 credits**
Prerequisite: Alc 407. Mandatory CR/NC

ALC 410 Individual Research **1-3 credits**
Open only to students with sufficient academic background to pursue independent study. Permission of director required.

ALC 411 Advanced Counseling **2 credits**
Instruction and supervised practice in counseling techniques of special value in counseling alcoholics. Playback video tape equipment used. Two and one-half hours per week. Prerequisite: Alc 402.

ALC 412 Group Dynamics in Treatment **2 credits**
Role playing as a means to development of self awareness; dynamics of group interaction; introduction to psychodrama. Two and one-half hours per week. Prerequisites: Alc 402, 403 and 407.

ALC 413 Alcoholism Schools Workshop **2 credits**
Goals, methods, and skills in teaching Alcohol Information Schools (AIS) and follow-up classes, and court referral schools for those driving while intoxicated (DWI). Problems with defensive and hostile clients. Prerequisite: Alc 400 or equivalent.

ALC 414 Interview and Diagnosis in Treatment **2 credits**
Procedures and skills used in alcoholism referral and treatment agencies. Intake interview, client evaluation, case-writing, pre-sentence report, record-keeping and confidentiality. Prerequisite: Alc 402.

ALC 415 Modes of Therapy in Treatment **2 credits**
Overview of various therapies commonly used with recovered alcoholics and their spouses. Theory, principles and application of techniques. Individual and group practice. Prerequisites: Alc 403 and Alc 407.

ALC 416 Alcohol and Youth: Education, Problems, Prevention **2 credits**
Alcohol-related problems among young people, stressing education and prevention. Teen-age alcoholics, children of alcoholics, polydrug abuse and the young drinking driver.

ALC 417 Employee Assistance Programs **2 credits**
EAP's offer assistance via assessment and referral services to all employees troubled by alcoholism, other forms of drug abuse, emotional distress, family crises or other problems. The course will include: formulating and promulgating a company-wide policy; implementing programs; training supervisors; and evaluating success and cost-effectiveness. Prerequisites: Alc 400.

ALC 418 Alcoholism and The Family **2 credits**
Alcohol-related problems in the family, including alcoholic, spouse, children and significant others. Individual and group counseling. Married couples and team approach as alternatives. Prerequisite: Alc 402 and 403.

ALC 419 Advanced Physiology and Pharmacology of Alcohol and Other Drugs **2 credits**
Current research and thought regarding the effects of alcohol on all body tissues, with implications for treatment. Fetal alcohol syndrome, brain, liver, endocrine and other damage. Prerequisite: Alc 401.

ALC 420 Alcoholism and Drug Abuse Seminar **2 credits**
An advanced seminar on selected current topics in alcoholism and alcohol-related problems. Prerequisite: 10 credits in Alcohol Studies, and permission of Director.

ALC 421 Advanced Project or Research **2-5 credits**
Replication, original research, or scholarly investigation which demonstrates mastery of basic fact-finding, experimental design, evaluation and presentation of results. A graduate project or master's thesis will substitute. Prerequisite: Basic Certificate in Alcohol Studies, and permission.

ALC 422 Alcoholics Anonymous as a Resource **1-2 credits**
History, structure, traditions and program of A.A. Psychology of the 12 Steps. Use of A.A. as a treatment resource; cooperation without affiliation.

ALC 424 Drug Abuse: Social Aspects **2 credits**
History, scope, classification of drugs, legal aspects. Patterns of use, abuse, and addiction. Treatment, recovery and rehabilitation methods and strategies. Prerequisite: Alc 400.

ALC 425 Drug Abuse: Physiological Aspects **2 credits**
Pharmacology and physiology of drug action. Prescription and non-prescription drugs. Interactions among drugs, polydrug abuse. Actions of drugs on the central nervous system. Recovery from addiction. Prerequisites: Alc 401 and 424.

ALC 491 Special Topics **1-5 credits**
ALC 492 Special Topics **1-5 credits**
ALC 493 Special Topics **1-5 credits**

Criminal Justice

Michael M. Kelliher, S.J., D.Crim., Director

Objectives

The Criminal Justice degree program seeks to offer academic preparation for professional performance in expanding criminal justice system roles requiring a new scope of involvement and a spirit of inquiry; to provide an educational background in operational and managerial concepts and techniques in preparation for future positions of increasing responsibility in the management of criminal justice services; to provide students with a liberal arts education; to contribute significantly to the improvement of the quality of law enforcement services; and to assist a student in gaining a broad but incisive view of the theories, practices, and problems of criminal justice systems to include research techniques and strategies.

Graduates of the program may qualify for careers in public and private law enforcement, crime prevention, juvenile justice facilities and programs, corrections, law enforcement training, education and planning, and other components of the criminal justice system including law school and the subsequent practice of law.

Degree Offered

Bachelor of Criminal Justice

General Program Requirements

Candidates must satisfy the core curriculum requirements of the University as given on pages 26-28 of this bulletin. Because of the interdisciplinary nature of the degree program, majors are required to take 15 credits in sociology; 15 in political science; 15 credits in psychology; and 10 credits in economics.

Degree Requirements

Bachelor of Criminal Justice — 55 credits in CJP, or approved related courses.

A minor in Criminal Justice consists of 35 credits in CJP or approved related courses.

Bachelor of Criminal Justice

Freshman and Sophomore years

Criminal Justice	10 credits
Economics	5 credits
English 110/Philosophy 110 Sequence	10 credits
Fine Arts 120	5 credits
History 120/English 120 Sequence	10 credits
Lab Science	5 credits
Mathematics	5 credits
Philosophy 220/Social Science I Sequence	10 credits
Political Science	5 credits
Psychology	5 credits
Social Science II	5 credits
Sociology	5 credits
Theology I	5 credits
Elective	5 credits

Junior year

Criminal Justice	10 credits
Economics	5 credits
Ethics	5 credits
Political Science	5 credits
Psychology	5 credits
Sociology	10 credits
Theology II	5 credits

Senior year

Criminal Justice	35 credits
Interdisciplinary Course	5 credits
Senior Synthesis	3 credits
Electives	2 credits
Total	180 credits

Criminal Justice Courses

CJP 291 Special Topics **1-5 credits**
CJP 292 Special Topics **1-5 credits**
CJP 293 Special Topics **1-5 credits**

CJP 310 Law Enforcement Public Policies **5 credits**
Discussion of public policy analytic models and application to Federal, state and local law enforcement agencies.

CJP 325 Criminal Law **5 credits**
Study of the criminal law processes from detention to appeal; State and Federal rules of criminal procedure. Understanding of policies underlying those rules.

CJP 350 Police and the Community **5 credits**
(SC 351) The role of police in the community; relationships with individuals, groups and community organizations. Analysis of ethnic, cultural and economic differences as factors in the administration of justice.

CJP 352 Comparative Police Systems **5 credits**
Comparative analysis of police systems in the United States and selected foreign countries; emphasis on the organizational aspects, functions and process at work in foreign police systems.

CJP 355 Crime Prevention **5 credits**
Nature and causes of crime and deviant behavior; analysis of theory and methods of prevention; planning for elimination of conditions conducive to crime including demographic and ecological factors.

CJP 360 Society and Justice **5 credits**
(SC 352) Survey of criminal justice process from arrest through release; the relationships of the police, the prosecutor, the defense, the courts, the prisons and corrections, as each integrates into a system.

CJP 362 Deviant Behavior **5 credits**
(SC 362) An overview of what American society generally regards as deviant behavior. Emphasis is placed on the results of stigmatization and the acceptance of low self-esteem.

CJP 365 Probation and Parole **5 credits**
(SC 365) Examination of current trends and issues in probation, parole, supervision, the legal aspects, research, prediction and personnel.

CJP 366 (SC 366) Corrections **5 credits**
Analysis of post-arrest treatment methods applied to offenders; the correctional institution and community-based corrections. Prerequisite: Upper division standing or permission.

CJP 378 Field Experience I **1-5 credits**
CJP 379 Field Experience II **1-5 credits**
Direct observation, supervised practical experience and academic study in a selected law enforcement agency or organization in the criminal justice system.

CJP 410 (SC 412) Juvenile Justice Systems **5 credits**
Examination and study of contemporary police-juvenile operations. Theory and examination of the Juvenile Justice System. Relationship between the juvenile-officer, crime prevention and community relations.

CJP 412 Professional Criminal **5 credits**
Analysis of professional crime from the viewpoint of the sociology of work; the professional criminal's utilization of technological change and Criminal Justice System responses.

CJP 415 (SC 415) Victimology **5 credits**
Survey of the victim-offender relationship; including the origin and scope of victimology, a victim and society, the victim and the administration of justice and the social reaction to victimization.

CJP 418 Sexual Deviance and The Law **2-5 credits**
Analysis of definition problems, formal, legal and social constraints, and the Criminal Justice System's reaction to deviants.

CJP 425 Problems of Public Service Bureaucracies **5 credits**
Descriptive analysis of the administrative side of large scale post-industrial governments. Emphasis upon coordination and conflict resolution through the budgeting and planning processes.

CJP 450 Politics of the Criminal Justice System **5 credits**
The relationship of political values and partisan influence in the criminal justice system including courts, prosecutors, attorneys and pressure groups.

CJP 455 Criminal Justice System Planning **5 credits**
Methodology of systems planning, theories of analysis and problems of program evaluation with special attention to the criminal justice system.

CJP 460 Management Theory and Organizational Behavior **5 credits**
Tracing the development of large government bureaucracy and analysis of controlling theories. Problems in Criminal Justice Systems as functions of bureaucracy and bureaucratic conflict.

CJP 491 Special Topics **1-5 credits**
CJP 492 Special Topics **1-5 credits**
CJP 493 Special Topics **1-5 credits**
Prerequisite: Upper division standing and permission.

CJP 496 Independent Study **1-5 credits**
CJP 497 Independent Study **1-5 credits**
CJP 498 Independent Study **1-5 credits**
Prerequisite: Upper division standing and permission.

Economics

Hildegard R. Hendrickson, Ph.D., Chairperson

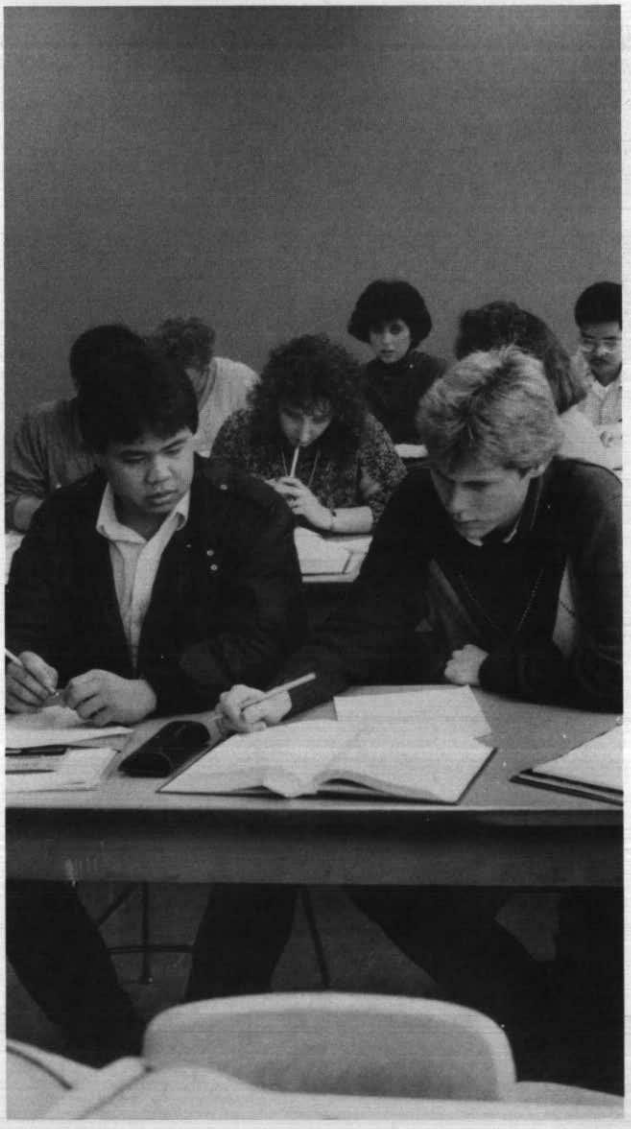
Objectives

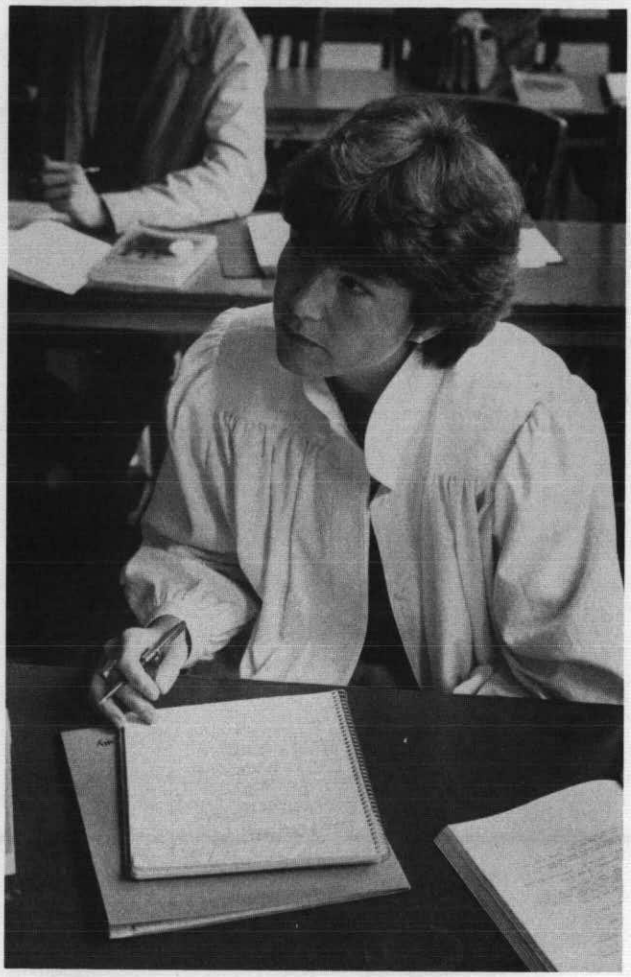
The courses in economics are designed to acquaint the student with the economy in which he/she lives and to relate these courses to all other social sciences. The analytical approach in the economics courses provides the students with the tools of analysis necessary to solve problems and make decisions in the government and private sectors. The major courses cover topics such as economic fluctuations, income distribution, domestic and international finance, urban problems, labor relations, and economic systems.

Students who prove especially able in economics courses are encouraged to pursue graduate work in preparation for professional status as economists in government, industry or the academic world.

Degree Offered

Bachelor of Arts in Economics
(See page 77 for detailed information.)





English

Emmett Carroll, S.J., D.A., Chairperson

Objectives

The English Department offers courses in three areas: English language, writing/rhetoric, and literature. In language courses the student learns the morphology, vocabulary, syntax, and development of English. From the writing/rhetoric courses the student learns to analyze and use the language of exposition, argumentation, and persuasion; to write with effectiveness and assurance; to write with creativity and imagination in factual, fictional, and poetical modes. By the literature courses a student lives the vicarious lives of imaginatively created characters; the student thus grows in understanding of self and of human nature, in a knowledge of the culture inherited from the Western and Eastern worlds.

In the practical order an undergraduate concentration in English affords the student training in skills which will be crucial in such fields as law, social work, business, foreign service, health professions, teaching, mass communications, politics, journalism, library science, technical writing, and editing.

Degree Offered

Bachelor of Arts

General Program Requirements

Students majoring in English must satisfy the core curriculum requirements of the University which are listed on pages 26-28 of this Bulletin. English majors may petition to fulfill the core's literature requirement by taking one of these courses En 250, 264, 265 or 266. Students who plan eventually to enter graduate school in English should take 10 credits of either French or German to achieve a foreign language reading proficiency.

Departmental Requirements

Bachelor of Arts (English concentration) — 60 credits of English which must include the following courses: En 110 (or 200), 250, 264, 265, 266, 310, 314, 315 and 330. The remaining credits must be taken in courses in the 300 and 400 series. The nature of the courses is to be determined by the student in consultation with an adviser.

Bachelor of Arts (Comparative Literature Concentration) — 60 credits of English and Comparative Literature which must include the following courses: En 110 (or 200), 250, 264, 265, 266, 314, 315; 415, 416 or appropriate special topic substitution. The remaining credits must be taken in the 300 and 400 series. The student must take one five-hour course of a foreign literature in the original language when a reading competency in that language has been demonstrated.

Teaching Major (School of Education) — 60 credits of English which must include En 110 (or 200), 250, 264, 314, 330 or 430; En 301 or 307 or 401 or other upper level pedagogy, writing or rhetoric course; En 310 or 407 or upper level grammar or linguistics course; one 300-400 level American literature course; 20 credits of electives which may include En 265, 266, but otherwise only 300-400 level courses.

Undergraduate Minor — 25 credits beyond En 110 or En 200. One of the following background courses is required: En 250, En 264, or En 314. The remaining credits must be taken in courses in the 300 and 400 series.

Undergraduate Minor in Written and Oral Communication — 30 credits beyond En 110 or En 200. Required: En 307 or 401, and Sph 100 or 200, Dr 400 or Jr 350 or Jr 370. The remaining electives: a) in writing — En 203, 204, 250, 305, 306, 401, 407, and special topics, b) in speech — Sph 201, 202, 204, and special topics.

Bachelor of Arts

Freshman year

English 110/Philosophy 110 Sequence ..... 10 credits
English 250 ..... 5 credits
Fine Arts 120 ..... 5 credits
Foreign Language (Recommended for comparative literature concentration) ..... 15 credits
History 120/English 120 Sequence ..... 10 credits
Electives (Recommended for English concentration) ..... 15 credits

Sophomore year

English 264, 265, 266 ..... 15 credits
Mathematics core option ..... 5 credits
Philosophy 220/Social Science I Sequence ... 10 credits
Social Science II ..... 5 credits
Theology and Religious Studies 1 ..... 5 credits
Electives ..... 5 credits

Junior year

English 310, 314, 315, 330 (English concentration) ..... 20 credits
or
English 314, 315, 415, 416 (Comparative Literature concentration) ..... 20 credits
French or German reading course ..... 10 credits
Ethics ..... 5 credits
Lab/Science core options ..... 5 credits
Theology and Religious Studies II ..... 5 credits
Electives ..... 10 credits

Senior year

English 300 and 400 series courses ..... 15 credits
Interdisciplinary Course ..... 5 credits
Senior Synthesis ..... 3 credits
Electives ..... 22 credits
Total ..... 180 credits

English Courses

EN 103 **Composition Skills I** **3 credits**
EN 104 **Composition Skills II** **2 credits**
A two quarter sequence of freshman composition designed in terms of student development and enabling student to concentrate on reading and writing skills. En 103 focuses on grammar, En 104 on rhetoric. This sequence fulfills the En 110 core requirement which cannot be taken as an elective upon completion of En 103 and 104.

EN 105 **Composition: International Students I** **3 credits**
EN 106 **Composition: International Students II** **2 credits**
This sequence fulfills the composition core requirement and is designed for international students whose language preparedness indicates a need for intensive and prolonged focus on English language skills in writing, reading, and communication. En 105 focuses on grammar and idiom; En 106 develops composition skills. After completion of the sequence students cannot take En 110 as an elective.

EN 110 **Freshman English: Effective Thinking and Writing** **5 credits**
Includes a review of basic grammar as needed. Main stress on study and practice in rhetoric, emphasizing expository writing and mastery of style.

EN 120-129 Masterpieces of Literature
Close reading and analysis of literary classics in relation to historical background: novels, plays, poetry, and essays. Correlated courses: History 120-129.

EN 132 **Masterpieces of American Literature** **5 credits**
Close reading and analysis of American literary classics: novels, plays, poetry and essays.

EN 133 **Masterpieces of World Literature** **5 credits**
Close reading and analysis of world literary classics: novels, plays, poetry and essays.

EN 175 **Introduction to Literature** **5 credits**
Introduction to the study of novels, plays, poetry and essays.

EN 200 **Advanced Composition** **5 credits**
Advanced study and practice in expository writing.

EN 203 **Vocabulary** **5 credits**
A practical course in vocabulary building. Emphasis on etymology, Latin and Greek roots, prefixes and suffixes.

EN 204 **Imaginative Writing** **5 credits**
A course designed to be individually centered in the student's choice of genre: prose fiction, poetry, personal narrative, essay, autobiographical writing. A combination of full-class participation and "workshop" activity.

EN 230 **Introduction to Fiction** **5 credits**
Introduction to the study of fiction with special emphasis on appreciation, form and technique.

EN 240 **Introduction to Drama** **5 credits**
Introduction to the study of drama with special emphasis on appreciation, form and technique.

EN 250 **Practical Criticism** **5 credits**
Introduction to the terminology and techniques of literary analysis. Required of English major core.

EN 264 **Great English Authors I** **5 credits**
EN 265 **Great English Authors II** **5 credits**
EN 266 **Great English Authors III** **5 credits**
I. Study of major British writers from the Medieval period through the Renaissance (1640). II. Study of major British writers from the Puritan period through the Eighteenth Century (1640-1798). III. Study of major British writers from the Romantic period to the present. Required of English major core.

EN 283 **Classics of Black American Literature** **5 credits**
A literary and historical survey of works written by Black Americans with emphasis on DuBois, Wright, Ellison, Morrison, Brooks and other modern writers.

EN 291 **Special Topics** **1-5 credits**
EN 292 **Special Topics** **1-5 credits**
EN 293 **Special Topics** **1-5 credits**

EN 301 **Rhetoric and Literary Concepts in Teaching** **5 credits**
A course designed primarily for teachers. A study of writing techniques and literary terms, themes, and concepts, with application to the strategies of teaching.

EN 305 **Writing Fiction** **5 credits**
Study and practice in the forms and methods of short story writing, with subsidiary attention to other types of narrative writing.

EN 306 **Writing Poetry** **5 credits**
Study of and practice in the modes and techniques of poetic composition.

EN 307 **Advanced Writing Skills** **5 credits**
A course for upgrading writing style, critical sense, and vocabulary. Especially helpful as preparation for entrance into professional schools or graduate school. Addresses significant parts of major admission tests.

EN 310 **Introduction to Chaucer** **5 credits**
Study of Chaucer's "Canterbury Tales." Required of English majors.

EN 311 **Introduction to Medieval Literature** **5 credits**
Literary selections, in modern English, representative of the life and thought of the European Middle Ages.

EN 312 **Classics in Children's Literature** **5 credits**
In-depth humanistic and interdisciplinary analysis of basic texts in children's literature: folk tales, L. Carroll, C.S. Lewis, outstanding 20th century works.

EN 313 **Mythology** **5 credits**
A comparative study of the structure and symbols, the cultural and psychological meanings of selected mythologies, including Greek mythology.

EN 314 **Backgrounds of Western Literature I** **5 credits**
EN 315 **Backgrounds of Western Literature II** **5 credits**
I. From the beginnings through the Renaissance. II. From 17th Century to the Moderns. Required of English majors.

EN 330 **Introduction to Shakespeare** **5 credits**
Readings in the comedies, tragedies and histories. Required of English majors.

EN 382 **Major American Novelists** **5 credits**
American fiction from its beginning to modern times: Cooper, Melville, Twain, James, Hemingway, Faulkner and others.

EN 391 **Special Topics** **1-5 credits**
EN 392 **Special Topics** **1-5 credits**
EN 393 **Special Topics** **1-5 credits**

EN 394 **Modern Tradition: Fiction** **5 credits**

EN 395 **Modern Tradition: Poetry** **5 credits**

EN 398 **Modern Tradition: Drama** **5 credits**

EN 401 **Rhetoric, Argument and Persuasion** **5 credits**
The principles of persuasive writing as found in models both classical and contemporary, with attention to the techniques of argumentation and propaganda.

EN 407 **History of the English Language** **5 credits**
Study of the historical development of English.

EN 415 **Russian Literature** **5 credits**

EN 416 **Eastern Literature** **5 credits**

EN 420 **Renaissance Literature** **5 credits**

EN 430 **Shakespeare** **5 credits**

EN 445 **Seventeenth Century Literature** **5 credits**

EN 450 **Restoration and Eighteenth Century Literature** **5 credits**

EN 460 **Romantic Literature** **5 credits**

EN 475 **Victorian Literature** **5 credits**

EN 477 **Nineteenth Century English Novel** **5 credits**

EN 482 **American Literature to 1900** **5 credits**

EN 484 **Twentieth Century American Literature** **5 credits**

EN 487 **Contemporary Literature** **5 credits**

EN 488 **Film and Literature** **5 credits**

EN 490 **Literary Criticism** **5 credits**

EN 491 **Special Topics** **1-5 credits**
EN 492 **Special Topics** **1-5 credits**
EN 493 **Special Topics** **1-5 credits**

EN 496 **Independent Study** **1-5 credits**
EN 497 **Independent Study** **1-5 credits**
EN 498 **Independent Study** **1-5 credits**

Speech

Patricia Sullivan, Ph.D., Program Director

Program

There is no major in Speech. Speech courses are under the direction of the English department, and are a valuable adjunct to other degree programs in the fields of the humanities, social sciences, and business. Students interested in speech should include speech courses among their electives. An undergraduate minor in written and oral communication can be pursued through the English department.

Objectives

The Speech Program offers courses in performance, theory, and criticism. Performance courses are designed for students who want to speak effectively to an audience; theory courses stress the nature of the communication process; criticism courses focus on the relationship between communicators and their audiences.

Speech Courses

SPH 200 Public Speaking — **5 credits**
Theory and practice of inventing, organizing, presenting, and analyzing speeches. Emphasis on audience adaptation and the development of critical listening skills.

SPH 201 Interpersonal Speech Communication — **5 credits**
Theory and practice of skills in interpersonal situations. Emphasizes self-awareness, sensitivity to others, and a humanistic approach to communication.

SPH 202 Oral Interpretation — **5 credits**
Analysis and interpretation of literature. Practice in interpeting prose, poetry and drama.

SPH 204 Persuasion and Argumentation — **5 credits**
The principles of effective argumentation and persuasion and their relation to responsible discussion and decision-making processes.

SPH 291 Special Topics — **1-5 credits**
SPH 292 Special Topics — **1-5 credits**
SPH 293 Special Topics — **1-5 credits**

SPH 310 The American Speaker — **5 credits**
Study and criticism of American public speaking. Practice in contemporary methods of public speaking.

SPH 320 Speech for the Classroom Teacher — **5 credits**
Emphasis on the teacher as a communicator and leader in learning communication skills. Discussion, story telling, oral interpretation and drama.

SPH 391 Special Topics — **1-5 credits**
SPH 491 Special Topics — **1-5 credits**

Fine Arts

Kate C. Duncan, Ph.D., Chairperson

Objectives

The Fine Arts Department offers programs and courses for all students as well as those who wish to major in Art, Drama or Music. There are opportunities to participate in drama performances and art exhibitions and to study voice or an instrument privately. Students may also pursue courses which examine changing styles and attitudes in the arts from an historical perspective.

Although the Fine Arts major will concentrate in either Art, Drama, or Music, that student will have ample opportunity to study and gain practical experience in other art forms as well. In conjunction with the School of Education, students may take courses leading to certification as elementary art, drama or music teachers.

Degree Offered

Bachelor of Arts

Departmental Requirements

Bachelor of Arts — Major in Art — 64 credits which must include Art 221 (6), 231 (6), 311, 312, 334, 346, 351, FA 101, 102, and 103, and 21 elective credits in art. In addition, fifteen credits of cross-field study must be taken in Drama and Music.

Bachelor of Arts — Major in Drama — 65 credits which must include FA 102, DR 100, 210, 222, 264, 265, 266, 267, 330, 331, 332, 354, 355, 356, 420, 480, plus 10 credits of Drama electives. In addition, if following a performance track: DR 215, 221, 422; if following a production track: DR 280, 364, 366. All majors must fulfill a "participation requirement" each quarter by working in some area on every show.

Bachelor of Arts — Major in Music — 85 credits which must include MU 115, 116, 117, 215, 216, 217, 315, 370, 371, 372, 373, 415, 416, 417, 418, FA 101 and 102, and 6 credits of ensemble and 6 credits of vocal or instrumental lessons. In addition, fifteen credits of cross-field study must be taken in Drama and Art. Music majors must be members of a performing ensemble (choral or instrumental) each quarter in residence (either for credit or no credit), pass a proficiency test in piano at the end of the first year in residence, and must attend concerts in the department according to the department's attendance policy.

Teaching Subject, Elementary, Art (School of Education) — 25 credits which must include Art 221, 231, 311, 312, 334, 346, 351.

Teaching Subject, Elementary, Drama (School of Education) — 25 credits which must include Dr 100, 210, 221, 264, 420, plus 8 additional credits in Drama (electives).

Teaching Subject, Elementary, Music (School of Education) — 24 credits which must include FA 103, Mu 115, 116, 117, 2 credits of Mu 110 and 2 credits of Mu 130.

Undergraduate Minor in Studio Art — 30 credits which include FA 101, Art 311 or Art 312, and 20 credits in consultation with an Art adviser.

Undergraduate Minor in Art History — 30 hours of art history including Art 311, 312 and 5 credits of independent study/methods.

Undergraduate Minor in Drama Production or Performance — 30 credits which include FA 102, DR 210, and 20 credits in consultation with a Drama adviser.

Undergraduate Minor in Musical Theatre — 30 credits: DR 210 and 222; 3 credits of History American Musical Theatre, 2 of ensemble, 3 of voice lessons, 4 of Musical Theatre Workshop, 10 credits in consultation with a Drama adviser.

Undergraduate Minor in Music Theory/History — 30 credits including MU 115, 116, 117; 9 of Music History, 3 of music lessons and 6 of ensemble.

Undergrate Minor in Music Performance; — 30 credits including MU 115, 116, 117; 9 of music lessons and 6 of ensemble.

Fine Arts Sequence

FA 101 **Fine Arts — Art** **5 credits**
A humanistic approach to the creative arts: painting, sculpture, architecture. An examination of the great leaps of imagination.

FA 102 **Fine Arts — Drama** **5 credits**
Introduction to drama as an art form. An historical approach with emphasis on major periods, plays and philosophies.

FA 103 **Fine Arts — Music** **5 credits**
Introduction to music as an art and as a literature, with emphasis upon historical and cultural correlations.

FA 120 **Exploration in the Arts** **5 credits**
Aesthetics-based exploration of the arts, focused on enhancing ability to experience and make decisions about aesthetic qualities in man-made and natural objects and events in the environment. Interdisciplinary in Art, Music and Drama. Lectures and practical experience.

Art Courses

Some art courses are designed for the student to progress in competence and skill over three terms. Instruction is individualized and students may enter the sequence in any term, registering for the course three times to obtain the maximum credit. Courses which may be taken more than once are indicated with an asterisk (*) next to the credits.

ART 221 **Drawing** ***2 credits**
Studies of line and value in the delineation of form; training in awareness and perception; handling of structure and space indication and of essential relationships of organic forms. Maximum: 6 credits.

ART 231 **Design** ***2 credits**
Primary concepts and analysis of structure; problems of contemporary design; form in three-dimensional design. Maximum: 6 credits.

ART 291 **Special Topics** **1-5 credits**
ART 292 **Special Topics** **1-5 credits**
ART 293 **Special Topics** **1-5 credits**

ART 311 **History of Art** **5 credits**
ART 312 **History of Art** **5 credits**
Survey of the arts of the Western world from the earliest times to the Renaissance and from the Renaissance to the present.

ART 313 **History of Art: Non-Western** **5 credits**
Survey of arts of the world, from their genesis to the present, concentrating on those arts outside the influence of the West.

ART 321 **Advanced Drawing** ***3 credits**
Study of the human form; special problems in group composition. Maximum: 9 credits.

ART 334 **Printmaking** ***2 credits**
Principles and techniques of printmaking: lithography and woodcut. Maximum: 6 credits.

ART 346 **Painting** ***2 credits**
Study of the principles and practices of rendering in paint; complex composition; advanced problems. Maximum: 6 credits.

ART 351 **Sculpture** ***2 credits**
Principles and practices leading to a realization of the nature of form; dependence of design on materials; advanced problems. Maximum: 6 credits.

ART 370 **Arts and Crafts** **5 credits**
Experience in artistic expression in basic art media for elementary and secondary school teachers.

ART 391 **Special Topics** **1-5 credits**
ART 392 **Special Topics** **1-5 credits**
ART 393 **Special Topics** **1-5 credits**

ART 446 **Advanced Painting** ***3 credits**
Experimental research toward the development of a creative and personalized idiom, synthesis and research. Prerequisite: Art 346 or permission of department chairman. Maximum: 9 credits.

ART 491 **Special Topics** **1-5 credits**
ART 492 **Special Topics** **1-5 credits**
ART 493 **Special Topics** **1-5 credits**

ART 496 **Independent Study** **1-5 credits**
ART 497 **Independent Study** **1-5 credits**
ART 498 **Independent Study** **1-5 credits**
Advanced work in academic or experimental research. Prerequisites: Advanced standing in art and permission of department chairman.

Drama Courses

DR 100 **Voice and Diction** **3 credits**
Development of the speaking voice as an instrument of communication on or off stage. Exercises in relaxation, breathing, breath control, voice production, phonetics. Offered every other year.

DR 210 **Pantomime** **6 credits**
Instruction in mime to express inner and outer worlds through the body. Exercises for development of imagination, coordination, body awareness.

DR 215 **Auditioning Techniques** **2 credits**
The theory and practice of auditioning in various situations and how to handle them. Preparing and performing audition pieces. Offered every other year.

DR 221 **Improvisation** **3 credits**
Living in free form under imaginary circumstances. Group exercise and improvisations for development of sensory perception and imagination.

DR 222 **Acting** **3 credits**
Study and practice in modern realistic acting: preparation, presentation and criticism.

DR 230 **Video Profiles** **5 credits**
Theory and practice in the use of video before and behind the camera. Exercises in group discussions, panels, demonstrations, interviews. Editing.

DR 264 **Stage Craft** **3 credits**
Exposure to contemporary materials and techniques in the design, construction, and painting of scene art. Lab and lecture.

DR 265 **Lighting** **3 credits**
Exposure to contemporary materials, equipment and practices in the design and execution of lighting. Lab and lecture. Offered every other year.

DR 266 **Stage Costuming** **3 credits**
Exposure to contemporary materials, procedures and techniques in design and construction of costumes for theatre. Lab and lecture. Offered every other year.

DR 267 **Makeup** **2 credits**
Exposure to contemporary materials and techniques in the design and execution of makeup for theatre; work in specialized techniques. Lab and lecture. Offered every other year.

DR 280 **Stage Management** **2 credits**
A comprehensive study of the role and functions of the stage manager in the theatrical production process, including the preparation of prompt scripts, preproduction conferences, the rehearsal process and the running of the show. Offered every other year.

DR 291 **Special Topics** **1-5 credits**
DR 292 **Special Topics** **1-5 credits**
DR 293 **Special Topics** **1-5 credits**

DR 330 **Theatre History I** **2 credits**
DR 331 **Theatre History II** **2 credits**
DR 332 **Theatre History III** **2 credits**
A study of historical events and ideas which formed the theatre in all its aspects. History I — Primitive to Elizabethan; History II — 17th to 19th Century; History III — 19th and 20th Century. Offered every other year.

DR 354 **Representative Plays I** **3 credits**
DR 355 **Representative Plays II** **3 credits**
DR 356 **Representative Plays III** **3 credits**
A study of the theatre literature focusing on the production of the written material. Plays I — Primitive to Elizabethan; Plays II — 17th to 19th Century; Plays III — 19th and 20th Century. Offered every other year.

DR 364 **Scene Design** **3 credits**
An introduction to the art of scene design including visual thinking, script analysis, working the production team, and presentation techniques.

DR 366 **Costume History** **3 credits**
A study of fashion, costume and garments and their relationship to the social history of civilization from the ancients to the present. Offered every other year.

DR 391 **Special Topics** **1-5 credits**
DR 392 **Special Topics** **1-5 credits**
DR 393 **Special Topics** **1-5 credits**

DR 400 **Ensemble** **1-5 credits**
DR 401 **Ensemble** **1-5 credits**
DR 402 **Ensemble** **1-5 credits**

DR 404 **Playwriting** **5 credits**
Study and practice in the form and method of script construction.

DR 420 **Directing** **3 credits**
Theory and practice in principles of directing various styles of drama. Offered every other year

DR 422 **Advanced Acting** **3 credits**
Study and practice in classical styles of comedy and tragedy; preparation, presentation, and criticism. Prerequisite: DR 100 and DR 222 or permission of the instructor. Offered every other year.

DR 425 **Drama Internship** **1-12 credits**
Apprenticeship in specific area of study in the community. Drama majors only. Permission.

DR 455 **Theatre: Spacial and Visual** **5 credits**
Development of the stage in Western Culture from the Greeks to the present; emphasis on evolution of theatre buildings and physical elements of theatre production. Offered every other year.

DR 480 **Theatre Organization and Management** **2 credits**
Establishing and operating a theatre, including planning, budgeting, and accounting, staffing, production selection, promotion, ticket sales, fund raising. Offered every other year.

DR 491 **Special Topics** **1-5 credits**
DR 492 **Special Topics** **1-5 credits**
DR 493 **Special Topics** **1-5 credits**

DR 496 **Independent Study** **1-5 credits**
DR 497 **Independent Study** **1-5 credits**
DR 498 **Independent Study** **1-5 credits**

Music Courses

The Department maintains an extended applied music program. Private instruction by qualified professionals is available for most instruments. Those not listed below are available upon request. Instruction is individualized and students will move into the upper division with permission of the instructor. There is a private music lesson lab fee of $35 per credit hour. All courses which may be taken more than once are indicated with an asterisk (*) next to the credits.

MU 110 Piano Lessons ***1-2 credits**
Mandatory CR/NC; maximum 12 credits

MU 111 Voice Lessons ***1-2 credits**
Mandatory CR/NC; maximum 12 credits

MU 114 Music Fundamentals and Methods **5 credits**
Rudiments of music and methods that will lead to a successful music program in the elementary school.

MU 115 Theory I **5 credits**
MU 116 Theory II **5 credits**
MU 117 Theory III **5 credits**
Basic musicianship, stressing scales and tonality, modes, intervals, chords, rhythm, form. Knowledge of these concepts will be acquired by listening, singing, analysis, discussion and keyboard practice. Prerequisite: Placement by examination.

MU 118 String Instrument Lessons ***1-2 credits**
Violin, viola, cello, contrabass. Mandatory CR/NC; maximum 12 credits

MU 119 Wind Instrument Lessons ***1-2 credits**
Flute, clarinet, saxaphone, oboe, bassoon. Mandatory CR/NC; maximum 12 credits

MU 123 Classical Guitar Lessons ***1-2 credits**
Mandatory CR/NC; maximum 12 credits

MU 124 Brass Instrument Lessons ***1-2 credits**
Trumpet, french horn, trombone. Mandatory CR/NC; maximum 12 credits

MU 125 Organ Lessons ***1-2 credits**
Mandatory CR/NC; maximum 12 credits

MU 129 Percussion Lessons ***1-2 credits**
Mandatory CR/NC; maximum 12 credits

MU 130 University Chorale ***1 credit**
Maximum 12 credits

MU 131 Chamber singers ***1 credit**
Maximum 12 credits

MU 135 Instrumental Ensemble ***1 credit**
Maximum 12 credits

MU 140 Beginning Voice Class **1 credit**

MU 141 Beginning Guitar Class ***1 credit**
Maximum 3 credits

MU 207 History of Jazz **2 credits**
Explorations of origins in Afro-American culture, its evolution as a result of merging cultures and the accomplishment of a distinctly new musical language.

MU 215 Theory IV **5 credits**
MU 216 Theory V **5 credits**
Advanced musicianship, beginning part writing and analysis.

MU 217 Theory VI **5 credits**
Advanced musicianship, part writing and analysis. Harmonic style of the common-practice period up to the late Nineteenth Century. Corequisites: Mu 216 with 372; 217 with 373.

MU 291 Special Topics **1-5 credits**
MU 292 Special Topics **1-5 credits**
MU 293 Special Topics **1-5 credits**

MU 310 Piano Lessons ***1-2 credits**
Mandatory CR/NC; maximum 12 credits.

MU 311 Voice Lessons ***1-2 credits**
Mandatory CR/NC; maximum 12 credits

MU 315 Form and Analysis **3 credits**
Analytic study of the larger forms of music, including two- and three-part song forms, theme and variation, and the evolution of sonata forms.

MU 318 String Instrument Lessons ***1-2 credits**
Mandatory CR/NC; maximum 12 credits

MU 319 Wind Instrument Lessons ***1-2 credits**
Mandatory CR/NC; maximum 12 credits

MU 323 Classical Guitar Lessons ***1-2 credits**
Mandatory CR/NC; maximum 12 credits

MU 324 Brass Instrument Lessons ***1-2 credits**
Mandatory CR/NC; maximum 12 credits

MU 325 Organ Lessons ***1-2 credits**
Mandatory CR/NC; maximum 12 credits

MU 370 History and Literature of Music in the Middle Ages and Renaissance **3 credits**
Historical survey of principal forms of medieval and Renaissance music, including Gregorian chant, motet, mass and madrigal.

MU 371 History and Literature of Music in the Baroque period **3 credits**
Historical survey of the principal forms of baroque music, the opera, concerto and sonata.

MU 372 History and Literature of Music Classical Period **3 credits**
Historical survey of the principal forms of Classical Period music, including the symphony, the solo concerto, the opera and chamber music. Corequisite: Mu 216

MU 373 History and Literature of Music Romantic Period **3 credits**
Historical survey of the principal forms of Romantic Period music, including the art song, the solo piano piece, program music, grand opera, and music drama. Corequisite: Mu 217

MU 374 World Music Cultures **5 credits**
A socio-cultural survey and analysis of the music of Africa, the Middle East, Asia, Oceania and Latin America.

MU 391 Special Topics **1-5 credits**
MU 392 Special Topics **1-5 credits**
MU 393 Special Topics **1-5 credits**

MU 415 Modal Counterpoint **3 credits**
Sixteenth-Century countrapuntal style as found in the music of Palestrina and his contemporaries. For music majors. Corequisite: Mu 370.

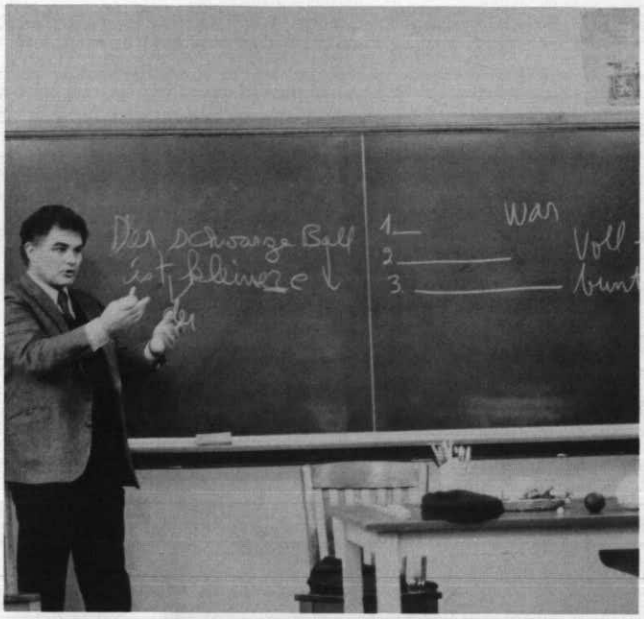
MU 416 Tonal Counterpoint **5 credits**
Eighteenth-Century countrapuntal style as found in the music of Bach and his contemporaries. For music majors.

MU 417 20th Century Techniques **5 credits**
Contrapuntal techniques as used by composers in the Twentieth Century. For music majors.

MU 418 Orchestration **5 credits**
Practical application of study of the instruments and their creative use. Prerequisite: Permission of adviser.

MU 491 Special Topics **1-5 credits**
MU 492 Special Topics **1-5 credits**
MU 493 Special Topics **1-5 credits**

MU 496 Independent Study **1-5 credits**
MU 497 Independent Study **1-5 credits**
MU 498 Independent Study **1-5 credits**



Foreign Languages

Paul B. Milan, Ph.D., Chairperson

Objectives

The foreign language programs in French, German, Spanish, Latin and Greek all recognize academic, cultural, and practical purposes:

Academic — Foreign language study aims at broadening the scope of the student's intellectual development by affording both a facility in foreign languages and a background in other cultures. This end is achieved through the major programs in foreign languages or double majors which couple a major or minor in a foreign language with a major in another field.

Cultural — Learning about another culture and civilization — its history, geography, literature and art — through the medium of its language leads to a better understanding of one's self and the world in which we live. To achieve this goal all foreign languages are taught in their cultural context. Courses in French, German, and Spanish are taught in the vernacular with the exception of the following: Fr 105, 106.

Practical — Career opportunities involving foreign languages are expanding. For the university student with a specialization in a particular field and with proficiency in foreign languages, openings exist in the following fields: teaching, social work, transportation, military, foreign service, international law, engineering, librarianship, foreign trade and international business.

To meet these objectives, the Foreign Languages department offers regular, intensive, specialized and multi-disciplinary courses and programs.

Degree Offered

Bachelor of Arts

General Program Requirements

Students majoring in a foreign language must satisfy the core curriculum requirements of the University, as given on pages 26-28 of this bulletin.

Departmental Requirements

Bachelor of Arts (modern languages) — 55 credits which include 115, 125, 135, 215, 225, 235, 315, 325 and three courses at the 400 level. Students who waive elementary language courses may meet the 55 credit requirement by substituting approved courses in other disciplines which relate to their foreign language studies.

Teaching Major (School of Education) — 55 credits which include 115, 125, 135, 215, 225, 235, 315, and 325 and three courses at the 400 level. French, German, and Spanish only. Students who waive elementary language courses may meet the 55 credit requirement by substituting approved courses in other disciplines which relate to their foreign language studies.

Undergraduate Minor (modern languages) — 35 credits which include 115, 125, 135, 215, 225, 235, and 315. Students who waive elementary language courses may meet the 35 credit requirement by substituting approved courses in other disciplines which relate to their foreign language studies.

Programs Abroad

The Foreign Languages department offers the following programs abroad: the French-in-France Program in Grenoble, France and the German-in-Austria Program in Graz, Austria. These programs offer a full academic year of study (45 credits) of language, culture, and civilization under the direction of Seattle University faculty. There are no language prerequisites, and the programs are open to all students of the University.

The Reading Program (sequence of two courses: FR 105, FR 106) prepares the student to translate the written text with accuracy and comprehension for scholarly purposes. It fulfills the foreign language requirements of various departments within the University and helps the student gain the facility needed to pass graduate language examinations.

The reading language requirements may not be satisfied by examination in a student's native language, since the intent of such a requirement is mastery of a language new to the student.

Intensive Programs offered during the summer allow the student to complete the first year basic language course (15 credits) in one quarter.

Credit by examination and waiver — The Foreign Languages department reserves the right to waive specific courses for students who demonstrate, by examination, achievement at the college level. Courses may be waived, allowing substitution of electives, or credit may be obtained by meeting the University's requirements for credit by examination.

Honors Work and Foreign Languages

For superior students who wish to integrate foreign languages with other fields of study, the department encourages honors work consisting of a minimum of twenty credits of additional study or independent study related to the student's major. The student may choose from among the following areas of concentration: literature, history and fine arts, philosophy, or global studies. Honors work is in addition to the regular course requirements for the Bachelor of Arts in Foreign Languages. Although no special distinction will be made in the degree earned, students who complete the program will receive a certificate of recognition from the Department of Foreign Languages.

Bachelor of Arts — Foreign Languages

Recommended Study Program

Freshman Year

English 110/Philosophy 110 Sequence ..... 10 credits
History 120/English 120 Sequence ..... 10 credits
Fine Arts Core ..... 5 credits
Mathematics Core ..... 5 credits
Major Language ..... 15 credits

Sophomore Year

Philosophy 220/Social Science I Sequence ... 10 credits
Lab Science Core ..... 5 credits
Social Science Core II ..... 5 credits
Theology and Religious Studies Core I ..... 5 credits
Major Language 215, 225, 235 ..... 15 credits
Electives ..... 5 credits

Junior Year

Ethics ..... 5 credits
Theology and Religious Studies Core II ..... 5 credits
Interdisciplinary Core ..... 3-5 credits
Major Language ..... 15 credits
Minor Language (optional) 115, 125, 135 ..... 15 credits

Senior Year

Senior Synthesis ..... 3 credits
Major Language ..... 10 credits
Minor Language (optional) ..... 15 credits
Electives ..... 17 credits
Total ..... 180 credits

Modern Language Courses

French Courses

FR 105 **Reading French** **5 credits**
FR 106 **Reading French** **5 credits**
An intensive two-course program of study of written French for reading and translation with accuracy and comprehension.

FR 115 **French Language I** **5 credits**
FR 125 **French Language II** **5 credits**
FR 135 **French Language III** **5 credits**
FR 215 **French Language IV** **5 credits**
FR 225 **French Language V** **5 credits**
FR 235 **French Language VI** **5 credits**
An intuitive approach to understanding, speaking, reading and writing French. These courses constitute a systematic, programmed study of the French language. All of the French Language courses are taught in French.

FR 315 **French Culture and Civilization** **5 credits**
An introduction to French culture and civilization with emphasis on the basic traditions and structures of French society.

FR 325 **Introduction to French Literature** **5 credits**
A general study of literary French done in the context of a survey of the major texts, authors, and movements in French literature with emphasis placed on the theories and techniques of literary analysis.

FR 415 **French Literature and Culture, 19th Century** **5 credits**
A study of the literary movements in 19th century French literature based on an historical approach to representative authors and works.

FR 425 **French Literature and Culture, 17th Century** **5 credits**
A study of the development of 17th century French Classicism as it is reflected in the major works of the period.

FR 435 **French Literature and Culture, 18th Century** **5 credits**
A survey of the major works of the French Enlightenment as it manifests itself in the scientific, philosophic, political, and ethical thinking in the 18th century.

FR 445 **French Literature and Culture, 20th Century** **5 credits**
A survey of 20th century French literature and culture which reflects the social and intellectual trends in modern France.

FR 450 **Methodology of Teaching French** **5 credits**
An overview of the various methods and approaches currently being used to teach French.

FR 452 **Language Development/Modern French** **5 credits**
An in-depth study of the various levels of modern French with emphasis on the transformations brought about by current social, political, and cultural changes.

FR 463 **Contemporary France** **5 credits**
A study of contemporary French culture involving a survey of texts in French which reflect the issues and changes currently being discussed and debated in modern France.

German Courses

GR 115 **German Language I** **5 credits**
GR 125 **German Language II** **5 credits**
GR 135 **German Language III** **5 credits**
GR 215 **German Language IV** **5 credits**
GR 225 **German Language V** **5 credits**
GR 235 **German Language VI** **5 credits**
An intuitive approach to understanding, speaking, reading, and writing in German. These courses constitute a systematic, programmed study of the German language. All German Language courses are taught in German.

GR 315 **German Culture and Civilization** **5 credits**
An introduction to the culture and civilization of German speaking countries with emphasis placed on the importance of geographical, political, and historical factors in their development.

GR 325 **Introduction to German Literature** **5 credits**
A general introduction to the major themes of German literature presented from an historical point of view. Reading and analysis of various representative literary genres.

GR 416 **German Literature and Culture, Beginnings to the 18th Century** **5 credits**
A study of the German tradition from the earliest writings up to the 18th century.

GR 426 **German Literature and Culture, 18th Century** **5 credits**
An analysis of the major works of German literature integrated with the historical trends and philosophical currents of 18th century Germany.

GR 431 **German Literature and Culture, 19th Century** **5 credits**
An integrative study of the historical, philosophical, and literary diversity of the German-speaking world as it manifests itself in the major literary works of the 19th century.

GR 436 **German Literature and Culture, 20th Century** **5 credits**
A survey of 20th century German literature and culture which reflects the social, political, and intellectual trends of modern Germany.

GR 440 **German Classicism and Romanticism** **5 credits**
A study of the origins, characteristics, and major literary expressions of these two important German literary movements.

GR 446 **Literary Trends of Modern Austria, West and East Germany** **5 credits**
A study of the current trends in modern literature in German-speaking countries.

GR 450 **Methodology of Teaching German** **5 credits**
An overview of the various methods and approaches currently being used to teach German.

GR. 452 **Language Development/Modern German** **5 credits**
An in-depth study of modern German with emphasis on advanced vocabulary and grammar concepts. Analysis of contemporary works which reflect the changes taking place in modern Germany.

Spanish Courses

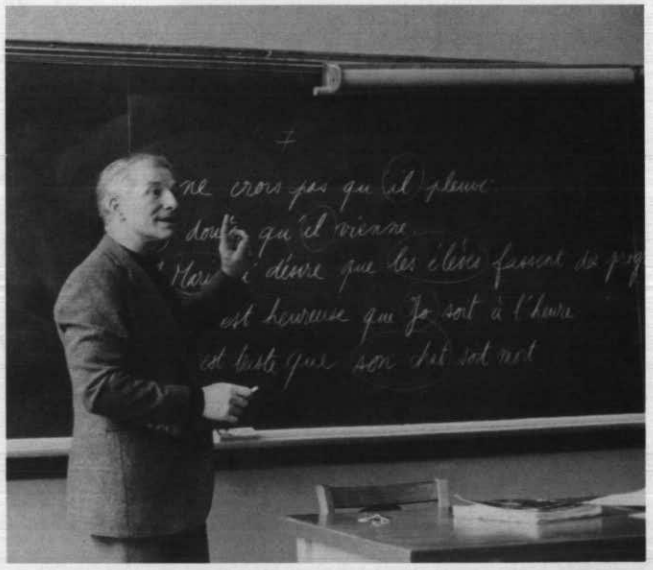
SP 115 **Spanish Language I** **5 credits**
SP 125 **Spanish Language II** **5 credits**
SP 135 **Spanish Language III** **5 credits**
SP 215 **Spanish Language IV** **5 credits**
SP 225 **Spanish Language V** **5 credits**
SP 235 **Spanish Language VI** **5 credits**
An intuitive approach to understanding, speaking, reading, and writing Spanish. These courses constitute a systematic, programmed study of the Spanish language. All of the Spanish Language courses are taught in Spanish.

SP 315 **Spanish Culture and Civilization** **5 credits**
An introduction to Spanish culture and civilization with emphasis on the historical evolution of modern Spain.

SP 325 **Introduction to Spanish Literature** **5 credits**
A general study of literary Spanish done in the context of a survey of representative authors and works.

SP 416 **Spanish Literature and Culture, 19th Century** **5 credits**
A study of the literary movements in Spanish literature of the 19th century based on an historical approach to major authors and works.

SP 426 **Spanish Literature and Culture, 20th Century** **5 credits**
A survey of 20th century Spanish literature and culture which reflects the social, political, and intellectual trends in modern Spain.



SP 450 **Methodology of Teaching Spanish** **5 credits**
An overview of the various methods and approaches currently being used to teach Spanish.

SP 452 **Language Development/Modern Spanish** **5 credits**
An in-depth study of the various levels of modern Spanish with emphasis on advanced vocabulary and grammar concepts.

SP 463 **Contemporary Spain** **5 credits**
A study of contemporary Spanish culture involving a survey of texts in Spanish which reflect the issues and changes currently being discussed and debated in contemporary Spanish society.

Classical Language Courses

Greek Courses

GK 101 **Greek Language I** **5 credits**
GK 102 **Greek Language II** **5 credits**
GK 103 **Greek Language III** **5 credits**
Intensive study of Attic grammar with elementary reading and composition. Greek 103 includes reading selections from classical Attic and Koine (New Testament) authors.

Latin Courses

LT 101 **Latin Language I** **5 credits**
LT 102 **Latin Language II** **5 credits**
LT 103 **Latin Language III** **5 credits**
Intensive study of grammar with elementary reading and composition. Latin 103 includes selections from classical authors.

Foreign Language Courses — Special Topics/ Independent Study In Any Language

FL 191 **Special Topics** **1-5 credits**
FL 192 **Special Topics** **1-5 credits**
FL 193 **Special Topics** **1-5 credits**

FL 196 **Independent Study** **1-5 credits**
FL 197 **Independent Study** **1-5 credits**
FL 198 **Independent Study** **1-5 credits**

FL 291 **Special Topics** **1-5 credits**
FL 292 **Special Topics** **1-5 credits**
FL 293 **Special Topics** **1-5 credits**

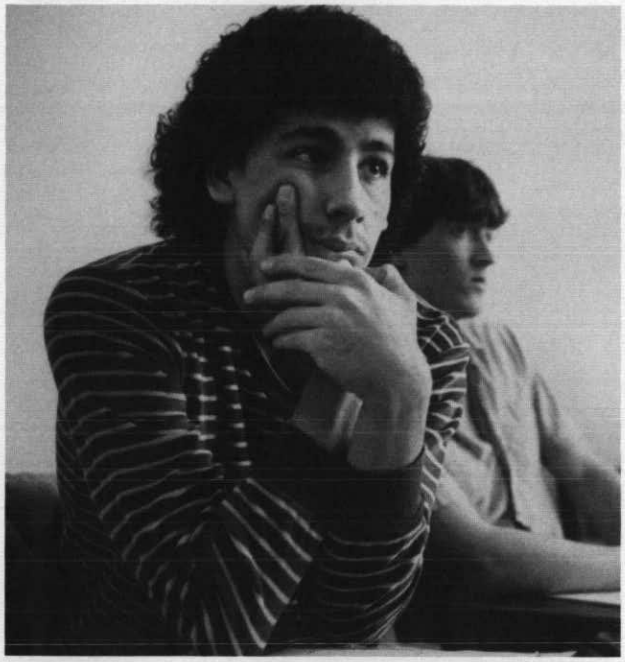
FL 296 **Independent Study** **1-5 credits**
FL 297 **Independent Study** **1-5 credits**
FL 298 **Independent Study** **1-5 credits**

FL 391 **Special Topics** **1-5 credits**
FL 392 **Special Topics** **1-5 credits**
FL 393 **Special Topics** **1-5 credits**

FL 396 **Independent Study** **1-5 credits**
FL 397 **Independent Study** **1-5 credits**
FL 398 **Independent Study** **1-5 credits**

FL 491 **Special Topics** **1-5 credits**
FL 492 **Special Topics** **1-5 credits**
FL 493 **Special Topics** **1-5 credits**

FL 496 **Independent Study** **1-5 credits**
FL 497 **Independent Study** **1-5 credits**
FL 498 **Independent Study** **1-5 credits**



General Studies Program

Mary Margaret Ridge, B.A., Director

Objectives

Students who have a wide range of interests and want a broad liberal arts education, AS WELL AS THOSE WHO HAVE NOT YET DECIDED UPON A MAJOR, may enroll in the General Studies Program. Such students begin their University work by taking core curriculum subjects required for all majors. They may then select courses from two or three related fields, and formulate a program that will best suit the needs of their long-range goals.

The thrust of the program looks to constructing in-depth combinations of a variety of disciplines such as fine arts, humanities, social sciences, or any other a-typical interdisciplinary synthesis.

A student admitted to the General Studies Program may also transfer to one of the traditional majors of the College of Arts and Sciences, or to one of the professional schools, such as Business, Education, Nursing, Science and Engineering. A student may change at any time as long as academic qualifications for the intended program are met.

Degrees Offered

Bachelor of Arts in Humanities
Bachelor of Arts in Social Science

General Program Requirements

Requirements of a General Studies degree are 65 credits beyond the core, of which 45 credits must be taken in courses designated 300 or 400 level.

Suggested combinations are: 45 hours in one subject and 20 in another; or 35 hours in one, 15 in a second, and 15 in a third; or 25, 20 and 20. THE SELECTION OF SUBJECTS AND THEIR MEANINGFUL COMBINATION IS THE RESPONSIBILITY OF THE STUDENTS IN CONSULTATION WITH THE PROGRAM DIRECTOR OR AN ASSIGNED ACADEMIC ADVISER.

Global Studies

David Leigh, S.J., Ph.D., Adviser
C. Fred DeKay, Ph.D., Adviser

Objectives

The program of courses which makes up the Minor in Global Studies enables the student: to understand the major processes, structures, and issues involved in our global community; to develop the ability to live and work effectively in an interdependent, multi-cultural world; and, to apply specific disciplinary skills within a global context.

The Minor is designed to complement the student's Major by study of selected case studies in which disciplinary knowledge and skills are applied in the contexts of cross-cultural and global issues.

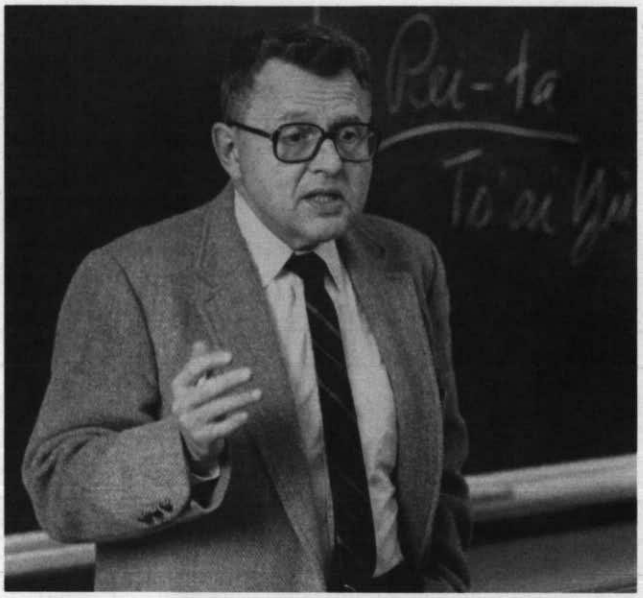
General Program Requirements

The Minor requires completion of 30 credits of coursework, including a five credit course from each of the following areas: Global Politics, Global Political Economy, Cultural Encounters, Global Issues, Non-West Studies, and Elective in Global Studies. In consultation with a Global Studies Adviser, the student will select courses appropriate to each required area, drawing from offerings in such disciplines as political science, economics, fine arts, history, literature, and interdisciplinary science. Students are strongly recommended to complete one course in western civilization and one year of a foreign language.

Courses selected for the Minor may include those which fulfill University core or elective requirements, and may include those taken to fulfill a Major. Not more than ten credits may be taken in any one discipline. At least fifteen credits must be upper division. At least three courses must be taken at Seattle University. No more than one course may be taken under the CR/NC option.

Advising

A faculty adviser will assist the student in fulfilling the requirements of the Global Studies Minor. The student will be expected to meet with the adviser on a regular and timely basis.



History

James E. Parry, M.A., Chairperson

Objectives

Defying classification as either humanity or social science, history functions as both. It focuses on the values as well as the ideas, personalities and institutions that existed in the past and shaped the present. As concerned with perceptions of reality as with historic reality itself, it attempts to exploit all forms of information concerning the past — myth, folklore, legend and works of art, as well as conventional manuscript and published sources. And, while the department attempts to assist all students in acquiring that knowledge of the past which is essential to the educated person, it is especially concerned with developing the methods and techniques unique to historical inquiry. By consistently raising questions regarding "how we know" as well as "what we know" the department aims at the development of fundamental intellectual skills that will be of lifelong utility.

Degrees Offered

Bachelor of Arts

General Program Requirements

Students in history must satisfy the core curriculum requirements of the University as given on pages 26-28 of this bulletin.

Departmental Requirements

Bachelor of Arts — 60 credits including Hs 104 and 105, 300, 400. Of the remaining 40 credits 25 are to be taken in a specific area (Western Europe, United States, Russia-China-Japan), and must include at least 10 credits of 400 level courses. Study of a modern foreign language is highly recommended.

Undergraduate Minor — 35 credits of history of which Hs 104 and 105 are required.

Teaching Major (School of Education) — 55 credits of history, including Hs 104, 105, 231, 341 and seven upper-division courses.

History Courses

HS 104 **Western Civilization I** **5 credits**
A study of the ideas, values and institutions that comprised Western Civilization, through the 17th century.

HS 105 **Western Civilization II** **5 credits**
The development of Western civilization from the 18th through the 20th centuries and its impact on the non-Western World.

HS 120-129 **Introduction to Western Civilization** **5 credits**
A study of the ideas, values, and institutions that comprised Western Civilization. Correlated courses: EN 120-129.

HS 231 **Survey of the United States** **5 credits**
Events, movements, ideas and institutions of American history from the era of discovery to the present.

HS 241 **Afro-American History** **5 credits**
African origins, the slave trade, the Afro-American experience; the contributions of Afro-Americans to American culture.

HS 271 **Survey of Russian History** **5 credits**
An introduction to the history and culture of Russia and the Soviet Union.

HS 281 **Survey of the Far East since 1900** **5 credits**
Domestic and international development of China, Japan and the states of Southeast Asia.

HS 291 **Special Topics** **1-5 credits**
HS 292 **Special Topics** **1-5 credits**
HS 293 **Special Topics** **1-5 credits**

HS 300 **Methodology** **5 credits**
Techniques of historical research, criticism and writing.

HS 303 **Foundations of European Civilization** **5 credits**
The emergence of the Carolingian Empire and Anglo-Saxon England. Western European relations with the Byzantine and Arab-Mohammedan states.

HS 306 **Europe of the High Middle Ages** **5 credits**
Analysis of the cultural, political and social institutions of Medieval Europe.

HS 307 **Europe in the Age of the Renaissance** **5 credits**
Europe of the 14th through the 16th centuries. An analysis of the concept of Renaissance and the historical reality in both southern and northern Europe.

HS 309 **Early Modern Europe** **5 credits**
Analysis of specific problems of the Protestant Reformation and the Catholic Counter-Reformation, as arising from Renaissance humanism, and in relationship to modern institutionalization.

HS 311 **Europe of the 18th Century** **5 credits**
Cultural and political ferment of Western civilization in the century of the Enlightenment and the French Revolution.

HS 313 **Europe of the 19th Century** **5 credits**
The era of revolutions in ideas and societies, from the Napoleonic wars to the beginning of World War I.

HS 315 **Europe of the 20th Century** **5 credits**
Contemporary movements and institutions.

HS 321 **Modern France** **5 credits**
Development of cultural and political France from the 17th century to the present.

HS 327 **Modern Germany** **5 credits**
Studies in German history and culture.

HS 331 **Colonial America** **5 credits**
European discoveries, explorations and settlements from the 16th through the late 18th centuries.

HS 333 **The Beginnings of the United States** **5 credits**
The Revolution, Confederation and Constitution. Continental expansion; domestic and international development to the Age of Jackson.

HS 335 **Expansion and the Crisis of the Union** **5 credits**
The Age of Jackson, territorial expansion, slavery and abolition, civil war and reconstruction.

HS 337 **The United States in the Progressive Era** **5 credits**
Industrialization, immigration, urbanization and their effects on American society and politics.

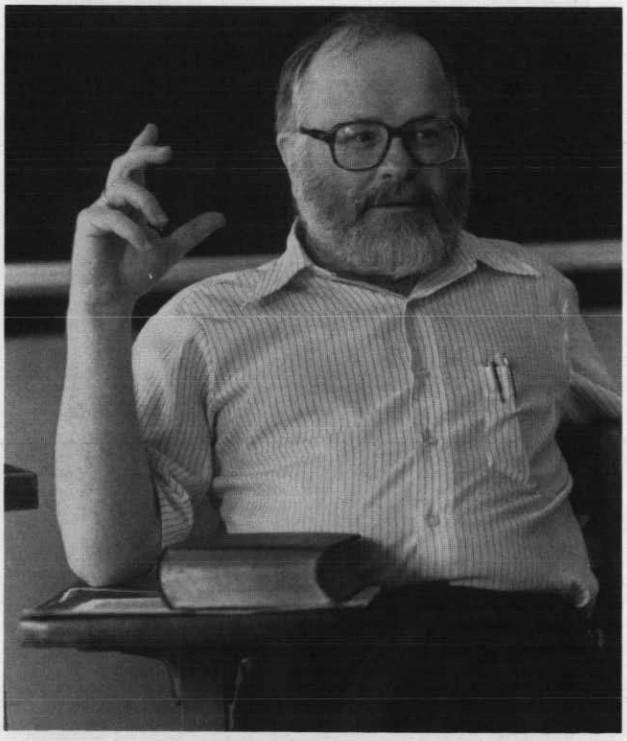
HS 339 **Recent United States** **5 credits**
The culture of the 1920's, the Great Depression, the Second World War, contemporary American society.

HS 341 **The Pacific Northwest** **5 credits**
Past development and present problems of the states comprising the Pacific Northwest with emphasis on Washington state.

HS 343 **American Society and Culture** **5 credits**
Social and intellectual history of the United States, with emphasis on the 19th and 20th centuries.

HS 345 **American Urban History** **5 credits**
The rise of the American city, its role in American culture, and reactions to it.

HS 364 **England (to 1715)** **5 credits**
The transformation of a traditional society, the crisis of revolution, and the emergence of the first modern state.



HS 365 **Modern Britain** **5 credits**
The growth of England as a democratic, industrial state with the subsequent growth of imperialism and its decline. The crisis of wars and the emergence of socialism in the twentieth century.

HS 381 **Chinese Civilization** **5 credits**
The development of Chinese culture, thought, and institutions down to the late 19th century.

HS 383 **China-20th Century** **5 credits**
The western impact and the Chinese revolutions from the Opium War to the People's Republic.

HS 385 **Traditional Japan** **5 credits**
The development of Japanese culture, thought and institutions to 1867.

HS 387 **Modern Japan** **5 credits**
The transformation of Japan from feudalism to imperial power and industrial giant, 1867 to present.

HS 391 **Special Topics** **1-5 credits**
HS 392 **Special Topics** **1-5 credits**
HS 393 **Special Topics** **1-5 credits**
Private work by arrangement, with the approval of department chairman.

HS 400 **Historiography** **5 credits**
Historical study and writing and the philosophy of history from the earliest times to the present.

HS 412 **The French Revolution and Napoleon** **5 credits**
Studies in the institutions and events which led to the fall of old France.

HS 431 **The Westward Movement** **5 credits**
American frontier history from colonial times to the end of the 19th century.

HS 434 **American Revolution and Confederation** **5 credits**
Events and interpretations in the history of the Atlantic seaboard provinces from the end of the Great War for Europe through independence and Confederated United States.

HS 435 **American Civil War and Reconstruction** **5 credits**
Political, social and economic aspects of the American civil war and reconstruction.

HS 463 **Social and Intellectual Change in Tudor England** **5 credits**
Study of the relationships between thought and a late medieval society in transition.

HS 481 **Modern Asia Revolutions** **5 credits**
Problems and forces in selected Asian nations in the 20th century, especially of circumstances, leaders, tactics, and doctrines of revolutionary groups in China.

HS 491 **Special Topics** **1-5 credits**
HS 492 **Special Topics** **1-5 credits**
HS 493 **Special Topics** **1-5 credits**

HS 497 **Independent Study** **1-5 credits**
HS 498 **Independent Study** **1-5 credits**

Honors Program

David J. Leigh, S.J., Ph.D., Director

Objectives

The Honors Program is a two-year program designed to develop students who can think, read, write and speak integratively across various university disciplines. The courses are historically arranged, beginning with the Ancient Near East and proceeding through the civilizations of the Hebrews, Greeks, Romans and Medieval Europeans to modern and contemporary times. The various disciplines — literature, thought, history, fine arts and science — are correlated to provide the student with the greatest possible depth in each period under examination. The program is conducted according to the dialogue method in seminars. In addition, each quarter the student must write at least one paper in each course and be prepared to defend this written work in a tutorial session of five or six students and the instructor. Examinations are normally oral and are given at the end of each quarter.

Scholarships/Applications

Scholarships are granted on a one-year basis, renewable on proof of competence. Applicants are chosen on the basis of their previous record and evidence that they are willing to make the effort necessary to achieve genuine superiority in the intellectual pursuits. In addition to application to Seattle University, candidates must apply directly to the Honors Program.

Program Requirements

When accepted in the Program, students complete each of the course sequences numbered Hu 101 through 243. Completion of the Honors Program satisfies University core requirements in philosophy, mathematics/science, English, history, theology/religious studies and fine arts. Students may elect to take Hu 398 or 499 while completing their major.

Degree Major

Honors students, on completion of their two-year program, transfer into one of the departments of the University to fulfill the requirements for their major. Degree majors are usually completed in two years.

Honors Program Courses

HU 101 **Humanities Seminar — Thought** **5 credits**
HU 102 **Humanities Seminar — Thought** **5 credits**
HU 103 **Humanities Seminar — Thought** **5 credits**
Three quarters of critical reading and discussion of the works which have most deeply influenced the development of the Western world, including the Old Testament, Pre-Socratics, Plato, Aristotle, New Testament, St. Augustine, St. Thomas, Duns Scotus, William of Ockham.

HU 111 **Humanities Seminar — Literature** **4 credits**
HU 112 **Humanities Seminar — Literature** **4 credits**
HU 113 **Humanities Seminar — Literature** **4 credits**
Critical examination of those literary works which have most deeply influenced the development of the Western world, including the dramatic books of the Old Testament, Homer and the Greek playwrights, Virgil, The Cid, Song of Roland, Dante and Chaucer.

HU 121 **Humanities Seminar — History** **4 credits**
HU 122 **Humanities Seminar — History** **4 credits**
HU 123 **Humanities Seminar — History** **4 credits**
Historical survey which also furnishes a background discipline for humanities-thought and humanities-literature, covering Hebrew, Greek, Roman and Medieval Christian history.

HU 131 **Humanities Seminar — Science** **2 credits**
HU 132 **Humanities Seminar — Science** **2 credits**
The history and nature of the physical and biological sciences.

HU 142 **Humanities Seminar — Art** **2 credits**
Synoptic view of art history; period and national styles; principles and implication of design.

HU 191 **Interdisciplinary Seminar** **1-10 credits**
HU 192 **Interdisciplinary Seminar** **1-10 credits**

HU 201 **Humanities Seminar — Thought** **4 credits**
HU 202 **Humanities Seminar — Thought** **4 credits**
HU 203 **Humanities Seminar — Thought** **5 credits**
Three quarters of critical reading and discussion, including Descartes, Hobbes, Locke, Spinoza, Leibniz, Rousseau, Hume, Kant, Hegel, J.S. Mill, Nietzsche, Marx, Sartre, Heidegger, Merleau-Ponty, Ricoeur.

HU 211 **Humanities Seminar — Literature** **4 credits**
HU 212 **Humanities Seminar — Literature** **4 credits**
HU 213 **Humanities Seminar — Literature** **4 credits**
Shakespeare, Donne, Moliere, Milton, Dryden, Pope, Goethe, the Romantics, Victorians, Russian novelists and modern plays through the Existentialists.

HU 221 **Humanities Seminar — History** **4 credits**
HU 222 **Humanities Seminar — History** **4 credits**
HU 223 **Humanities Seminar — History** **4 credits**
The Reformation to the present.

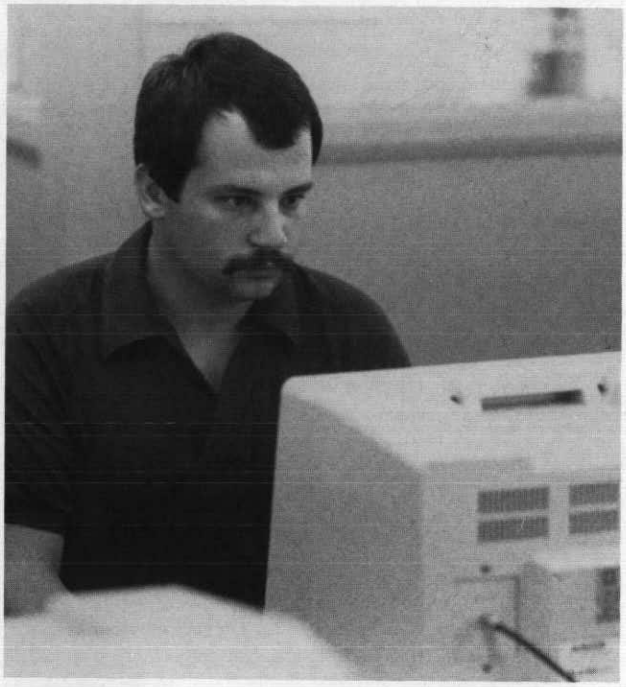
HU 231 **Humanities Seminar — Science** **3 credits**
HU 232 **Humanities Seminar — Science** **3 credits**
A study of some contemporary problems in the physical and biological sciences.

HU 243 **Humanities Seminar — Music** **2 credits**
Twentieth century music with emphasis upon historical and cultural correlations.

HU 291 **Special Topics** **1-5 credits**
HU 292 **Special Topics** **1-5 credits**
HU 293 **Special Topics** **1-5 credits**

HU 398 **Independent Study** **1-5 credits**
Private work by arrangement. Prerequisite: Approval of program director.

HU 499 **Humanities Senior Seminar** **5 credits**
Reading and discussion of major synthetic literature in the humanities on selected topics. Prerequisite: Approval of instructor.



Journalism

Gary L. Atkins, M.A., Chairperson

Objectives

To the University's basic liberal studies program, the Journalism Department adds courses designed to give the student an awareness of the role of mass communications in a free society and the special knowledge and skills required for effective communication.

Two sequences are offered, both leading to the Bachelor of Arts degree in Journalism. Both are directed toward producing competence in gathering and disseeminating information, the basis for all careers in mass communications. The Journalism sequence offers students the opportunity to learn about print and broadcast journalism; the Public Relations/Communications sequence aims at providing the knowledge and skills needed in the world of corporate and governmental communication. Both sequences also prepare students for further graduate study.

General Program Requirements

Students in journalism and public relations must satisfy the Core Curriculum requirements of the University as given on pages 26-28 of this bulletin. In Phase Two of the Core Curriculum, students following the Journalism sequence must take one course in Political Science (Pls 120-9 or Pls 220-9) and one course in Economics (Ec 120-9 or Ec220-9). Students following the Public Relations sequence must take either of the courses in Economics (Ec 120-9 or Ec 220-9). Students following Public Relations sequence are also encouraged to take a mathematics-for-business course for which they are qualified (Mt 118 or Mt 130); to fulfill their Mathematics requirement during Phase One of the Core.

Journalism and public relations students must receive a minimum of C in any journalism course to be applied toward major requirements. Because typing is required in all writing classes, students should have adequate typing skill (15-25 wpm) before enrolling in Journalism courses.

In addition to completing necessary course work, all journalism and public relations students are expected to gain actual experience and build a portfolio of work by participating on student publications and in off-campus internships.

Majors are encouraged to use their electives to establish minors or substantial depth in fields about which they may be communicating. Those following the Journalism sequence should consider a minor in Political Science, Economics, History or Global Studies. Those following the Public Relations/Communications sequence should consider a minors or concentrations of courses in Business (especially Marketing), Economics, Political Science, Psychology or Fine Arts.

Departmental Requirements

Bachelor of Arts, Journalism Sequence — 55 credits which include Jr 100, 200, 210, 250, 310, 330, 490 and 20 credits in courses numbered 300 and above. In addition, 35 credits in other communications-related and liberal arts courses as noted below.

Bachelor of Arts, Public Relations/Communications Sequence — 50 credits including Jr 100, 200, 210, 250, 330 and 490 and 20 credits in courses numbered 300 and above, including Jr 460, Public Relations. Recommended: Jr 310. In addition, 35 credits in other communications-related and liberal arts courses as noted below.s Those following the Public Relations sequence are encouraged to take related communications classes such as Public Speaking, Persuasive Writing, and Marketing Communications.

Adjunct courses required for both sequences —The Journalism Department requires all majors to take 35 credits of courses in communications-related and in certain liberal arts/science areas beyond the requirements of the University Core Curriculum and the requirement of the major.

First-year students entering in 1987-88 fulfill 20 of these credits in approved communications-related fields of study and 15 credits in approved liberal arts/science courses. Courses accepted for approval depend upon whether the student chooses the Journalism or Public Relations/Communications sequence. Consult the department for a list of courses acceptable for each sequence.

Transfer and returning students in 1987-88, who are fulfilling the requirements of the old University Core Curriculum (as outlined on page 26 of the 1986-87 Bulletin), will generally be required to meet the following distribution of the 35 credits: 10 credits of English numbered 200 and above beyond the core requirements; 10 credits of upper division History or approved substitutes; 10 credits in any combination of Fine Arts, Speech or Modern Foreign Languages; and 5 credits in social science.

Undergraduate Minor — 30 credits which must include Jr 100, 200, 210, 250 and 10 credits of additional courses numbered 300 and above.

Undergraduate Minor (teaching) — 25 credits which must include Jr 100, 200, 210, 250 and 5 credits of approved courses.

Typical Four-Year Degree Sequence

Bachelor of Arts

Freshman year

Jr 100, 210, 382 ..... 11 credits
English 110/Philosophy 110 Sequence 10 credits
History 120/English 120 Sequence ..... 10 credits
Mathematics, Science, Fine Arts ..... 15 credits

Students following Public Relations sequence are encouraged to take Mt 118 to meet their Phase One Mathematics requirement.

Sophomore Year

Journalism 200, 250, 380, 381 ..... 12 credits
CORE Phase Two ..... 20 credits
Journalism or other approved electives ..... 12 credits

Students following Journalism sequence must take one Economics and one Political Science course during Phase Two. Students following Public Relations sequence must take either Economics course during Phase Two.

Junior Year

Journalism requirements & electives
(varies by sequence) ..... Varies
CORE Phase Three ..... 13-15 credits
(Ethics, Religious Studies, Interdisciplinary course
Electives ..... Varies

Senior Year

Journalism requirements and electives
(varies by sequence) ..... Varies
CORE Phase Three (Senior Synthesis) ..... 3 credits
Electives ..... Varies
Total ..... 180 credits

Journalism/Mass Communications Courses

JR 100 Introduction to Journalism 5 credits
Introduction to journalistic style and terminology; writing news and basic news feature stories. (fall)

JR 200 Mass Communication and Society 5 credits
Historical press concepts; nature and functions of the mass media; social, political and economic roles; principles governing journalistic communication; role of the news consumer. (annually)

JR 210 Newswriting 5 credits
Elements of the news story for print media; practice in gathering data for and writing news stories. Prerequisite: Jr 100. (winter)

JR 250 Newsediting 5 credits
Copy and proof editing procedures; headline writing, layout and makeup of the newspaper; photographic editing techniques. (spring)

JR 291 Special Topics 1-5 credits
JR 292 Special Topics 1-5 credits
JR 293 Special Topics 1-5 credits

JR 310 Reporting Public Affairs 5 credits
Study of and practice in gathering information for complex news stories based upon activities of government, judicial and community agencies. Prerequisite: Jr 210 or equivalent. (winter)

JR 320 Photojournalism I 2 credits
JR 321 Photojournalism II 2 credits
JR 322 Photojournalism III 2 credits
Principles of newsphotography, processing and picture editing. (Biennially, I-fall, II-winter, III-spring)

JR 330 History of Journalism 5 credits
Study of the origins and growth of the American press from colonial to modern times. (Biennially)

JR 350 Magazine and Feature Writing 5 credits
Elements of non-fiction articles for newspapers and magazines; study of markets; writing for sale. (spring)

JR 355 Communications Graphics 5 credits
Typographic, layout and design concepts. Editing techniques for organizational publications. Planning and purchasing printing. (Biennially)

JR 370 Editorial and Opinion Writing 5 credits
Nature, function and structure of persuasive writing; analysis of media editorials; practice in editorial writing. (Biennially)

JR 380 Publications I 1 credit
JR 381 Publications II 1 credit
JR 382 Publications III 1 credit
Supervised on-campus editorial work. Prerequisite: Jr 100 or equivalent. Mandatory CR/NC. (I-fall, II-winter, III-spring)

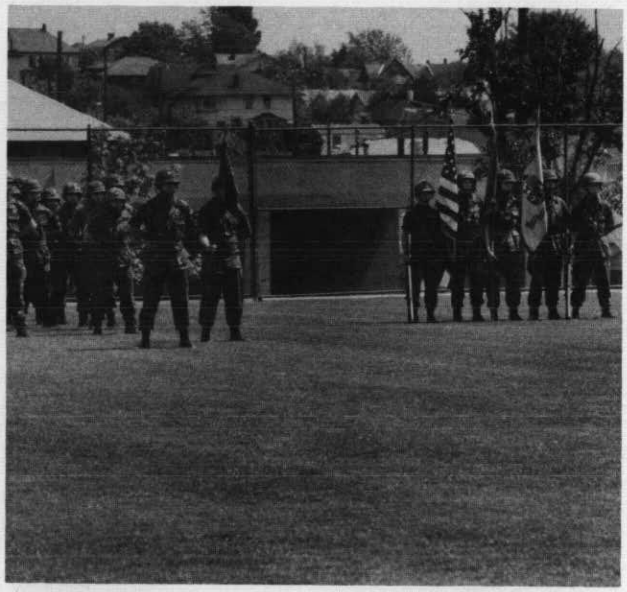
JR 460 Public Relations 5 credits
Public relations as a management function; policies, procedures and problems; program analysis and case study. (Biennially)

JR 480 Publications IV 1 credit
JR 481 Publications V 1 credit
JR 482 Publications VI 1 credit
Advanced, supervised on-campus editorial work. Prerequisite: Jr 100 or equivalent. Mandatory CR/NC. (IV-fall, V-winter, VI-spring)

JR 490 Law and Ethics of Journalism 5 credits
Contemporary legal and ethical problems for mass communications. (fall)

JR 491 Special Topics 1-5 credits
JR 492 Special Topics 1-5 credits
JR 493 Special Topics 1-5 credits

JR 496 Independent Study 1-5 credits
JR 497 Independent Study 1-5 credits
JR 498 Independent Study 1-5 credits
Supervised research in communications; special projects; internships on media and affiliated agencies. Prerequisite: Permission of department chairman. For majors only.



Military Science

Lt. Col. Warren T. Huckabay, M.S., Chairperson

Objectives

To prepare academically and physically qualified college women and men for the rigor and challenge of serving as an officer in the United States Army — Active, National Guard, or Reserve. To that end, the program stresses service to country and community through an enhancement of leadership competencies which support and build on the concept of "servant leadership."

The Program

The program has been designed to produce liberally educated officers for the United States Army. It is therefore, multifaceted with distinctive sub-elements to meet individual needs and requirements. For example, ROTC is traditionally a four-year program, but individuals with prior service, members of reserve or National Guard units, participants of JROTC in high school, and summer basic camp attendees may complete the program in only two years. Normally, all students participate in one class day per week (two-three hours), three workshops (leadership labs) per quarter, and one overnight field exercise per quarter. Physical fitness of all cadets is closely monitored.

The program allows for scholarship assistance for selected students, a monthly stipend for all scholarship and third and fourth year students, and attendance at confidence building courses during the summer: Air Assault School, Airborne School, Ranger School, Flight Orientation, and cadet troop leadership training. For specifics about the program please contact the Professor of Military Science for additional information. High school seniors interested in applying for a four-year scholarship must submit application by December 1 of their senior year.

Financial Aid

Cadets receive financial aid in two forms: two (2), three (3), and four (4) year scholarships are awarded annually to cover school expenses. The scholarships pay tuition and fees and provide a book allowance as well as a monthly allowance of $100. The second type of assistance provides a $100 per month allowance to all non-scholarship cadets in the Advanced Course.

Commissioning Requirements

To be commissioned in the United States Army a student must complete the military science curriculum, including successful completion of the six-week advanced camp the summer prior to the senior year.

Basic Course:

Freshman year

MS 111, 112, and 118 or special topics ..... 6 credits
PME: English 110 or equivalent ..... 5 credits
Foreign Language 191, 192 and 193 ..... 5 credits
(Scholarship Cadets Only)

Sophomore year

MS 211, 214, 218 or special topics ..... 6 credits
PME: Course in either psychology, sociology, anthropology or ethics ..... 5 credits

Advanced Course:

Junior year

MS 311, 312 and 313 ..... 9 credits
MS 314 or 315 (Advanced Camp) ..... 4 credits

Senior year

MS 412, 413 and 419 or Independent Study ... 11 credits

Special topics or independent study courses may be substituted for courses listed above with the approval of the Professor of Military Science.

The Curriculum

The curriculum is designed to prepare students to become future leaders of the U.S. Army by developing their ability to demonstrate acceptable behavior in each of the following leadership dimensions: Initiative, Oral and Written Communications, Judgment, Decisiveness, Sensitivity, Technical Competence, Planning and Organizing, Administrative Control, Delegation, and Problem Analysis. Behavioral development occurs through course work in the areas of Professional Military Education (PME), Military Knowledge (MK), and Military Skills (MS).

PME courses are designed to develop the students' ability to communicate appropriately in writing, understand the human aspects of command and to become acquainted with the evolution of warfare, and military theory with a particular emphasis on the place of military institutions in society.

Military knowledge courses provide a foundation in such areas as leadership theory, ethics, roles and responsibilities of the officer and military operations. Military skills are developed during the conduct of leadership workshops and quarterly Field Training Exercises.

Leadership development occurs both in and out of the classroom by placing students in a variety of leadership positions. Oral presentations and writing requirements are incorporated in all classes as another means of developing desired leadership behavior.

Military Science Basic Courses

MS 111 (101) **Basic Officership I** **2 credits**
An introduction to the officership environment, military science, key legislation, roles of active and reserve

component units, and special programs associated with ROTC. Includes three leadership labs and one Field Training Exercise. (fall)

MS 112 (102) **Military Communication Skills** **2 credits**
Development of written and oral communication skills for the military leader. Practical application through student participation, presentations and writing projects. Includes three leadership labs and one Field Training Exercise. (winter)

MS 119 **Introduction to Miliary Operations** **2 credits**
An introduction to the air and land warfare. Course will concentrate on the skills of the individual soldier and the squad. To include weapons and fighting techniques in the offense and defense. Includes three leadership labs and one Field Training Exercise. (spring)

MS 213 (203) **Leadership Assessment** **2 credits**
Through a series of classroom simulations, participants are evaluated on their potential as leaders and managers. Includes organizational behavior, leadership theories, management competencies, communication skills, physical fitness and the leadership assessment program (LAP). Includes three leadership labs and one field Training Exercise. (spring)

MS 214 **Military Ethics and Values** **2 credits**
Through a series of films, books, essays, and discussions the student is introduced to, and explores, military value sets and the ethics practiced within the profession of arms. Includes three leadership labs and one Field Training Exercise. (fall)

MS 217 (208) **Army Conditioning** **1 credit**
A remedial physical fitness program for selected students to bring them up to the Army standard of physical fitness. Required prior to attendance at camps, air assault, airborne or Ranger schools. (spring)

MS 218 **Map Reading** **2 credits**
An introduction to Military Map Reading. Includes discussion of coordinates, Azimuths, conversion, intersection/resection, interpretation of symbols and relief. Includes three leadership labs and one Field Training Exercise. (winter)

MS 291 **Special Topics** **1-5 credits**
MS 292 **Special Topics** **1-5 credits**
MS 293 **Special Topics** **1-5 credits**

MS 296 **Independent Study** **1-5 credits**

Military Science Advanced Courses

MS 311 (302) **Advanced Officership III** **3 credits**
An orientation on the competencies required of the small unit leader, manager. Includes lower-echelon organizations, tactics, deployment and communications. Permission of instructor. Includes three leadership labs and one Field Training Exercise. (spring)

MS 312 (301) **Land Navigation Competencies** **3 credits**
Principles of land navigation using terrain analysis, map reading, aerial photograph interpretation, and the basics of orienteering. Permission of instructor. Includes three leadership labs and one Field Training Exercise. (winter)

MS 313 (303) **Officership/Leadership/Management** **3 credits**
A survey course of leadership/management and motivational theories required of the small unit leader. Includes ethics and professionalism, human behavior and the decisionmaking process. Permission of instructor. Includes three leadership labs and one Field Training Exercise. (fall)

MS 314 (304) **Advanced Camp** **4 credits**
Successful completion is a prerequisite to commissioning. During six weeks at Ft. Lewis, students are placed in a variety of roles and situations and practice their leadership and management competencies in the broader context of officership. Prerequisite: MS 311, 312, and 313. (summer)

MS 315 **Advanced Camp - Nursing** **4 credits**
Successful completion is a prerequisite to commissioning. During six weeks at Madigan Army Medical Center, nursing students are placed in a variety of roles as an Army nurse to develop their professional competencies - both as a nurse and as an officer. Prerequisite: MS 311, 312, and 313. (summer)

MS 412 (401) **Professionalism and Responsibility** **3 credits**
A survey course which assists the student to come to grips with the concept of officership. Covers Army values, ethics, professionalism, responsibilities to self, subordinates and country, law of land warfare, and the resolution of ethical/value dilemmas. Permission of instructor. Includes three leadership labs and one Field Training Exercise. (fall)

MS 413 (403) **Contemporary Political and Social Issues** **3 credits**
The capstone course prior to commissioning, discusses the role of the officer and the institution in a rapidly changing world environment. Covers topics from national security. Third World Nationalism, to the Soviet Includes three leadership labs and one Field Training. (spring)

MS 419 **Military History** **5 credits**
A survey course intended to improve the student's understanding of the nature of war and the place of military institutions in society. Develops impact of leaders on the conduct of the battle. Major emphasis on the battles of the Revolutionary War, Civil War, WWI, WWII and Vietnam. Includes three leadership labs and one Field Training Exercise. (winter).

MS 496 **Independent Study** **1-5 credits**

Aerospace Studies (Air Force ROTC)

Col. Robert J. Roetcisoender, P.A.S., Chairman

Objectives

Air Force ROTC is offered to SU students through an agreement with the University of Washington. The objectives of Air Force ROTC are to motivate, educate, and commission highly qualified students for active duty as officers in the United States Air Force. The curriculum is designed to develop the skills and attitudes an Air Force officer will need to comprehend and cope with the scientific and technological developments of the 80s.

General Program Requirements

All classes are taught at the University of Washington, Clark Hall, Rm 220. The basic freshman and sophomore courses are open to all students and require two hours of student participation per week. Junior and Senior classes are open to selected qualified students who have received credit for the basic courses. For further information contact the Recruiting Officer at (206) 543-2360 or write Recruiting Officer, AFROTC Det 910 (DU-30) University of Washington, Seattle, WA 98195.

Commissioning Requirements

Students who successfully complete the Air Force ROTC program and receive an academic degree from Seattle University will be offered commissions as Second Lieutenants in the U.S. Air Force.

General Military Course (GMC)

The basic division courses are open to all students. No military commitment is required to take these courses. Sophomore level students may take the freshman and sophomore level courses concurrently. Uniforms and textbooks are furnished. A four week Field Training course taken during the summer between the sophomore and junior years is required for entry into the Professional Officer Courses.

Professional Officer Courses

Cadets selected for enrollment in POC are enlisted in Air Force Reserve and receive subsistence pay of $100 per month. Students who are qualified for Air Force pilot training will receive up to 13 hours of flight instruction.

Scholarship

Four, 3½, 3, 2½, and 2-year scholarships are available for engineering and certain scientific majors. In addition, selected scholarships are available for pre-health profession majors, pilot, navigator, and missile launch officer candidates. Air Force ROTC scholarships pay for tuition, books, fees, and uniforms. In addition, scholarship winners receive $100 subsistance per month. To take advantage of these scholarships students should apply directly to AFROTC Det 910, University of Washington, Seattle, WA 98195, or call (206) 543-2360.

General Military Courses

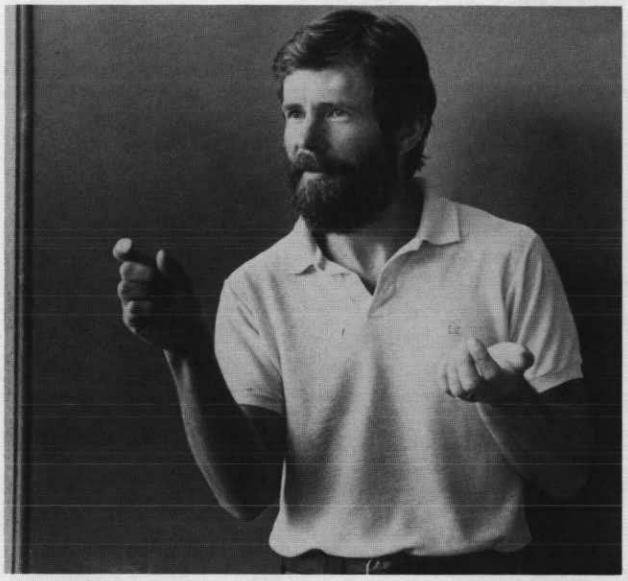
AS 101, 102, 103 — Aerospace Studies 100 — 1 credits
Examines the role of United States military force in the contemporary world, with particular attention to the United States Air Force, its organization and mission. The functions of strategic offensive and defensive forces, general purpose forces and aerospace support forces are covered. One classroom hour and one hour of leadership laboratory per week.

AS 211, 212, 213 — Aerospace Studies 200 — 2 credits
Introduction to the study of air power. The course is developed from a historical perspective starting before the Wright brothers and continuing through the early 1980s. The development and employment of air power in military and nonmilitary operations to support national objectives is covered. One classroom hour and one hour of leadership laboratory per week. Prerequisites: 103 or equivalent for 211; 211 for 212; 212 for 213 or permission of department.

Professional Officer Courses

AS 331, 332, 333 — Aerospace Studies 300 — 3 credits
Study of Air Force leadership and management includes professional responsibilities, military justice system, leadership theory functions and practices, management principles and functions, and problem solving. Three classroom hours and one hour of leadership laboratory per week. Prerequisites: permission of department.

AS 431, 432, 433 — Aerospace Studies 400 — 3 credits
Study of United States defense policy with respect to those political, economic, and social constraints involved in its formulation and implementation. Includes an examination of the military professional, his/her role and civil-military relationship in a democratic society. Three classroom hours and one hour of leadership laboratory per week. Prerequisite: permission of department.



Philosophy

Andrew G. Bjelland, Ph.D., Chairperson

Objectives

The task of philosophy is to study the world and the person in terms of that which constitutes their inner-most unity and meaning. It seeks to discover those all-pervasive factors in the world which refuse to yield to the segregating tendencies of a fragmentary approach to knowledge and truth. It strives to introduce students to the language of universal communication whereby they might translate the complex manifold of human experience into relevant and creative meaning for themselves and for society. It raises such searching questions as: What is the meaning of human existence? What is the scope of human freedom? What is the basis of personal responsibility? Are values relative? How is truth established? How is knowledge distinguished from belief and mere opinion? What is the nature of rational argument? Can God's existence be rationally determined? What is the nature and origin of evil? What is the nature of reality?

The philosophy taught at Seattle University strives to raise these and similarly significant questions in an atmosphere conducive to facilitating the student's search for truth. It unashamedly recognizes its debt to the past, particularly to those philosophers who have presented a realist view of the person and the world compatible with the Judaeo-Christian vision of the universe. At the same time it realizes that to remain dynamically relevant to the contemporary age it must advance and grow and be ever open to new problems, new ideas, new contributions and new perspectives.

Degree Offered

Bachelor of Arts

General Program Requirements

Students in philosophy must satisfy the core curriculum requirements of the University as given on pages 26-28 of this bulletin. In addition, students in philosophy must take 10 credits of foreign language.

Departmental Requirements

Bachelor of Arts — 55 credits of philosophy to be distributed as follows:

I Foundations: Pl 110, 220, and 260 or 261

II Ethics: Pl 250

III History and Traditions: Pl 233, 441, 442, 449

IV Topics and Controversies: One course at the 300 level or above, plus any two courses at the 300 level or above from III or IV. Consult department brochure for rationale and description of categories I, II, III, IV.

Honors Program students who have successfully completed their work at Seattle University are exempted from Pl 220. They are credited with the following equivalents: Hu 101=Pl 110; Hu 102/3=Pl 442; Hu 201=Pl 233; Hu 202=Pl 355; Hu 203=Pl 365.

Undergraduate Minor — 35 credits of philosophy which must include Pl 110, 220, 250, and 260 or 261. The remaining 15 credits are elective courses in philosophy. For students who wish to pursue a special "track" in the philosophy minor, at least 10 of the 15 elective credits will consist of courses designed to complement the student's major field.

Bachelor of Arts

Freshman year

Writing/Thinking Sequence (English 110 and Philosophy 110)	10 credits
History/Literature Sequence (History 120/English 120)	10 credits
Philosophy 260 or 261	5 credits
Fine Arts 120	5 credits
Mathematics core option	5 credits
Lab Science core option	5 credits
Elective	5 credits

Sophomore year

Study of Person Sequence (Philosophy 220 and Social Science I)	10 credits
Philosophy 233 and 250	10 credits
Philosophy course in fulfillment of "Topics and Controversies" requirement	5 credits
Social Science II	5 credits
Theology and Religious Studies I	5 credits
Electives	10 credits

Junior year

Modern language 105 and 106	10 credits
Philosophy seminars and upper division courses	15 credits
Interdisciplinary course	5 credits
Electives	15 credits

Senior year

Philosophy seminars and upper division courses	10 credits
Theology and Religious Studies II	5 credits
Senior Synthesis	3 credits
Electives	27 credits
Total	180 credits

Philosophy Courses

PL 110 Introduction to Philosophy and Critical Thinking — **5 credits**
A combined historical and problematic approach to the nature of philosophical inquiry. Reflection upon fundamental philosophical problems provides the context for mastering basic tools of critical interpretation, logical reasoning, argumentative writing and responsible cognitive communication.

PL 220 Philosophical Problems: The Human Person — **5 credits**
Critical examination of the nature and powers of the human person. Special emphasis on the human knowing process and the problems of human freedom and personal responsibility. Prerequisite: Pl 110.

PL 231 Introduction to Ancient Greek Philosophy — **5 credits**
Readings from source material of the philosophy of the ancient Greeks. Investigation of the topics, problems and doctrines of the pre-Socratics, Plato and Aristotle. Prerequisite: Pl 220.

PL 232 Introduction to Medieval Philosophy — **5 credits**
Synthesis of medieval philosophy in its historical perspective with a particular examination of the themes of Arabic, Scholastic and Nominalist metaphysics. Prerequisite: Pl 220.

PL 233 Introduction to Modern Philosophy — **5 credits**
Investigation of topics, problems and doctrines of selected authors from the 17th and 18th centuries. Prerequisite: Pl 220.

PL 250 Ethics — **5 credits**
General theory of moral behavior, ethics as a science, the purpose of human life and the means of attaining this goal. Applications of general ethical theory in specific instances. Prerequisite: Pl 220.

PL 252 Business Ethics — **5 credits**
Application of general ethical theory to those problems directly related to the business world; employment practices, wages, advertising, honesty, strikes. Prerequisites: Pl 220; Ec 271.

PL 255 Medical Ethics — **5 credits**
Application of general ethical theory to basic problems encountered in the medical profession; fees, professional secrecy, rights of patients, abortion, transplants, drugs. Prerequisite: Pl 220.

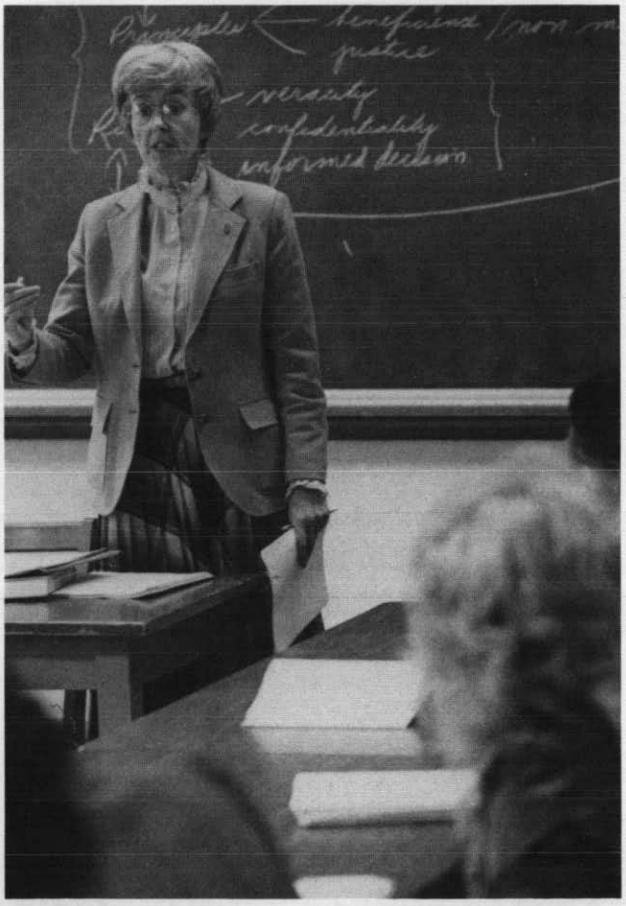
PL 256 **Engineering Ethics** **5 credits**
Application of ethical theories to problems faced by engineers: conflicts between responsibilities to employer and consumer; impact of engineering work on society; weapons, biomedical, and nuclear engineering. Prerequisite: PI 220.

PL 257 **Ethics and Criminal Justice** **5 credits**
Critical analysis of the ethical issues facing criminal justice practitioners such as the use of deadly force, conformity to the rules of one's office, the decision to prosecute, participation in plea bargaining, representation of the guilty, and the imposition of punishment. Prerequisite: PI 220.

PL 260 **Logic I** **5 credits**
Systematic treatment of traditional logic. The themes of communication and language, division and definition, propositions, syllogisms and the nature of science will be examined.

PL 261 **Logic II** **5 credits**
Introduction to symbolic or mathematical logic from both an intuitive and formal standpoint. Elementary calculus of classes and relations and introduction to axiomatic set theory and Boolean algebra. Prerequisite: PI 220.

PL 300 **Philosophy of Nature** **5 credits**
Philosophical appraisal of the material universe, its nature, causes and activities, incorporating the mathematical and experimental findings into the philosophical account of the cosmos. Prerequisite: PI 220.



PL 301 **Philosophy and the Imagination** **5 credits**
Examination of the theories of imagination from Hume to Heidegger and its significance for aesthetics, epistemology, and psychology. Prerequisite: PI 220.

PL 302 **Approaches to Knowledge and Reality** **5 credits**
Examination of the interrelations between theories of knowledge and metaphysics, with emphasis on: the nature and scope of human knowledge; the relations of perception to understanding; change and causality; the possible and the real. Prerequisite: PI 220.

PL 303 **Philosophy of Natural Sciences** **5 credits**
Philosophical reflections on the historical development of the scientific view of the cosmos. Readings from significant sources. Prerequisite: PI 220.

PL 305 **Philosophy of Social and Behavioral Sciences** **5 credits**
Study of the philosophical implications and presuppositions of the methodology and conceptual framework of the social and behavioral sciences: sociology, economics and/or psychology. Prerequisite: PI 220.

PL 306 **Philosophy and Psychology** **5 credits**
A study of the interrelationships between philosophical methods and contents, and the method and contents of psychology, with special focus on the psychoanalytic and phenomenological-existential developments of psychological theory. Prerequisite: PI 220.

PL 310 **Contemporary Ethical Theory** **5 credits**
This course will concern itself with the moral problems facing contemporary persons as manifest in such contemporaries as Hare, Heelter, McCormick as well as the developmental theories of Kohlberg. Prerequisite: PI 220.

PL 312 **Social Ethics** **5 credits**
Moral problems raised by the relation between individuals and their societies: the common good, the justification of authority, rights and responsibilities of individuals and societies. Prerequisite: PI 220.

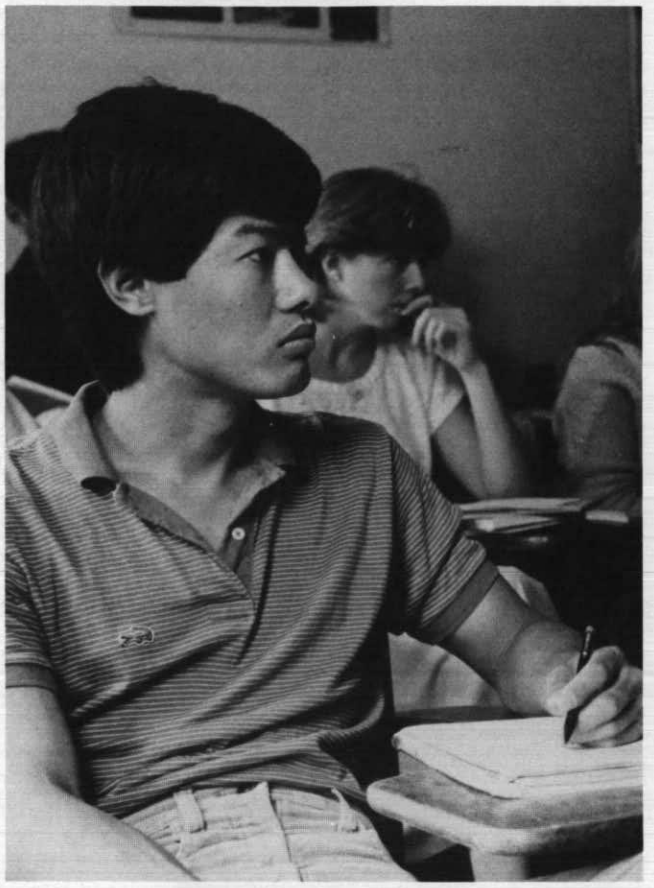
PL 315 **Buddhist Ethics** **5 credits**
Study of the path of right living as expressed in the mystical and religious philosophy of Buddha. Prerequisite: PI 220.

PL 324 **Philosophy of Religion** **5 credits**
A philosophical study of religious consciousness in terms of the relationships between religious consciousness and human authenticity, in both its individual and social dimensions. Prerequisite: PI 220.

PL 325 **Philosophy of Art** **5 credits**
Philosophical reflection on the nature of art and its reality; beauty as a transcendental property of being and its relationship to art and the artist. Prerequisite: PI 220.

PL 326 **Philosophy of Law** **5 credits**
An investigation into the nature of law, the relation between law and morality, the limits of law and the nature of justice and rights. Prerequisite: PI 220.

PL 335 **The Philosophy of History** **5 credits**
Consideration of the aim and scope of history, the meaning of the historical event, the nature of historical explanation and the criterion for historical truth from the points of view of leading representatives of both the speculative and analytical schools. Prerequisite: PI 220.



PL 336 **Philosophical Impact of Scientific Revolutions** **5 credits**
Critical examination of one or more major scientific revolutions — e.g., the Copernican, Galilean-Newtonian, Darwinian, or Einsteinian revolutions — and of philosophical responses to such emergent scientific views. Prerequisite: PI 220.

PL 337 **Social and Political Philosophy** **5 credits**
General overview of major thinkers or focus on particular theme(s) in the history of Western social-political theory, from the ancients to the present-day. Prerequisite: PI 220.

PL 341 **Issues in Contemporary Philosophy** **5 credits**
A selected examination of some of the current debates within philosophy, e.g., hermeneutics, deconstruction and critical theory. Prerequisite: PI 220.

PL 355 **19th Century Philosophy** **5 credits**
Readings from source material of the 19th Century philosophers. Investigation of central topics, problems and teachings of selected authors from Hegel to Nietzsche. Prerequisite: PI 220.

PL 360 **20th Century Philosophy — The Analytic Tradition** **5 credits**
Readings from source material of 20th Century analytic philosophers. Investigation of contemporary schools of logical positivism and linguistic analysis from Russell to Wittgenstein. Prerequisite: PI 220.

PL 361 **Phenomenology** **5 credits**
Study of the historical roots of this contemporary movement, which seeks to elucidate the fundamental structures of human experience. Focus on the "pure" phenomenology of Edmund Husserl and Merleau-Ponty's phenomenology of the lived-body. Prerequisite: PI 220.

PL 362 (489) **Existentialism** **5 credits**
The themes of anxiety, despair, guilt, and freedom in the writings of Kierkegaard, Nietzsche, Sartre, Camus, Jaspers and others. Prerequisite: PI 220.

PL 364 **American Philosophy** **5 credits**
Offers, at the discretion of the instructor, either a general overview of the history of the American philosophical tradition from Puritanism to the present or a focused study of a particular movement (e.g., Pragmatism) or theme (e.g., community) in that tradition. Prerequisite: PI 220.

PL 365 **20th Century Philosophy — The Speculative Tradition** **5 credits**
Readings from source material of 20th Century process philosophers from Bergson to Whitehead and of the phenomenological tradition from Husserl to Sartre. Prerequisite: PI 220.

PL 366 (478) **Process Philosophy** **5 credits**
Critical reflection on the philosophies of such thinkers as Bergson, Peirce, Whitehead, and Hartshorne. Prerequisite: PI 220.

PL 439 **Seminar on Ethics and Value Studies** **5 credits**
Intensive examination of an author or theme in the areas of ethics, aesthetics, social and political values. Prerequisite: PI 220.

PL 441 **The Greek Experience: Plato/Aristotle** **5 credits**
A seminar study of the ancient Greek philosophical experience, with particular focus on the works of Plato and Aristotle. Prerequisite: PI 220.

PL 442 **The Medieval Synthesis: Augustine/Aquinas** **5 credits**
A seminar study of the Christian philosophies of St. Augustine and St. Thomas Aquinas. Prerequisite: PI 220.

PL 443 **German Idealism** **5 credits**
Seminar investigation of writings by such thinkers as Kant, Fichte, Schelling and Hegel. Prerequisite: PI 220.

PL 449 **Major Figures in the Traditions** **5 credits**
Intensive, seminar examination of the work of a major philosopher. Prerequisite: PI 220.

PL 491 **Special Topics** **1-5 credits**
PL 492 **Special Topics** **1-5 credits**
PL 493 **Special Topics** **1-5 credits**

PL 497 **Independent Study** **1-5 credits**
PL 498 **Independent Study** **1-5 credits**

PL 499 **Thesis** **1-5 credits**
Original philosophical investigation under the direction of a faculty member appointed by the chairman of the department. Prerequisite: PI 220.

Political Science

Sr. Christopher Querin, S.P., Ph.D., Chairperson

Objectives

The curriculum in political science introduces the student to political values, trains in political analysis and informs of government processes at the international, state and local level. It prepares students for graduate study or for careers in government, research, teaching or private enterprise where either a knowledge of political science or a broad liberal arts background is required.

Degrees Offered

Bachelor of Arts

General Program Requirements

Students in political science must satisfy the core curriculum requirements of the University as given on pages 26-28 of this bulletin. An economics course required as partial fulfillment of this social science core. Political science majors are strongly encouraged to take additional courses in English, history, philosophy and theology and religious studies and are advised to enroll in courses in economics, psychology, sociology, fine arts and languages. Students who plan to attend law school should consult the prelaw section of this bulletin and see a prelaw adviser.

Transfer students must take a minimum of four political science classes regardless of number of credits and these courses must be from each of the four subdivisions of the department.

Departmental Requirements

Bachelor of Arts — 60 credits of political science which must include Pls 100 and 190 and at least 30 credits from upper division political science courses. Majors must select two courses in two of the four major subdivisions of the department and three courses in each of the two other subdivisions. The four major subdivisions of the department and the applicable courses are:

American Government and Politics — Pls 202, 208, 210, 301, 304, 310, 365, 406, 407, 488.

International Relations — Pls 260, 361, 362, 365, 460, 462.

Comparative and Foreign Governments — Pls 230, 330, 335, 337.

Political Thought and Theory — Pls 253, 353, 354, 355, 358, 390.

Undergraduate Minor — 30 credits which must include Pls 100 and 190 and one course from each of the four major subdivisions of the department.

Bachelor of Arts

Freshman year

English 110/Philosophy 110 Sequence	10 credits
Fine Arts 120	5 credits
History 120/English 120 Sequence	10 credits
Mathematics Core Option	5 credits
Philosophy 220	5 credits
Political Science 100, 190	10 credits

Sophomore year

Lab Science core option	5 credits
Other social science	5 credits
Ethics	5 credits
Political Science	10 credits
Economics core option	5 credits
Theology core options	10 credits
Electives	5 credits

Junior and Senior years

Interdisciplinary course, senior synthesis and recommended electives in the Junior and Senior years vary widely, according to the student's career aspirations. Students who plan to attend law school should take accounting. All students should consider foreign languages, computer skills, and business electives ..... 90 credits

Total ..... 180 credits

Political Science Courses

PLS 100 American National Government **5 credits**
Study of the foundations, structures, functions of the executive, legislative and judicial branches of the government and their inter-relations with the popular processes of government.

PLS 190 Introduction to Politics **5 credits**
Government organization and approaches to basic political problems in a variety of cultural, social, and economic contexts. Domestic and foreign causes of the behavior of leaders, parties, pressure groups, and ordinary citizens.

PLS 202 Government and the Economy **5 credits**
Government regulation and promotion of business, agricultural, labor and consumer interests. The regulatory agencies. Government corporations, anti-poverty

programs. Government economic stabilization policies, critique of American capitalism.

PLS 208 The Judicial Process **5 credits**
Overview of the role of law and the judiciary in American political life; the powers and limitations of the judiciary; individual rights in legal conflicts; study of selected key cases. Designed especially for non-majors.

PLS 210 Introduction to Local and State Politics **5 credits**
Examination of structures and functions of political institutions at local, state, county and special district levels, especially legislative, executive and judicial systems.

PLS 230 Industrial Democracies **5 credits**
Social divisions, participation, policy processes in West Europe, North America, and Japan. Popular values, power distribution, and the future of democracy.

PLS 253 Introduction to Political Philosophy **5 credits**
An overview of political ideas from East to West, from Plato to present, application of these ideas to contemporary society.

PLS 260 Introduction to International Politics **5 credits**
Analysis of the dynamic forces in international relations; power, nationalism, sovereignty, colonialism, imperialism, underdevelopment and hunger from various national and theoretical perspectives.

PLS 291 Special Topics **1-5 credits**
PLS 292 Special Topics **1-5 credits**
PLS 293 Special Topics **1-5 credits**

PLS 301 The American Presidency **5 credits**
Analysis of powers of American presidents: relationship with Congress, bureaucracy, judiciary, private sector and with foreign governments.

PLS 304 Political Parties and Interest Groups **5 credits**
Theories, organization, strategy and leadership of American political parties, campaigns and party leadership. Role of interest groups in the American political process.

PLS 310 Urban Politics and Public Policy **5 credits**
Problems of large American cities with special emphasis on transportation, housing, public safety and planning. Fiscal problems of American cities; public school politics.

PLS 330 Soviet Union **5 credits**
Goals, structures, and processes of Soviet oligarchic rule. Social changes, economic dilemmas, ethnic conflict, law, dissent, and welfare.

PLS 335 Welfare States **5 credits**
Politics of social planning in Sweden, Britain, US, and other welfare states. Health care, pensions, urban planning, economic regulation. Public goods and private choices. Empirical methods in comparative research.

PLS 337 Politics of Developing Countries **5 credits**
Emergence of nationalism, resistance and conflict in the modernization process, economic modernization, patterns and problems of political development.

PLS 353 Topics in Political Philosophy **5 credits**
Enduring problems in political philosophy will be critically examined through the systematic thought of great theorists from Plato through Hegel.

PLS 354 Western Marxism **5 credits**
Critical examination of the political and social philosophy of Karl Marx and selected interpretations of his philosophy.

PLS 355 Contemporary Political Thought **5 credits**
A critical examination of selected contemporary political ideas and theories.

PLS 358 Politics of Scarcity **5 credits**
A study of the economic and political causes and consequences of ecological scarcity in the industrial and non-industrial world.

PLS 361 International Law **5 credits**
Fundamentals of international law, states and international law; the individual in international law; creation; application and enforcement of international law.

PLS 362 Peace and The United Nations **5 credits**
Introduction to the history, theories and problems of international organizations; the League of Nations and the United Nations and the Specialized Agencies.

PLS 365 United States Foreign Policy **5 credits**
Constitutional framework; major factors in formulation and execution of foreign policy; American policy in Europe, the Near East, Africa, the Far East and in Latin American historically and currently.

PLS 390 Research Methods and Design **5 credits**
Techniques of social science disciplines applied to analysis and implementation of policy; research design, data acquisition and index construction.

PLS 406 Constitutional Law **5 credits**
Growth, philosophy and development of the United States Constitution as reflected in decisions of the Supreme Court with emphasis on the role of the Court in contemporary America. Prerequisite: Junior or senior standing.

PLS 407 The Supreme Court and the Bill of Rights **5 credits**
Interpretation of the Bill of Rights by the Supreme Court and the impact on the individual and the States. Prerequisite: Junior or senior standing.

PLS 460 Contemporary World Politics **5 credits**
An examination of dominant political forces on today's international scene and effects of these forces on international relations, international law and international organizations.

PLS 462 Peace Movements and World Government **5 credits**
An analysis of theoretical basis of regionalism and universalism as approaches to world peace. A study of current regional experiments; proposals for revision of U.N. Charter; World Federalism and World State.

PLS 488 Internship **2-15 credits**
On-the-job experience with appropriate governmental agency. Students may register for no more than 15 total intern credits. Mandatory CR/NC.

PLS 491 Special Topics **1-5 credits**
PLS 492 Special Topics **1-5 credits**
PLS 493 Special Topics **1-5 credits**

PLS 494 Seminars **2-5 credits**
PLS 495 Seminars **2-5 credits**
PLS 496 Seminars **2-5 credits**

PLS 497 Independent Study **1-5 credits**
PLS 498 Independent Study **1-5 credits**
PLS 499 Independent Study **1-5 credits**

Prelaw

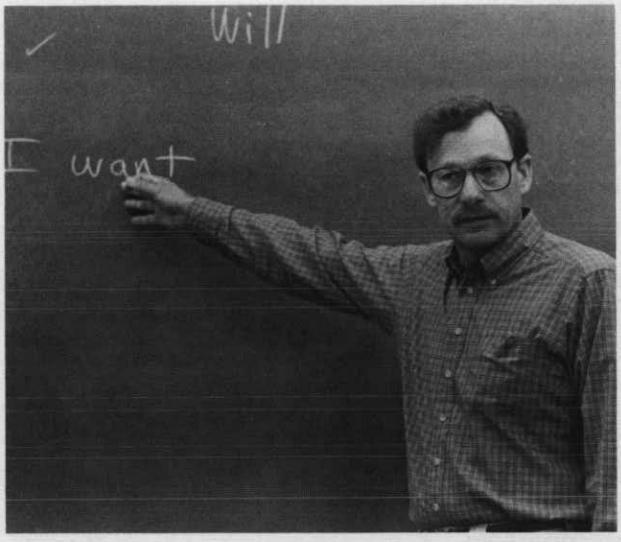
David Arnesen, J.D., Adviser
Sr. Christopher Querin, SP, Ph.D., Adviser

Program

The best preparation and a requirement for entrance to many law schools is the completion of a four-year program for the bachelor's degree.

In advising prelaw students, Seattle University follows the recommendations of the Association of American Law Schools. These stress comprehension and expression in words, critical understanding of institutions and values with which the law deals, and creative power in thinking. These capacities may be developed through study in any of a number of departmental majors.

Entering students interested in law must declare a major in the field in which they are most interested and for which they are best suited. Those unable to make such a determination upon entrance will be enrolled in the General Studies program. The program of study of each prelaw student must be approved by the departmental adviser and the prelaw adviser should be consulted quarterly. During their junior year, students must acquaint themslves with the entrance requirements of the law school they plan to attend and make arrangements to take the Law School Aptitude Test (L.S.A.T.). The application form and the instruction booklet for this test may be obtained from the prelaw adviser.



Psychology

Steen Halling, Ph.D., Chairperson

Objectives

The curriculum is designed for students who plan to work as professional psychologists and thus need a sound preparation for graduate study; for students who plan a career in any field dealing primarily with people, such as nursing, teaching, social work, guidance and personnel; or for those who desire a well-rounded education and thus need a basic knowledge and understanding of human experience and behavior. The specific and unique role of the Psychology department is to provide a knowledge of psychology as a human science and as a natural science, both founded on a solid philosophical reflection on values of the human person.

Degrees Offered

Bachelor of Arts
Bachelor of Science
Master of Arts in Psychology — See Graduate Bulletin

General Program Requirements

Students in psychology must satisfy the core curriculum requirements of the University as given on pages 26-28 of this bulletin. See programs of study for additional requirements.

Psychology majors may choose any minor. For social work, the recommended curriculum is a major in psychology and a minor in sociology. Premedical students may take a Bachelor of Science in psychology. Psychology majors may not register for CR/NC in the courses listed under departmental requirements; they must obtain a grade of C or higher in all those required courses; and they must maintain a 2.00 grade point average in all other psychology courses.

The psychology major may be combined with a specialty in Alcohol Studies (see Alcohol Studies section of this Bulletin.) Students taking this specialty may count Alc 402 towards their psychology requirements.

Departmental Requirements

Bachelor of Arts — 50 credits of psychology which must include Psy 100, 201, 301, 401, and 487-488.

Bachelor of Science — 50 credits of psychology which must include Psy 100, 201, 202, 301, 330, 401, 402, 487-488 and a minimum of 40 credits of mathematics and physical science, which may include Psy 385, but which must **not** include the math and science courses recommended for the core curriculum on pages 26-28 of this Bulletin. Students must obtain a grade of C or higher in each of the science and mathematics courses which are part of the required 40 credits.

Undergraduate Minor — 30 credits of psychology which must include Psy 100.

Typical Program

The courses listed below pertain to the major only. Entering Freshmen will find the sequence of courses for the Core Curriculum outlined on page 26 of this Bulletin. Transfer students entering Seattle University in 1987-88 should consult pages 26-28 of this bulletin for an outline of Core requirements applying to them, and page 60 of the 1986-87 bulletin for a description of typical programs, including Core courses, for psychology majors.

Bachelor of Arts

Freshman year

Psychology 100 ..... 5 credits

Sophomore year

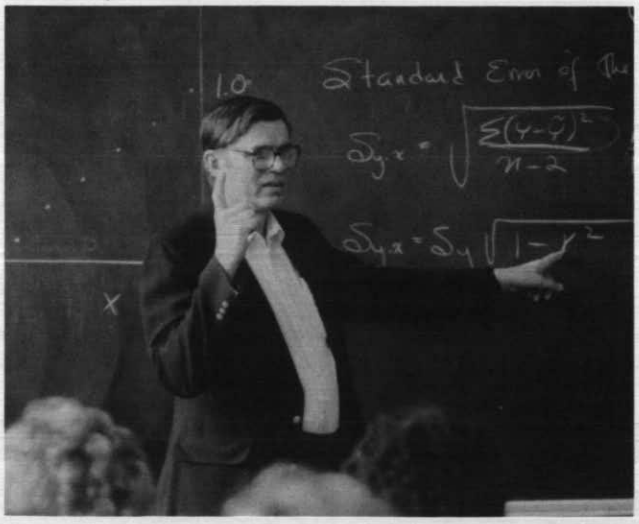
Psychology 201 and Psychology elective(s) ..... 10-15 credits

Junior year

Psychology electives ..... 10-15 credits

Senior year

Psychology 301 and 401 (May be taken in Junior Year) ..... 15 credits
Pschology 487-488 and Psychology electives ..... 10-15 credits
Total ..... 180 credits



Bachelor of Science

Freshman year

Psychology 100 ..... 5 credits
Mathematics/science electives ..... 10 credits

Sophomore year

Psychology 201 and Psychology elective ..... 10 credits
Psychology 202 (may be taken in Junior Year) ..... 5 credits
Mathematics/Science electives ..... 10 credits

Junior year

Psychology 401 and Psychology electives ..... 10 credits
Mathematics/science electives ..... 10 credits

Senior year

Psychology 301, 330 and 401 (may be taken in Junior Year) ..... 15 credits
Psychology 487-488 and Psychology elective ..... 5 credits
Mathematics/Science elective ..... 5 credits
Total ..... 180 credits

Psychology Courses

PSY 100 Introductory Psychology — 5 credits
General introduction to the modes of inquiry of scientific, psychology, including its nature, scope and method; organic, environmental and personal factors that influence human experience and behavior. (fall, winter, spring)

PSY 201 Statistics I — 5 credits
PSY 202 Statistics II — 5 credits
I. Basic descriptive and inferential statistics; central tendency, variability, correlation and regression, probability, z and t tests, one way analysis or variance. II. Multiple classification analysis of variance; repeated measurement designs; introduction to multiple regression analysis; non parametric statistics. Prerequisite: At least high school algebra for Psy 201, Psy 201 for 202, and neither is a core option course. (I. fall, winter, spring, II - winter, even numbered years)

PSY 210 Personality Adjustment — 5 credits
The normal personality; self-knowledge and self-actualization; personality adjustment problems; various inadequate reactions, escape and defense mechanisms; positive mental health. (spring)

PSY 291 Special Topics — 1-5 credits
PSY 292 Special Topics — 1-5 credits
PSY 293 Special Topics — 1-5 credits

PSY 296 Independent Study — 1-5 credits

PSY 301 History and Schools of Psychology — 5 credits
Survey of the history of psychology, including the classic periods of structuralism, functionalism, behaviorism, psychoanalytic schools and Gestalt. Prerequisite: Psy 100. (fall)

PSY 302 Contemporary Theories — 5 credits
Critical examination of the major theories, issues and methodology in psychology since 1935. Prerequisite: Third year standing or permission.

PSY 315 Abnormal Psychology **5 credits**
Survey of abnormal mental and emotional life; symptoms, nature and causes of psychological disorders; abnormalities of specific functions; theories of etiology. Prerequisite: Psy 100. (fall, winter, spring)

PSY 322 Psychology of Growth and Development **5 credits**
Life Span Development from infancy through childhood, adolescence, young adulthood, middle age, old age and death and dying. Cognitive, personality, social, and emotional development. Optional field work placement in settings related to different age periods. Prerequisite: Psy 100 or equivalent (fall, winter, spring). Credit will not be allowed for both Psy 322 and Ed 322.

PSY 330 Physiological Psychology **5 credits**
Biological basis of behavior, cerebrospinal, autonomic and sensory systems; endocrine glands, relation of the brain to behavior. Prerequisites: Psy 100 and human physiology. (winter)

PSY 350 Theories of Personality **5 credits**
Study of the assumptions, basic principles and implications for psychotherapy and everyday life of selected personality theorists representing the psychoanalytic, social psychological, social learning, humanistic and existential approaches to psychology. Prerequisite Third year standing and Psy 100 or equivalent. (fall; alternate years)

PSY 375 Psychology of Death and Dying **5 credits**
Topics include the experience of dying, death anxiety, death denial, pain, near-death experiences, bereavement, disasters, rituals cross-culturally, funerals, the death of the child and the child's perception of death, and the relationship of death to life. Prerequisite: Psy 100 or equivalent. (winter)

PSY 385 Computer Research Methods **5 credits**
This non-programming course uses existing computer programs or program "packages" to solve statistical problems. The course consists of both lectures and laboratory experience at a computer terminal. Prerequisites: Psy 201 or any other elementary course in statistics. (winter; even numbered years)

PSY 401 Experimental Laboratory Psychology **5 credits**
Introduction to the methods of natural sciences with an emphasis on the experimental method. Course includes psychophysics, perception, learning and memory and thinking and problem solving. Laboratory projects including one student-designed project and prepare written laboratory reports. Three lecture and four laboratory hours per week. Prerequisites: Psy 100 and 201. (fall, spring)

PSY 402 Experimental Psychology-Learning **5 credits**
Principles of conditioning, instrumental learning, reinforcement, discrimination, punishment and fear. Human verbal learning, memory and forgetting. Biological aspects of human and animal learning addressed in the context of learning theory. Four lecture hours per week and an arranged lab in either human or animal learning depending on choice of student. Prerequisite: Psy 401. (winter; odd numbered years)

PSY 415 Advanced Psychopathology **5 credits**
Course aims to move beyond a symptom oriented, diagnostic approach to abnormal behavior by examining pathological styles of behavior and implications for treatment. Prerequisite: Psy 315 or equivalent. (fall)

PSY 427 Introduction to Counseling **5 credits**
Basic theory, principles and dynamics of the counselor-client relationship and the counseling process. Prerequisite: Permission. (spring)

PSY 461 Theory of Group Dynamics **2 credits**
Survey of theories and empirical studies of the dynamics of group behavior; emphasis on means of more effective and productive group performance. Prerequisite: Psy 210 or equivalent. (fall, winter)

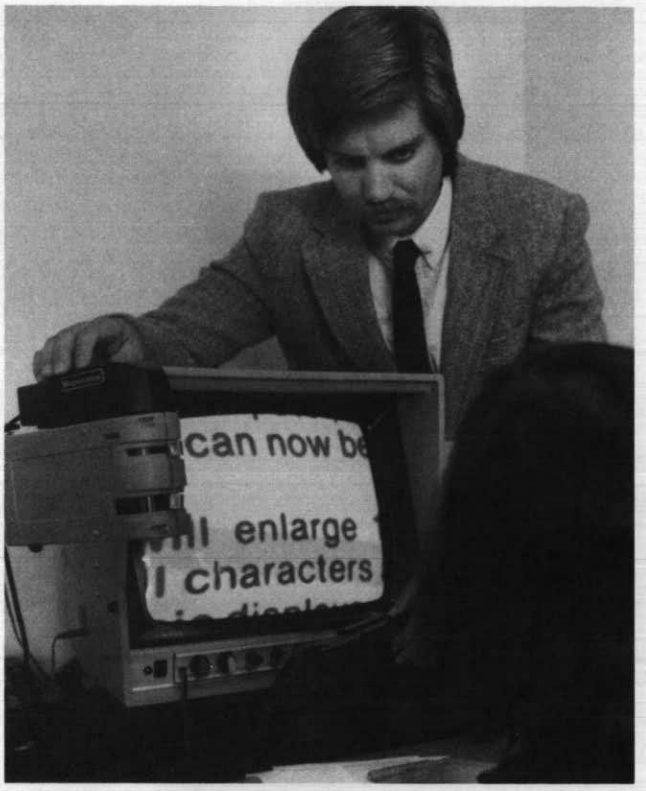
PSY 462 Experience of Group Dynamics **3 credits**
Experience of group dynamics through participation in a group; emphasis on experiencing interpersonal communication. Prerequisite: Psy 461. Mandatory C/NC. (fall, winter)

PSY 487 Senior Seminar I **1 credit**
PSY 488 Senior Seminar II **4 credits**
Reading and discussion of current issues with respect to psychology as a mental health profession, and as a discipline with a particular content and diverse methodologies. Prerequisite: Permission. (I-winter, II-spring; must be taken in same year)

PSY 490 Symposium on Alcoholism **2-5 credits**
(Alc 400) Psychological, educational, physiological, social, industrial, psychiatric, therapeutic and rehabilitation aspects of the problem of alcoholism. Prerequisite: Junior or senior standing in psychology, sociology, premedicine or nursing, or permission. (fall, winter, spring)

PSY 491 Special Topics in Psychology **2-5 credits**
PSY 492 Special Topics in Psychology **2-5 credits**
PSY 493 Special Topics in Psychology **2-5 credits**
By arrangement. Prerequisite: Permission.

PSY 496 Independent Study **1-5 credits**
PSY 497 Independent Study **1-5 credits**
PSY 498 Independent Study **1-5 credits**



Rehabilitation

John K. Thompson, Ph.D., Chairperson

Objectives

The Rehabilitation Program is designed to educate students to become vocational rehabilitation professionals who work with persons who have physical and/or mental disabilities. As rehabilitation professionals, their goal will be to assist individuals to move from a status of dependence to the level of maximum functioning of which they are capable. Accordingly, rehabilitation professionals deal with clients, primarily on a one-to-one basis, who have disabilities preventing them from obtaining or retaining employment. Based on the level of rehabiltative readiness, some of the disability groups rehabilitation professional might work with include physically disabled, alcoholics, blind, deaf and hard-of-hearing, drug addicts, industrially injured, mentally ill, mentally retarded and parolees, to name a few.

The program prepares the student who, upon graduation, might become employed in public and private human service settings such as state vocational rehabilitation agencies, federally sponsored human service agencies, county agencies, social welfare agencies, prisons, evaluation centers, and health-related associations, as well as private agencies such as transitional workshops, rehabilitation centers, hospitals, speech and hearing centers, work activity centers (adult development centers) and others.

Emphasis is placed on supervised field experiences in a variety of rehabilitation related agencies (25 credits), in addition to giving the student knowledge in medical and psychological aspects of disability, the world of work or occupational information and community resources in rehabilitation.

Degrees Offered

Bachelor of Arts in Rehabilitation
Master of Arts in Rehabilitation — See Graduate Bulletin
Masters Degree Program accredited by Council on Rehabilitation Education

Certificate Program

The Rehabilitation Certificate is a 45 credit program that is offered late afternoons and evenings and has the following components: 10 credits of field experience; 15 credits of foundation courses (Rhb 100, Rhb 201, Rhb 301); 20 credits to be selected by the student and the adviser. The Rehabilitation Certificate program is open to all persons, with or without a degree, who meet the University's entrance requirements. Certificate credits are applicable toward a B.A. degree. A certificate program should be completed within three years.

General Program Requirements

Students in rehabilitation must satisfy the core curriculum requirements of the University as indicated on pages 26-28 of this bulletin plus additional credits in social science as outlined below. In addition to an overall gpa of 2.0 for all rehabilitation courses, rehabilitation majors must have a C- or above in each rehabilitation course.

Degree Requirements

Bachelor of Arts — 60 credits in rehabilitation including Rhb 100, 201, 203, 210, 301, 305, 310, 402, 405, 410; 15 credits in Psychology (Psy 100, 201, 315), BI 182, Soc 101, and 10 credits of Social Science or Rehabilitative elective.

Bachelor of Arts

Freshman year

English 110/Philosophy 110 sequence	10 credits
History 120/English 120 sequence	10 credits
Mathematics	5 credits
Lab science	5 credits
Fine Arts 120	5 credits
Rehabilitation 100	5 credits
Social Science or Rehabilitation elective	5 credits

Sophomore year

Philosophy 220/Social Science I sequence	10 credits
Rehabilitation 201, 203, 210, 301	20 credits
Social Science or Rehabilitation elective	5 credits
Social Science II	5 credits
Theology and Religious Studies I	5 credits

Junior year

Ethics	5 credits
Psychology 201	5 credits
Psychology 315	5 credits
Theology and Religious Studies II	5 credits
Rehabilitation 305, 310, 402	15 credits
Electives	10 credits

Senior year

Interdisciplinary course	3-5 credits
Rehabilitation 405	5 credits
Rehabilitation 410	15 credits
Senior Synthesis	3 credits
Electives	17-19 credits
Total	180 credits

Rehabilitation Courses

RHB 100 Introduction to Rehabilitation **5 credits**
Principles of vocational rehabilitation, the historical background, various community rehabilitation resources, the rehabilitation process, and the role and functions of the rehabilitation professional within this process.

RHB 201 Helping Skills in the Human Services **5 credits**
Using group and interpersonal communication techniques, the course emphasizes the interaction dynamics between the rehabilitation professional and the client with disability.

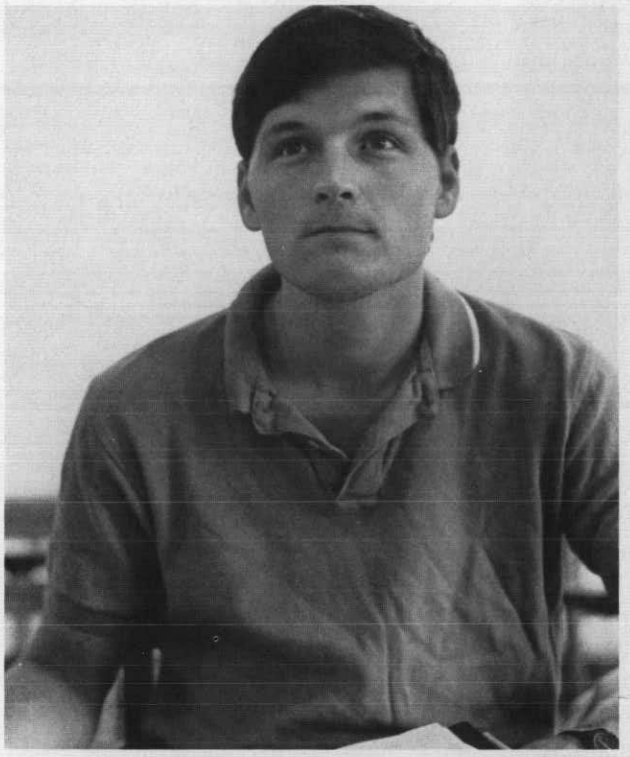
RHB 203 Tests and Measurement in Rehabilitation **5 credits**
Analyzes various methods of testing and evaluating people with disabilities and how the methods relate to the rehabilitation process.

RHB 210 Field Experience in Rehabilitation **5 credits**
Actual experience in an agency or institutional setting within a rehabilitation framework. Coordinating seminars are an integral part of each field experience course. Prerequisite: Rhb 100, 201. Mandatory CR/NC.

RHB 291 Special Topics **1-5 credits**
RHB 292 Special Topics **1-5 credits**
RHB 293 Special Topics **1-5 credits**

RHB 301 Environmental Impact of Disability **5 credits**
The impact of mental, physical, and social disabilities as related to the individual, social environment, the culture and its values, economic situations and vocational opportunities.

RHB 305 Medical Aspects of Disability **5 credits**
Study of medical terminology and various disabling diseases and conditions for a basic understanding of general medical and specialist examinations; how disabling conditions affect a client's vocational life.



RHB 310 Field Experience in Rehabilitation **5 credits**
Actual experience in an agency or institutional setting within a rehabilitation framework. Coordinating seminars are an integral part of each field experience course. Prerequisite: Rhb 100, 201. Mandatory CR/NC.

RHB 391 Special Topics **1-5 credits**
RHB 392 Special Topics **1-5 credits**
RHB 393 Special Topics **1-5 credits**
By arrangement with the approval of department chairman.

RHB 402 Human Service Systems **5 credits**
An analysis of various human service delivery systems; methods of locating and using community-based referrals and resources, techniques in case and caseload management.

RHB 405 Job Placement and Development **5 credits**
Occupational information as applied to job characteristics, job development, job seeking skills, vocational theories and practicel experience.

RHB 410 Field Experience in Rehabilitation **5-20 credits**
Actual experience in an agency or institutional setting within a rehabilitation framework. Coordinating seminars are an integral part of each field experience course. Prerequisite: Rhb 100, 201. Mandatory CR/NC.

RHB 420 Law and the Disabled **3 credits**
A survey of laws and litigation affecting persons with disabilities.

RHB 491 Special Topics **1-5 credits**
RHB 492 Special Topics **1-5 credits**
RHB 493 Special Topics **1-5 credits**

RHB 497 Independent Study **1-5 credits**
RHB 498 Independent Study **1-5 credits**
Individualized studies by arrangement with the approval of department chairman.

Sociology

J. Robert Larson, Ph.D., Chairperson

Objectives

Sociology has the dual capacity of satisfying the need of students for a humane and liberalizing discipline and of providing a sound basis for careers of teaching and research in the science of sociology or careers in social service. Courses are designed to provide a systematic inquiry into the complex structures of modern society and their many functions. They also investigate the interactions between persons, their groups and the ways in which their culture affects and is affected by this interaction.

Students may choose sociology for various reasons. Some are interested in making a career of teaching sociology or of doing social research. Others study sociology in preparation for careers in applied sociological settings or in social work. Still others seek in sociology a broader and deeper understanding of man and his works. With a view to unique interests of individuals, different combinations of courses are recommended to students. In separate brochures, required and recommended elective courses are outlined for three applied tracks: Applied Social Research, Corrections and Social Work. Common to each of the tracks are required courses which provide the conceptual foundation and methodological tools of sociological analysis.

Degree Offered

Bachelor of Arts

General Program Requirements

Entering freshmen in sociology must satisfy the core curriculum requirements of the University as given on pages 26-28 of this bulletin. Transfer students who are sociology majors must complete at least 20 hours in sociology at Seattle University and meet the core curriculum requirements as outlined on pages 26-28 of this bulletin.

Departmental Requirements

Bachelor of Arts, Sociology — 60 credits are required for a major in sociology of which 25 credits are in basic courses, including Sc 101, 200, Sc 201, 380, and 495 plus 25 additional credits in upper division courses. Selected in consultation with an adviser. The remaining credits in sociology are elective.

Bachelor of Arts, Applied Sociology — Students may elect one of three tracks in Applied Sociology: (A) Applied Social Research, (B) Corrections or (C) Social Work. Each track requires 60 credits for the B.A. degree. In addition to the five courses required of all sociology majors, those majoring in (A) will take Sc 381, 382, 488, and Psy 385; those majoring in (B) must take Sc 362, 366 and 488; those majoring in (C) must take Sc 300, 374, 376 and 488. The remaining hours in each track are elective with the adviser's consent.

Certificate in Applied Sociology — Students not seeking a degree but who wish to be certified in one of the tracks and who meet the University's entrance requirements must complete 30 credits. The requirements for certification in Corrections are the same as for the Minor below. For Applied Social Research and Social Work the requirements can be met by courses approved by the track adviser.

Undergraduate Minor — 30 credits which will include Sc 101 and 380 for all students. Additionally, students minoring in (A) must take Sc 200 and 201; those minoring in (B) must take Sc 362 and 366; those minoring in (C) must take Sc 300, 374 and 488. The remainder of the 30 credits must be taken in upper division courses.

Bachelor of Arts and Bachelor of Arts, Applied Sociology

Freshman year

English 110/Philosophy 120 sequence	10 credits
Fine Arts 120	5 credits
History 120/English 120 sequence	10 credits
Lab Science	5 credits
Mathematics	5 credits
Sociology 101, 201	10 credits

Sophomore year

Philosophy 220/Social Science I sequence	10 credits
Psychology 100	5 credits
Social Science II	5 credits
Sociology 200, 380	10 credits
Theology and Religious Studies I	5 credits
Electives	10 credits

Junior year

Ethics	5 credits
Sociology Track and/or electives	20 credits
Theology and Religious Studies II	5 credits
Electives	15 credits

Senior year

Interdisciplinary course	3-5 credits
Senior Synthesis	3 credits
Sociology 495	5 credits
Sociology Track and/or electives	15 credits
Electives	17-19 credits
Total	180 credits

Sociology Courses

SC 101 **Fundamentals of Sociology** **5 credits**
A description of the science of sociology; an analysis of interpersonal relations, of associations and social institutions, and of the way these affect one another and are affected by culture.

SC 200 **Perspectives in Social Psychology** **5 credits**
Consideration of theories and methods in contemporary explanations of the behavior of individuals in social contexts and social situations. Prerequisites: Sc 101 and Psy 100 recommended. Exceptions with permission of professor.

SC 201 (Psy 201) **Social Statistics** **5 credits**
Review of basic statistical principles, processes and computations in social science research.

SC 210 **American Society and Culture** **5 credits**
Analysis of selected institutions and the social structure; dominant values and the American character; basic changes in contemporary American society and culture.

SC 256 **Criminology** **5 credits**
A review of the theories of the causes of criminal behavior; sociological explanations of criminal interactions, criminal systems and their functions.

SC 257 **Juvenile Delinquency** **5 credits**
Analysis of the offenses of juveniles as distinct from those of adult offenders, and sociological explanations of these behaviors within contemporary conceptual models.

SC 260 **Sociology of the Family** **5 credits**
The structure and functions of the family as a social system; the use of sociological perspectives to interpret the position of the American family in an era of social change.

SC 266 **Interracial and Interethnic Relations** **5 credits**
Analysis of the factors involved in intergroup relations.

SC 280 **Urban Community** **5 credits**
Urban community structures and institutions; historic city types; the process of urbanization; world cities; aspects of American urban communities.

SC 300 **Introduction to Social Work** **5 credits**
Historical development, structure and function of social welfare services and institutions with emphasis upon the philosophy and methods utilized by professional social work in meeting human needs.

SC 305 **Introduction to Community Action** **5 credits**
Studies methods by which community groups and organizers can intevene in the political and social processes of a community on the neighborhood, city, county and state levels, to initiate social change.

SC 310 **Sociology of American Sport** **5 credits**
Inquiry into social structure of sports organizations; impact of industrialization and urbanization; the culture of sports including values; how sport integrates with education, economics, government and religion; stratification, racism and sexism in sports.

SC 311 **Social Work with Families** **5 credits**
Behavioral dynamics of interpersonal relationships in the family; reciprocal nature of relationships, conceptual frameworks for individual and family therapy through study of treatment of modalities. (spring)

SC 315 **Social Work with Children** **5 credits**
This is a practice-oriented course focusing on methods and techniques of working with children in social and interpersonal conflict situations at home, at school and in the community.

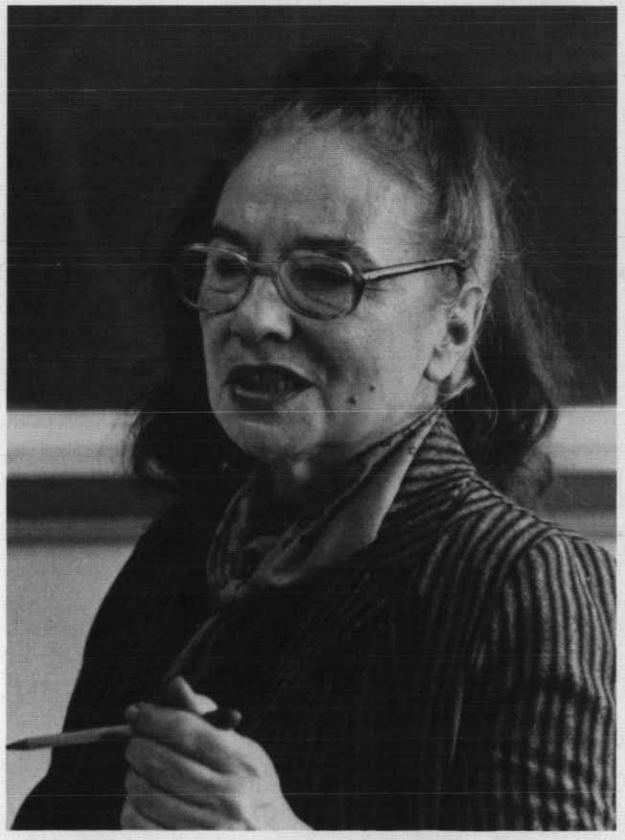
SC 320 **Sociology of Medicine and Health Care** **5 credits**
Analysis of the structure and problems of medicine and health care systems, the changing nature of illness and health, and critical review of alternatives for the future.

SC 325 **Community Systems and the Aged** **5 credits**
This course examines the history and current status of services to the aged, focusing on key trends; in medical technology, in labor market characteristics, and in demographics. Current concepts about the aging process, and theoretical frameworks which attempt to explain or resolve the social problems of aging are presented.

SC 350 **Close-Knit Groups** **5 credits**
Sociological models and methods for analyzing small, interpersonal systems of interaction, their dynamics and structures, as well as their potentials for change and growth.

SC 351 (CJP 350) **Police and the Community** **5 credits**
Roles of police in the community; relationships with individuals, groups and community organizations. Analysis of ethnic, cultural and economic differences as factors in the administration of justice.

SC 352 (CJP 360) **Society and Justice** **5 credits**
The criminal justice process from arrest through release; the relationships of the police, the prosecutor, the defense, the courts, the prisons and corrections, as each integrates into a system.



SC 360 **Complex Organizations** **5 credits**
Sociological analysis of large, complex social organizations, the kinds of modern organizations and the relationships among organizations and to the larger social environment both historically and currently.

SC 362 (CJP 362) **Deviant Behavior** **5 credits**
An overview of what American society generally regards as deviant behavior. Emphasis is placed on the results of stigmatization and the acceptance of low self-esteem.

SC 363 **Population Problems** **5 credits**
Analysis of population trends, problems and policies. Explanations of relationships demonstrated to exist between demographic and sociological variables. Prerequisite: Upper division standing.

SC 365 (CJP 365) **Probation and Parole** **5 credits**
Examination of current trends and issues in probation and parole supervision, personnel qualifications, legal aspects, and research on results and prediction of outcome.

SC 366 (CJP 366) **Corrections** **5 credits**
Analysis of post-arrest treatment methods applied to offenders, the correctional institution and community-based corrections. Prerequisite: Upper division standing or permission.

SC 374 **Intervention Skills** **5 credits**
Provides students with the basic principles and processes involved in giving help to individuals, groups and communities in the human services field, focuses on some of the basic methods, techniques and strategies. (fall)

SC 376 (CS 376 **Factors of Interviewing** **5 credits**
The interview as one of the major methods of helping people; study of the knowledge and skills needed for proficient interviewing to provide a basis for future development. Prerequisite: Sc 300 or permission.

SC 377 **Supervised Field Experience** **5 credits**
Direct observation and academic study in a selected community agency with stress placed upon the agency's clientele, its services and its function in the community. Prerequisite: Sc 300 and 376. Mandatory CR/NC.

SC 380 **Methods of Sociological Research I** **5 credits**
SC 381 **Methods of Sociological Research II** **2 credits**
I. Logical structure of science and procedures of data gathering and analysis. II. Practicum: student research project. Prerequisites: Sc 101 and 201 for 380; 380 for 381.

SC 382 **Evaluation Research** **5 credits**
Application of basic research design and logic to programs for the purpose of evaluation of performance. Also, the techniques for making social, economic and environmental impact assessment. Prerequisites: Sc 201, 380, 381.

SC 385 **Values and the Future of Society** **5 credits**
Focus on the problem of identifying social values, considering ways of measuring and predicting value system changes in the future. In what way do value systems and technology interplay.

SC 391 **Special Topics in Sociology** **1-5 credits**
SC 392 **Special Topics in Sociology** **1-5 credits**
SC 393 **Special Topics in Sociology** **1-5 credits**

SC 405 **White-Collar Crime** **5 credits**
A comprehensive overview of criminal activity in the upper and middle echelons of American society; e.g. corporate offenses, consumer fraud, misuse of computers, illegal practices in professions, political corruption.

SC 412 (CJP 410) **Juvenile Justice Systems** **5 credits**
Examination and study of contemporary police-juvenile operations. Theory and examination of the juvenile justice system. Relationship between the juvenile officer, crime prevention and community relations.

SC 415 (CJP 415) **Victimology** **5 credits**
A survey of the victim-offender relationship; including the origin and scope of victimology, a victim and his society, the victim and the administration of justice, and the social reaction to victimization.

SC 416 **Management and Politics in Social Welfare** **5 credits**
Examination of the fundamentals of program management and evaluation, with emphasis on competing objectives and power as the context in which social service programs and policies are carried out.

SC 420 **The History of Punishment** **5 credits**
A social history of the punishment response to the phenomenon of crime, considering the origins, principles, science and society's justification for punishment.

SC 425 **History and Survey of Drug Abuse** **5 credits**
Scope of problems arising from drug abuse. Psychology of drug addiction; patterns of progression, early symptoms and diagnosis; types of drug addicts. Theories of etiology.

SC 440 **Crisis Intervention** **5 credits**
Theory and practice of crisis intervention strategies. Schools, criminal justice agencies, family service agencies, public welfare agencies and crisis centers.

SC 445 **The Crisis of Suicide** **5 credits**
This course will focus on identifying, recognizing and understanding suicidal behaviors, and responding in ways that expand options and make the choice of life more likely.

SC 488 **Internship** **1-15 credits**
On-the-job experience in a selected organization. May be taken up to a maximum of 15 credits.

SC 491 **Special Topics in Sociology** **1-5 credits**
SC 492 **Special Topics in Sociology** **1-5 credits**
SC 493 **Special Topics in Sociology** **1-5 credits**

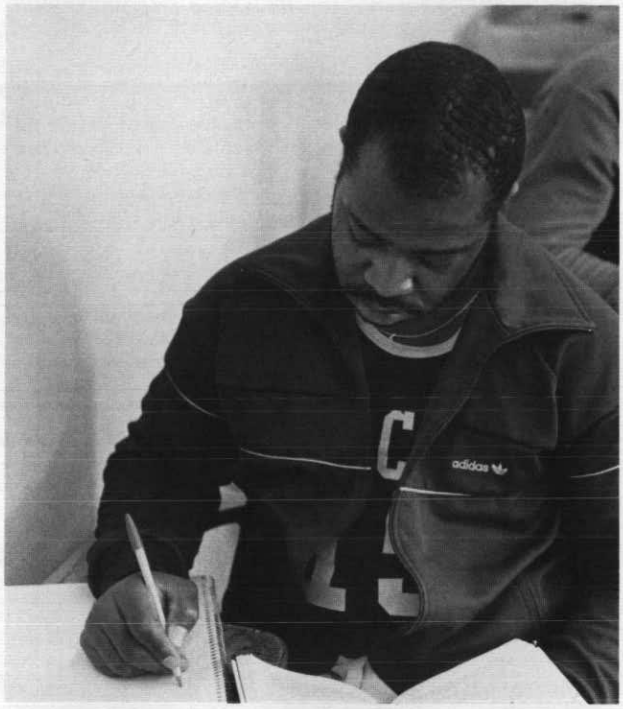
SC 495 **Sociological Theory** **5 credits**
Presentation of several theoretical perspectives operational in today's sociological enterprise with criticism and evaluation of each. Prerequisite: Upper division standing or permission of instructor.

SC 496 **Independent Study** **1-5 credits**

SC 497 **Individual Research** **3-5 credits**
Design and execution of a research project supervised by a faculty member.

SC 498 **Directed Reading in Sociology I** **1-5 credits**

SC 499 **Directed Reading in Sociology II** **1-5 credits**
Sociological reading at an advanced undergraduate level in a tutorial relationship with one professor. Prerequisite: Upper division standing.



Theology and Religious Studies

Richard H. Ahler, SJ, S.T.D., Chairperson

Objectives

Theology and religious studies contribute to the fostering and formation of students' human and personal growth by helping them develop attitudes, skills, and knowledge that will enable them to deal perceptively, intelligently, and critically with the religious dimension of human life, especially with the beliefs, practices, and values of the Catholic Christian tradition. To this end the department supplies two levels of courses for the Core Curriculum. Level 1 courses (200 numbers on the Bulletin course listings) aim at recognition and appreciation of the existence and function of God's presence in human experience and history; Level 2 courses (300 numbers in the course listings) aim at enabling students to learn how to make a religious tradition their own, carefully and critically.

The Department also offers a program of courses, some from courses designed for the Core Curriculum, some special for majors and minors (400 numbers in the listings), leading to a Bachelor of Arts degree in Theology and Religious Studies.

Degrees Offered

Bachelor of Arts

Master of Divinity (Institute for Theological Studies) — See Graduate Bulletin

Master of Theological Studies (Institute for Theological Studies) — See Graduate Bulletin

Master of Pastoral Ministry (Institute for Theological Studies) — See Graduate Bulletin

Master of Religious Education (SUMORE) — See Graduate Bulletin

Master of Ministry (SUMORE) — See Graduate Bulletin

Program Requirements

Students who major in theology and religious studies must satisfy core curriculum requirements of the University as given on pages 26-28 of this bulletin. In addition majors must take an added five credits in social science and five credits in philosophy.

Departmental Requirements

Bachelor of Arts — 50 credits in theology and religious studies beyond core requirements. Students are required to fulfill the following program of courses: 1) Judaeo-Christian Origins (RS 200); one New Testament course (RS 211, 217, 221); one additional scripture course on any level; one course from RS 230, 243, 252.2) Two courses from RS 300, 303, 310, 317, 321; one course from RS 325, 334, 338, 341.3) one religious studies course (RS 263, 267, 271, 275, 371); the sequence RS 425, 426, 427; and RS 460, the senior seminar.

Undergraduate minor — 30 credits in theology and religious studies which must include RS 200 and one New Testament course; two courses from RS 300, 303, 310, 312, 317, 321; one course from RS 325, 334, 338, 341 and one from RS 263, 267, 271, 275.

Bachelor of Arts

Freshman year

English 110/Philosophy 110 sequence	10 credits
History 120/English 120 sequence	10 credits
Fine Arts 120	5 credits
Laboratory Science	5 credits
Mathematics	5 credits
Electives	10 credits

Sophomore year

Philosophy 220/Social Science I Block	10 credits
Philosophy elective	5 credits
Social Science II	5 credits
Theology and Religious Studies 200	5 credits
Theology and Religious Studies	10 credits
Electives	5 credits

Junior year

Ethics	5 credits
Interdisciplinary course	3-5 credits
Theology and Religious Studies 425, 426, 427	15 credits
Theology and Religious Studies Level 2	10 credits
Electives	10-12 credits

Senior year

Social Science	5 credits
Theology and Religious Studies 460	5 credits
Theology and Religious Studies	15 credits
Electives	20 credits
Total	180 credits

Theology and Religious Studies Courses

Note: courses numbered in the 200s are Level 1; those in the 300s are Level 2; those in the 400s are special courses for majors or minors and also occasionally offered electives for all. See Core Curriculum, pages 26-28.

Numbers in parentheses indicate differently numbered equivalent courses from earlier Bulletins. Equivalent courses cannot be retaken for credit.

RS 200 **Judaeo-Christian Origins** **5 credits**
Historical backgrounds and development of Israelite and Jewish religious experience and tradition; its contribution to the foundations of belief in the Christ.

RS 203 (240) **Prophets and Wisdom** **5 credits**
The function of the tradition's message in the Former Prophets in relation to the Torah is analyzed to serve as a basis for analyzing the thought of the Latter Prophets, culminating in II Isaiah's Suffering Servant poems which lead into the major themes of the Wisdom Literature; unmerited suffering, the mystery of evil, the relation of wisdom and discipline.

RS 211 (210) **The Gospel of Jesus Christ** **5 credits**
Examination of some New Testament writings in their religious and cultural context and in their literary provenance in an effort to discover something of the Christian community's experience of the message and person of Jesus as guide for and object of present-day Christian believing.

RS 217 (220) **The Message of Paul** **5 credits**
Description of the Christian experience given to us in the Pauline letters; Paul's experience of Christ; development of his thought in some dominant themes or perspectives; the influence of the believing community and of contemporary history and culture on his experience and development; relation of his message to all times and people.

RS 221 (215) **John: What I Have Seen and Heard** **5 credits**
The message of faith in the Gospel and letters of John; the roots of John's message, its relation to the community's experience of Jesus Christ present in the Spirit; Johannine themes and perspectives on the "world," on Christ and the salvation he brings, on the function of faith and love in Christian living; the universality of the message.

RS 230 (330) **Foundations of Believing** **5 credits**
The human activity and structures of believing; the inevitability of believing; problems and obstacles to believing in God in today's world; the validity and invalidity of modern critiques of religion; the development of an authentic notion of God.

RS 243 (475) **The Christian in Action: Moral Decision-Making** **5 credits**
The contemporary Christian as decision-maker in present society; reflection on dilemmas and situations in which students are engaged to develop an awareness of self as moral agent, the basis of a theory of the person as empowered by the Spirit of God for action in love and justice.

RS 252 **Prayer for Life** **5 credits**
Introduction to the phenomenon of authentic religion as it is expressed in prayer and paths of spiritual growth and renewal; the relationship between personal and community prayer in life and faith processes; methods and models of West and East.

RS 263 (290) **Religious Experience East and West** **5 credits**
The phenomenon of religious experience and mysticism as it has been described in spiritual classics of both eastern and western religions; the nature and meaning of these phenomena.

RS 267 (289) **History of Religions** **5 credits**
Exploration of the basic human drive in religious experience; investigation of the why-where-when-how of the Holy and mysterious in Eastern religions and in Christianity; historical data and sources for the experience at the root of various traditions.

RS 275 (478) (479) **Jewish History and Theology** **5 credits**
Survey of Jewish history, going back to biblical times, to discover the religious force expressed in developing beliefs, practices, and ways of understanding.

RS 291 **Special Topics** **2-5 credits**
RS 292 **Special Topics** **2-5 credits**
RS 293 **Special Topics** **2-5 credits**

RS 300 (320) **Fundamental Themes in Theology** **5 credits**
Origins, traditional formulations, relevance to present life-experiences of some basic affirmations of Christian belief: faith, revelation, incarnation, redemption; investigation of the reasonableness and inter-connection of the truths affirmed; how these truths function as the core of a personal faith-synthesis.

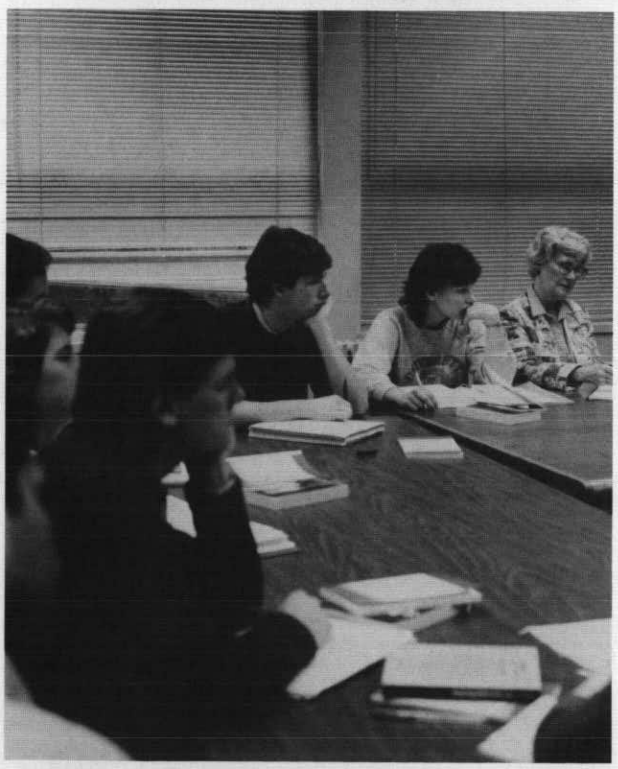
RS 303 (340) **A Theology of the Human** **5 credits**
Investigation of human persons in their relation to God, to other humans, to the world; questions and Christian responses to questions about human structures, purpose, meaning, fulfillment, self-identity, and function in a world marked by suffering and sin — and by the salvation brought by Christ.

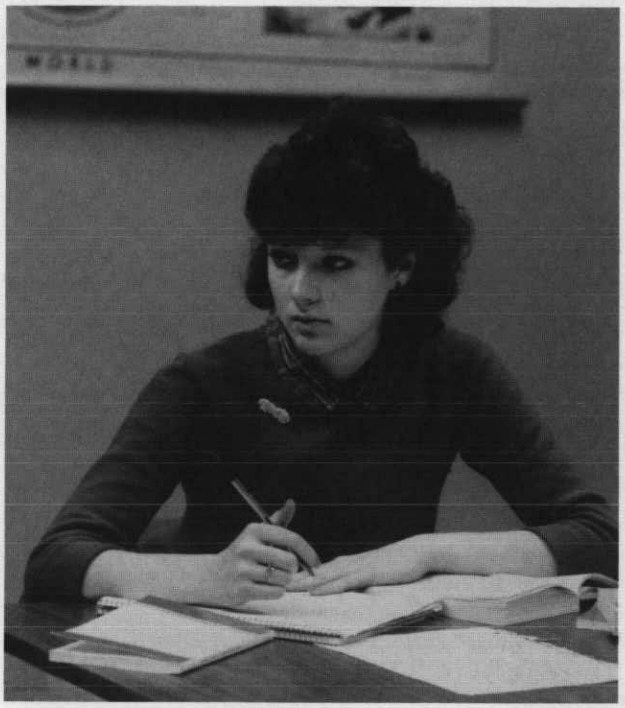
RS 307 **A Theology of the Feminine** **5 credits**
Investigation of what has been communicated to women historically about who and what they are, what their role is in Church and society; a look at the changing understanding of what it is to be human generated by a rising consciousness of the equality of women; attempt to show what still needs to be said and done to improve our Christian consciousness of the human and the feminine.

RS 310 (335) **Christ for Our Times** **5 credits**
The historico-cultural context of questions about who Jesus Christ is; exploration of past and present foundations and content of Christians' affirmation of Jesus as the Christ; development in understanding the mystery of Jesus; the effects on Christian life of making Jesus Christ the center and focus of believing.

RS 312 (330) **God in the Christian Tradition** **5 credits**
Study of formulations in the Bible and in later times that express and guide the experience and growth in understanding of who God is in the living tradition of Christians; formulations that have or are causing problems in understanding; contemporary approaches to an understanding of who God is, how he acts, when and where he is encountered.

RS 317 (344) **The Community That Is Church** **5 credits**
Central biblical themes bearing on the origin and nature of the Christian community; models for understanding the community in its dynamic growth-process and self-structuring in history; elements in the dynamic: authority and freedom, tradition and change.





RS 321 (420) **Christian Sacraments** **5 credits**
Biblical investigation of the origin of the sacraments in Christ and the Church; nature of symbolism as evocative and healing; the doctrinal, liturgical, and moral aspects of the sacraments within a community's ongoing life and worship.

RS 325 (476) **Society, Justice, and Theology** **5 credits**
Reflection on the relationship between Christian faith and justice in society; relation of justice and faith in Scripture and tradition; a theology of the social focused on the revelation of God through his activity in the structures of contemporary society; Christian social teachings as an expression of the theology of the social; the inter-relation of Christian community and the society in which it exists.

RS 334 (450) **Liberation and Theology** **5 credits**
Discovery of situations and structures (social, political, economic), experienced as oppressive, that cry out for liberation; themes from the biblical and Christian tradition that speak to the issues of liberation, justice, and peace; contemporary models for analyzing, interpreting and applying the Christian message.

RS 338 (433) **Christian Views of Love, Sexuality, and Marriage** **5 credits**
The meaning of love experiences and their expression in human sexuality in light of God's loving relation with each person; examination of moral/spiritual dimensions of sexuality; relationship of human sexuality and marriage; marriage as a symbol and sacramental expression of God's love; present procedures and regulations for marriage.

RS 341 (477) **Contemporary Issues in Christian Ethics** **5 credits**
An examination and analysis of such important contemporary issues as nuclear disarmament, war and peace, world hunger, medical ethics, revolution and violence, the criminal justice system; focus on one such issue in light of the Christian traditions of social teachings and contemporary Christian viewpoints; principles and rules for evaluating particular issues.

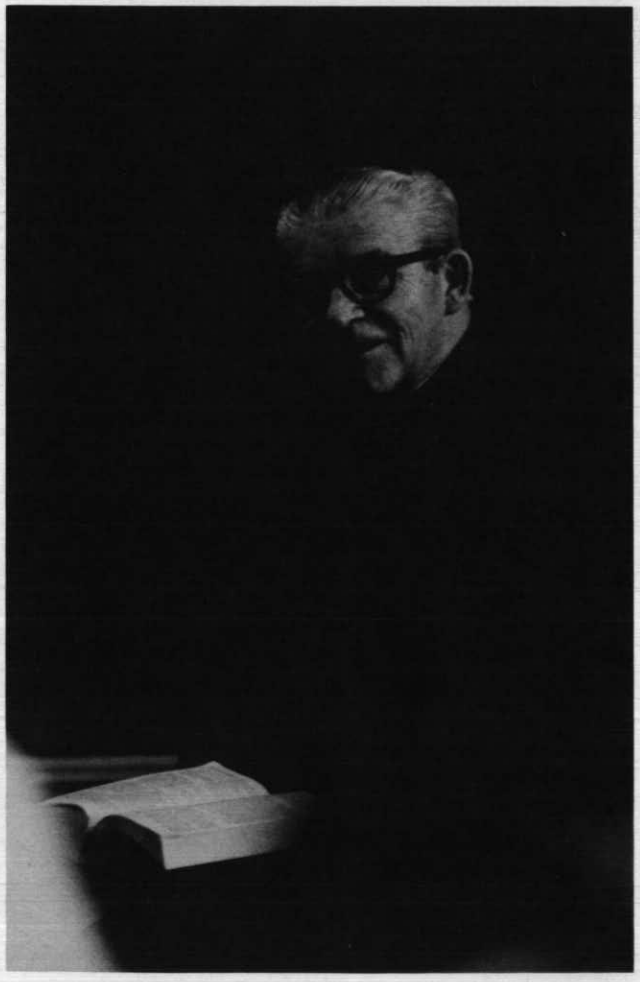
RS 371 **Dialogue, East and West** **5 credits**
Comparative study of Western and Eastern religious traditions; common categories for understanding what people seek in any religion — knowledge of the holy, harmony with the real world, significant moral value, and what differentiates one tradition from another; principles for inter-faith dialogue that avoid obstacles to development within traditions and obstacles to dialogue between traditions.

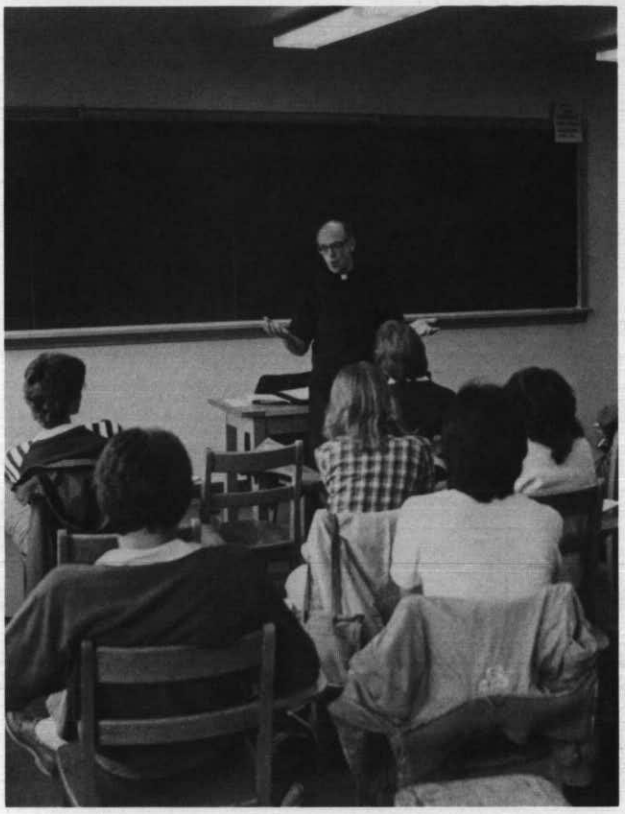
RS 391 **Special Topics** **2-5 credits**
RS 392 **Special Topics** **2-5 credits**
RS 393 **Special Topics** **2-5 credits**

RS 396 **Independent Study** **1-5 credits**
RS 397 **Independent Study** **1-5 credits**
RS 398 **Independent Study** **1-5 credits**

RS 405 (481) **The Songs of the Community of Israel** **5 credits**
Analysis of the literary form and types of the Psalms; Psalm I as showing why the Psalms rank as the major book in the Wisdom Literature: how meditation/reflection differs from prayer; how prayer constitutes the community of Israel; how community constitutes the essential condition for prayer.

RS 414 (210) **The Synoptics: Matthew, Mark and Luke** **5 credits**
Investigation of the oral traditions of the Gospels by form criticism; study of the theology of Matthew, Mark and Luke by means of source criticism and redaction criticism.





RS 425 (355) **Early Christian Theology** **5 credits**
Theological, historical and literary analysis of writings of some of the leading early and later Fathers of the Church; e.g., Justin, Irenaeus, Tertullian, Origen, Augustine. Majors and minors or permission by chairperson.

RS 426 (357) **Scholastic Theology** **5 credits**
Seminar: the origin and main lines of scholastic theology, its spirit and aim formulated by St. Anselm, Abelard, St. Bernard, Alexander of Hales, St. Albert, St. Bonaventure, Duns Scotus, William of Occam, St. Thomas Aquinas. Prerequisite: RS 425.

RS 427 (358) **Reformation Theology** **5 credits**
The theological dispute of the Reformation on justification by faith alone; controversies among Catholics, Lutherans, Calvinists and Jansenists; the Enlightenment and Vatican Council I. Prerequisite: RS 426.

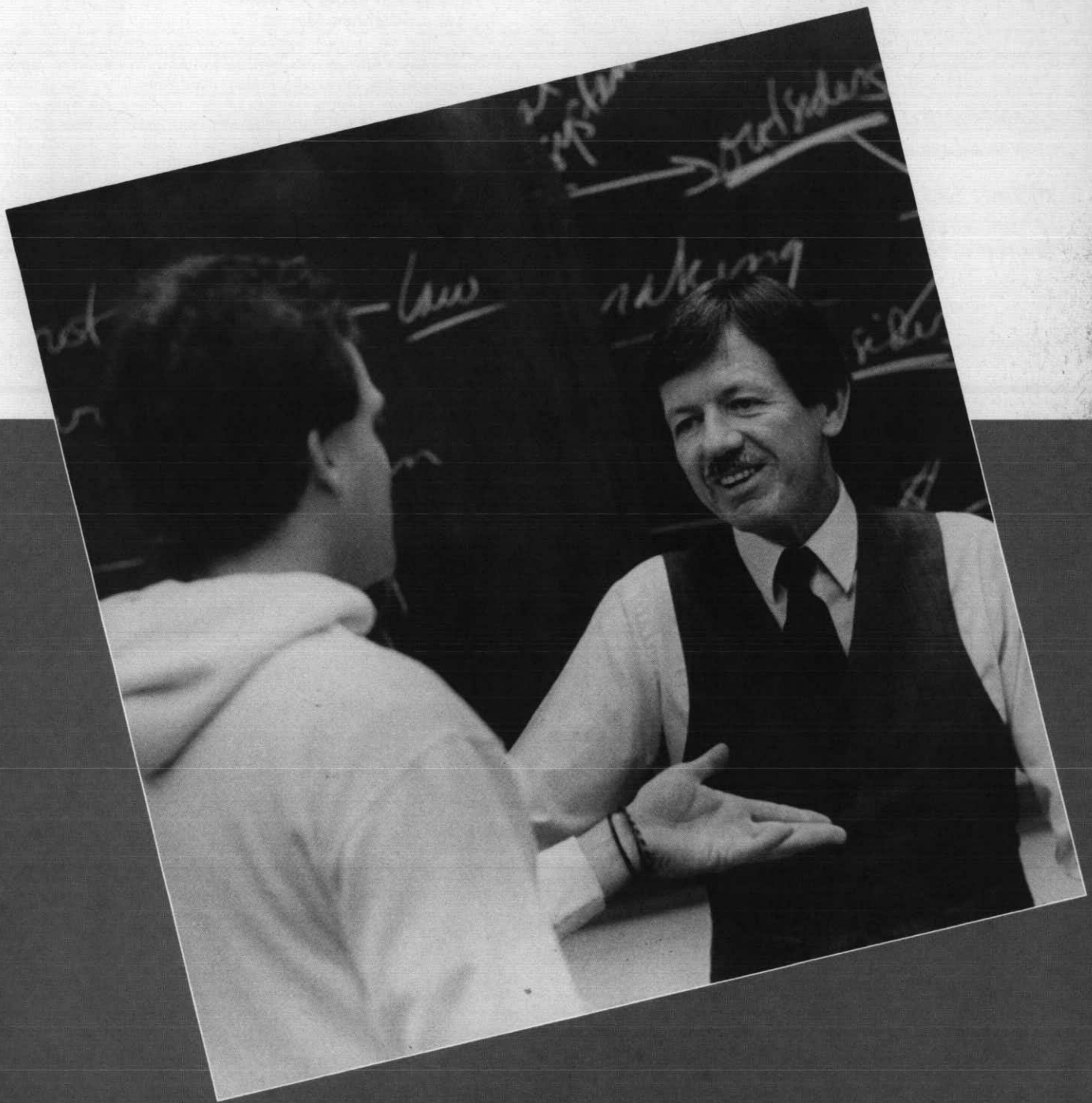
RS 431 (487) **Modern Protestant Theology** **5 credits**
Theological position, history and trends of some major Protestant denominations; principle leaders of modern Protestant thought and their tenets: Bultmann, Tillich and Niebuhr.

RS 460 **Trinity, Grace, and Life in the Spirit** **5 credits**
Study of God's life as Trinity and as shared with us (grace); theological method and relation to spiritual theology. Seminar for majors, minors.

RS 491 **Special Topics** **2-5 credits**
RS 492 **Special Topics** **2-5 credits**
RS 493 **Special Topics** **2-5 credits**

RS 496 **Independent Study** **1-5 credits**
RS 497 **Independent Study** **1-5 credits**
RS 498 **Independent Study** **1-5 credits**

Albers School of Business



Albers School of Business

Harriet Stephenson, Ph.D., Interim Dean
Sharon K. James, Ph.D., Assistant Dean

Rainier National Bank Professor of Finance:
Hildegard R. Hendrickson, Ph.D.
Thomas Gleed Professor of Business:
David Lee Kurtz, Ph.D.
Robert D. O'Brien Chair in Business:
David E. Tinius, Ph.D.

Department Chairpersons

Accounting and Legal Environment:
William Weis, Ph.D., Chairperson
Administration: Harriet Stephenson, Ph.D., Chairperson
Economics: Hildegard Hendrickson, Ph.D., Chairperson

Objectives

Collegiate education for business should prepare students for business careers, not simply for job-finding. A broad, liberal education, comparable to university studies in other professional fields, will not replace practical business experience, but will provide a sound base for development of managerial talents.

The programs of the Albers School of Business implement the purpose of the University by providing professional guidance and instruction for developing those qualities which lead to competent leadership and service in the various fields of economic endeavor. The School seeks to prepare graduates capable of assuming responsible roles in the economic development of the Pacific Northwest, as well as national and international sectors, and in both private enterprise and government.

Accreditation of Bachelor of Arts in Business Administration

American Assembly of Collegiate Schools of Business — graduate and undergraduate levels.

Organization

The Albers School of Business has two principal divisions, undergraduate and graduate studies. Undergraduate majors are offered in six business fields: accounting, finance, general business, management, marketing and information systems management. In addition, the School contains the Economics department which offers a bachelor's degree program and an undergraduate minor.

Admission Requirements

All entering Freshmen and undergraduate transfer students who meet the University's regular admission standards may be admitted to the Albers Schol of Business for lower division courses and all courses in Economics.

Admission to Junior Status in the Business Majors

No student will be permitted to take Business courses numbered 300 or above prior to being admitted to Junior status in the Business major. (Students who are Juniors or Seniors in other majors may request permission to take 300 or 400 level business courses.) To be admitted to Junior status in the Business major, a student must have at least 90 quarter credit hours and a cumulative grade point average of no less than 2.25. The student must have completed Mt 118 and Mt 130, or their equivalents, and at least four of the seven other required lower division courses in Business Mathematics, Economics and Computer Science (Bus 230, 231, 260, 270, Ec 271, 272, and CSC 103). The grade point average in the lower division required Business, Economics, Mathematics and Computer Science courses must be no less than 2.25.

Students with 90 or more quarter credit hours who do not meet these standards will be subject to dismissal from the School of Business. A Business student who has completed more than 120 quarter hours of degree requirements, and been dismissed, ordinarily will not be considered for readmission.

To be granted the BABA degree, a student must achieve a cumulative gpa of 2.25 overall and in all required coursework in Business, Mathematics, Economics and Computer Science.

Degrees Offered

Bachelor of Arts in Business Administration
Bachelor of Arts in Economics
Master of Business Administration (evening classes only) — See Graduate Bulletin

Curriculum

The program of required study for the bachelor's degree in business has three principal components: the arts and sciences, the business core and area of specialization. All students in the baccalaureate degree program fulfil requirements in English, mathematics, philosophy, a natural science, social sciences and theology and religious studies. The business core includes courses in accounting, administrative processes, economics, finance, information systems, legal environment,management, marketing and statistics. Specialization in one of the six major fields is required. No course in the area of specialization may be taken through independent study.

General Program Requirements

A minimum of 180 credits is required for bachelor degrees in business or economics, including 75 hours of core curriculum courses. See the degree requirements for specific course requirements.

Students transferring from another institution normally must earn at least 40 hours of upper division credit in Business and/or Economics at Seattle University.

Students transferring within the University from other majors to Business must meet the requirements of the Business major applicable at the time they enter the Albers School of Business.

Business students who withdraw from the University for one calendar year or more are subject to the requirements for the Business major at the time they are readmitted.

No transfer credit is granted for courses in which the grade earned is less than C or 2.00 for the required courses in Business, Mathematics, Economics and Computer Science. The CR/NC option may not be applied to courses in the Business core, University core and Business major.

Degree Requirements

Bachelor of Arts in Business Administration (all majors except accounting and information systems management) — Students seeking this degree complete a program with the following components:

1. Requirements in Arts and Sciences ..... 75 credits
   Students in Business must satisfy with the University Core requirements as described on page 26 with the exception of the requirement of an Interdisciplinary course. Mt 118 may satisfy the mathematics requirement of the Core. In addition, Business students must complete Mt 130 and Csc 103. Economics courses may not be used to satisfy the Core Social Science requirement.
2. Business core requirements ..... 60 credits
   Business 230, 231, 260, 270, 310, 340, 350, 360, 380, 482; Economics 271, 272.
3. Specialization in a major area of concentration ..... 20 credits
   Finance, general business, management, or marketing.
4. Electives from any undergraduate offerings of the University ..... 25 credits

Total ..... 180 credits

Bachelor of Arts in Business Administration

(All majors except accounting and information systems management.)

Freshman year

English 110/Philosophy 110 sequence ..... 10 credits
Fine Arts 120 ..... 5 credits
CSC 103 ..... 5 credits
History 120/English 120 sequence ..... 10 credits
Laboratory Science ..... 5 credits
Mathematics 118, 130 ..... 10 credits

Sophomore year

Business 230, 231, 260, 270 ..... 20 credits
Economics 271, 272 ..... 10 credits
Philosophy 220/Social Science I sequence ... 10 credits
Social Science II ..... 5 credits

Junior year

Business 310, 340, 350, 360, 380 ..... 25 credits
Business major (300-499) ..... 5 credits
Theology and religious studies I ..... 5 credits
Electives ..... 10 credits

Senior year

Business 482/Senior Synthesis ..... 5 credits
Business major (300-499) ..... 15 credits
Ethics ..... 5 credits
Theology and religious studies II ..... 5 credits
Electives ..... 15 credits

Total ..... 180 credits

A minor in computer science for business majors consists of the following 30 credits: CSC 113 or 114; 150; 170 or 180. CSC 235 plus ten credits in computer science courses numbered 250 or higher. (Bus 310 may be substituted for five of these ten credits.)

Finance

Objectives

The finance curriculum is designed to afford an understanding of the financial functions in business and the management of assets for financial institutions and individuals.

Requirements for the finance major are: Bus 441, Ec 372 and 10 credits from Bus 341, 343, and 345. Ec 471, 472 and 473 are strongly recommended.

General Business

Objectives

The general business major provides the opportunity for a broad survey of business subjects. It is designed for students who intend to operate their own business enterprises, those who expect to attain greater specialization through on-the-job programs, or those who plan later to study in a specific area.

General Business majors must complete at least 20 credits of upper division work in Business and/or Economics selected with the approval of his or her adviser. The courses selected must be from at least three different areas.

Management

Objectives

The general area of management is concerned with the administration of private business or public enterprise. It includes relating the goals of an enterprise with the goals of those individuals and groups of individuals who make the enterprise a continuing process. The management major is designed for students seeking careers in administration, personnel or industrial relations in business or government.

Requirements for the management major are: Bus 383, 385 and at least 10 credits from Bus 481, 483, Ec 476, and Psy 461 and 462.

Marketing

Objectives

Marketing is the study of the flow of goods and services to ultimate consumers and users. Career opportunities in marketing are found in manufacturing, wholesaling and retailing, marketing research and in the promotional areas of advertising and personal selling.

The requirements for the marketing major are: Bus 451, 452 and 10 credits from Bus 351, 352, and 353. Ec 374, 472 and 473 are strongly recommended.

Accounting

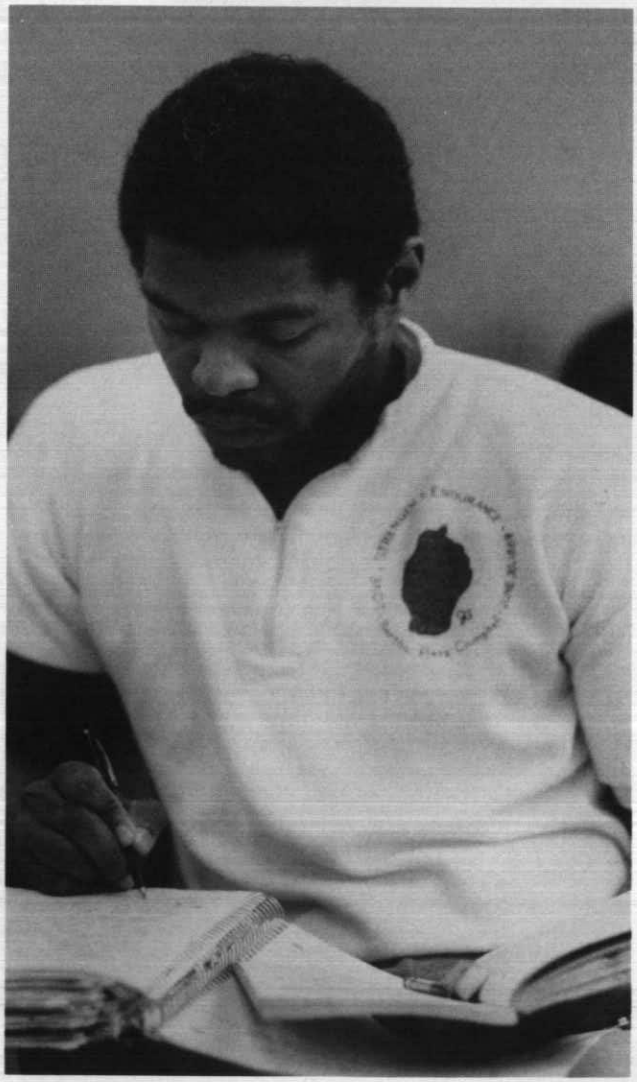
Objectives

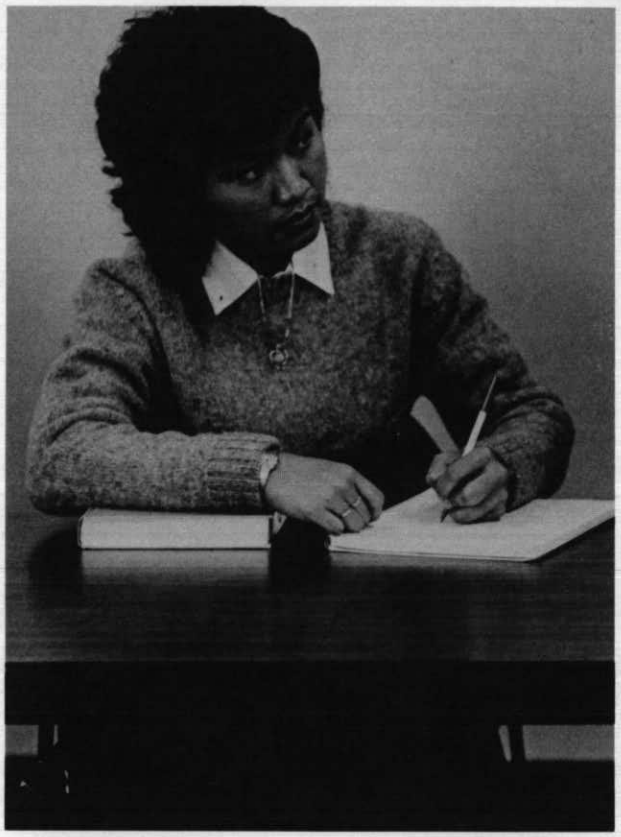
Professionally trained accountants serve in diverse roles in private business, government, non-profit organizations, and other entities. After meeting the state requirements, many accounting graduates pursue careers as certified public accountants.

Students seeking the Bachelor of Arts in Business Administration with an accounting major must complete the following requirements:

1. Requirements in Arts and Sciences ..... 80 credits
   In addition to the requirements specified above for the Bachelor of Arts in Business Administration, the accounting program requires Speech 200.
2. Business core — as listed for B.A. in Business Administration ..... 60 credits
3. Accounting major: ..... 35 credits
   Business 330, 332, 333, 334, 336, 431, 435
4. Electives ..... 5 credits

Total ..... 180 credits





Bachelor of Arts in Business Administration Accounting Major

Freshman year

English 110/Philosophy 110 sequence ..... 10 credits
CSC 103 ..... 5 credits
Fine Arts 120 ..... 5 credits
History 120/English 120 sequence ..... 10 credits
Laboratory Science ..... 5 credits
Mathematics 118, 130 ..... 10 credits

Sophomore year

Business 230, 231, 260, 270 ..... 20 credits
Economics 271, 272 ..... 10 credits
Philosophy 220/Social Science I sequence ... 10 credits
Social Science II ..... 5 credits

Junior year

Business 340, 350 ..... 10 credits
Accounting major:
  Business 330, 332, 333, 334, 336 ..... 25 credits
Speech 200 ..... 5 credits
Theology and religious studies I ..... 5 credits

Senior year

Business 310, 360, 380, 482 ..... 20 credits
Accounting major:
  Business 431, 435 ..... 10 credits
Ethics ..... 5 credits
Theology and religious studies II ..... 5 credits
Electives ..... 5 credits

Total ..... 180 credits

Business Courses

BUS 230 Principles of Accounting I (Financial) 5 credits
Introduction to financial accounting concepts with emphasis on the development of the student's ability to understand and interpret financial statements of business entities. Prerequisite: Sophomore standing. (fall, winter, spring).

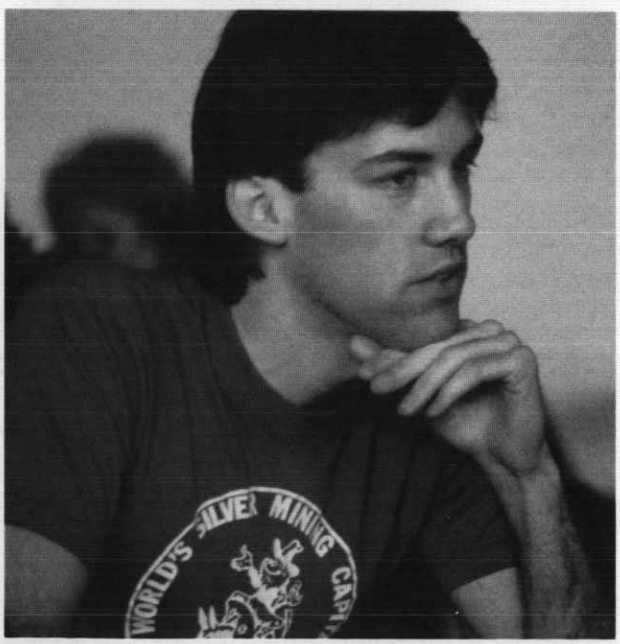
BUS 231 Principles of Accounting II (Managerial) 5 credits
Introduction to the use of accounting information for decision-making in planning and controlling the operation of business organizations. Prerequisite: Bus 230 and Sophomore standing. (fall, winter, spring).

BUS 260 (211) Business Statistics 5 credits
Business application of basic statistics, probability concepts, probability distributions, expectation, sampling, estimation, hypothesis testing, index numbers, time-series analysis and introduction to simple linear models. Prerequisite: Mt 130 and Sophomore standing. (fall, winter, spring).

BUS 270 Law & Business 5 credits
Nature and development of law; structure and functions of the court; civil and criminal procedure; role of attorneys and an introduction to the law of contracts. Prerequisite: Sophomore standing. (fall, winter, spring).

BUS 291 Special Topics 1-5 credits
BUS 292 Special Topics 1-5 credits
BUS 293 Special Topics 1-5 credits

BUS 310 (460) Information Systems Management in Business 5 credits
Introduction to managerial aspects related to information processing systems and microcomputer applications. Topics include an overview of fundamental business computer systems, information processing, software and hardware selection, the management of information systems, distributed processing, data security, and hands-on equipment time with microcomputers. Prerequisites: Junior standing and CSC 103 and Bus 340.



BUS 311 Information Systems Analysis and Design 5 credits
Survey of systems analysis and design in organizations. Topics include conceptional foundations for systems development, systems specification, operational frameworks, and applied systems analysis. Emphasis is placed on understanding user information requirements and modeling prototyping techniques. Prerequisites: CSC 113 or 114 and Bus 310.

BUS 312 Database Management for Business Applications 5 credits
Fundamentals, design, and implementation of database management systems. Topics include the database development process, file organization, data structures, logical and relational database design, database implementation and administration. A hands-on project using microcomputers will be assigned. Prerequisites: CSC 113 or 114, Bus 310, CSC 250

BUS 330 Cost Accounting 5 credits
Determination of manufacturing costs in job order, process and standard cost systems; introduction to methods of cost control. Prerequisite: Bus 231 and Junior standing.

BUS 332 Intermediate Accounting I 5 credits
Theory and development of accounting principles; evolution of theory as relates to the current state of accounting for the assets of the entity and the measurement and reporting of periodic income. Prerequisite: Bus 231, and Junior standing.

BUS 333 Intermediate Accounting II 5 credits
Theory and development of accounting principles; evolution of theory as relates to the current state of accounting for liabilities and owners' equities. Prerequisite: Bus 332.

BUS 334 Intermediate Accounting III 5 credits
Study of advanced topics in accounting theory and practice with emphasis upon financial reporting. Selected areas include: accounting for income taxes, inflation accounting, accounting changes, interim and segment reporting, statement of changes in financial position, disclosure requirements and contemporary issues. Prerequisite: Bus 333.

BUS 336 Federal Income Tax I 5 credits
Tax returns of individuals; gross income and deductions; use of tax service and research in tax problems. Prerequisite: Bus 231, and Junior standing.

BUS 340 Business Finance 5 credits
Study of the financial policies and practices of business firms; planning, control and acquisition of short-term and long-term funds; management of assets; evaluation of alternative uses of funds; capital structure of the firm; cost of capital; financing growth and expansion of business firms. Prerequisites: Ec 271, Bus 231 and Junior standing. (fall, winter, spring)

BUS 341 Investment and Security Analysis 5 credits
Principles, policies and practices of investing. Analysis of public and private industries and securities, individual and institutional viewpoints. Prerequisite: Bus 340.

BUS 343 Financial Institution and Markets 5 credits
Nature and function of bank and non-bank financial institutions and markets and their relationships and interdependence. Prerequisites: Ec 271.

BUS 345 Risk Analysis **5 credits**
Analysis of how risk and uncertainty affect the financial decision making processes of individuals and financial institutions. Topics covered include insurance theory, portfolio theory and options. Prerequisite: Bus 340.

BUS 350 Introduction to Marketing **5 credits**
Survey of institutions and essential functions in the marketing system. Analysis of the marketing mix; product, place, promotion and price strategies. Prerequisites: Junior standing, permission, (fall, winter, spring)

BUS 351 Consumer Behavior **5 credits**
Application of behavioral sciences to explore consumer decision-making processes. Characteristics of goods, shopper behavior, opinion leadership, market segmentation, concepts relevant personal selling. Prerequisite: Bus 350.

BUS 352 Marketing Communication **5 credits**
Business firms' methods of communications to their markets and publics. Analysis of the promotional mix; personal selling, advertising, sales promotion and publicity. Promotion strategies. Prerequisite: Bus 350.

BUS 353 Sales Management **5 credits**
Sales Management deals with the personal selling function and its related administration and managerial activities. The course covers the development of the selling function, sales process, sales management planning, recruiting, training, sales force organization, supervision and motivation, compensation and evaluation. Prerequisite: Bus 350.

BUS 360 (480) Production and Operations Management **5 credits**
Survey of the system analysis, design and operating techniques for manufacturing and service organizations, including topics in facility location, linear programming, inventory control, work measurement, forecasting techniques, scheduling and quality control. Prerequisites: Bus 260, and CSC 103. (fall, winter, spring).

BUS 370 Advanced Law and Business **5 credits**
Commercial law, including contracts, business structures and property relationships; legal aspects of government and business, including credit and environmental legislation. Prerequisite: Bus 270 and Junior standing.

BUS 380 Organization Behavior **5 credits**
Develops understanding of organizational behavior, with focus on basic processes, methods involved in diagnosing human situations. Experiential exercises and analysis of concepts. Prerequisite: Junior standing. (fall, winter, spring).

BUS 383 Personnel **5 credits**
Inducting personnel into the organizational structure; maintenance of the personnel system; utilization of human resources: compensation, evaluation, recruitment, selection, affirmative action, equal opportunity legislation, career planning, training and employee relations. Prerequisite: Bus 380.

BUS 385 Principles of Management **5 credits**
Develops managerial functions of planning, controlling, reporting, budgeting and decision making. Studies strategy, macro-organizational environment, and structural design options. Prerequisite: Bus 380.

BUS 413 Seminar in Decision Support Systems for Information Management **5 credits**
The design and use of computerized models to assist in managerial decision making. Hands-on experience with mainframe or microcomputers may include, but not be limited to, financial modeling, accounting information systems, econometrics, sales forecasting, or production models. Prerequisites: CSC 113 or 114, Bus 310, 311, and 312

BUS 431 Advanced Accounting I **5 credits**
Special accounting problems associated with partnerships and business combinations. Particular emphasis on consolidated financial statements and price-level adjusted financial statements. Prerequisite: Bus 333.

BUS 433 Seminar in Accounting Theory **5 credits**
Critical examination of accounting theories; concepts, postulates and principles related to income measurement, assets, liabilities and equities. Prerequisite: Bus 333.

BUS 435 Auditing **5 credits**
Purpose, scope, concepts and methods used in examining and attesting to financial statements. Current issues concerning professionalism, and role of the public accountant. Prerequisite: Bus 333.

BUS 436 Federal Income Tax II **3 credits**
Tax returns of partnerships and corporations; problems related to installment sales, cash basis and accrual basis. Prerequisite: Bus 336.

BUS 441 Case Problems in Finance **5 credits**
Variables relevant to financial problems; skill, techniques and judgment necessary to make financial decisions. Prerequisite: Bus 340.

BUS 451 Marketing Research **5 credits**
Purpose, methods and techniques of marketing research. Prerequisites: Bus 260, and 350.

BUS 452 Marketing Management **5 credits**
Case studies of corporate problems, decision-making. Student participation in various roles of marketing. Organization planning, execution and control of marketing problems. Prerequisite: Bus 231 and 350. Seniors only.

BUS 481 Small Business Management **5 credits**
Procedures and problems in starting and operating a successful small business enterprise. Prerequisite: Senior standing.

BUS 482 Business Policy and Organization **5 credits**
Case studies of policy and administration of business; intellectual discipline which permits understanding a problem, planning a program of action, progression to execution and constant review; original work in analysis and policy decisions. Prerequisite: All Business Core; Senior standing. (fall, winter, spring)

BUS 483 Mangement Seminar **5 credits**
Development of a specific area of management. Various approaches to study of organizations, conceptual and analytical methods, research methodologies and trends in management. Prerequisite: Bus 380. Senior standing.

BUS 491 Special Topics **2-5 credits**

BUS 496 Independent Study **1-5 credits**
BUS 497 Independent Study **1-5 credits**
BUS 498 Independent Study **1-5 credits**
Supervised individual research. Open to senior business majors with the approval of the student's adviser.

Economics

Objectives

The courses in economics are designed to acquaint the student with the economy in which he/she lives and to provide for the application of these courses to all other social sciences. The tools of analysis necessary to solve such problems as income distribution, domestic and international finance, economic fluctuations and business organizations are acquired and opportunity is given to apply the various methods of solution. Graduates are prepared for a wide range of positions where analytical skills are required in business, government and the nonprofit sector. Economics is also excellent preparation for students going to law school. Students who prove especially able in economics courses are encouraged to pursue graduate work in preparation for professional status as economists in government, industry or the academic world.

Degree Offered

Bachelor of Arts in Economics

General Program Requirements

Students in economics must satisfy the core curriculum of the University on pages 26-28 of this bulletin. Mt 118 may satisfy Mathematics requirement of the core. In addition, Economics students must complete Mt 130 and CSC 103. To be granted the Bachelor of Arts in Economics degree, a student must achieve a cumulative gpa of 2.00 in all required course work in Economics.

Departmental Requirements

Bachelor of Arts — 55 credits of economics which must include Ec 271, 272, 372, 374 and seven additional economics courses not including Ec 100, 375 (Bus 343 may be substituted for one); Bus 260, 230 and CSC 103.

Undergraduate Minor — 30 credits of economics which must include: Ec 271, 272, 372, 374 or 375 and any two courses in economics selected with the assistance of an adviser.

Bachelor of Arts in Economics

Freshman year

English 110/Philosophy 110 sequence ..... 10 credits
Fine Arts ..... 5 credits
History 120/English 120 sequence ..... 10 credits
Laboratory Science ..... 5 credits
Mathematics 118, 130 ..... 10 credits
Computer Science 103 ..... 5 credits

Sophomore year

Business 230, 260 ..... 10 credits
Economics 271, 272 ..... 10 credits
Philosophy 120/Social Science I sequence ... 10 credits
Social Science II course ..... 5 credits
Theology and Religious Studies I ..... 5 credits
Electives ..... 5 credits

Junior year

Economics 372, 374 and electives ..... 20 credits
Ethics ..... 5 credits
Interdisciplinary course ..... 5 credits
Theology and Religious Studies II ..... 5 credits
Electives ..... 10 credits

Senior year

Economics electives ..... 25 credits
Senior Synthesis ..... 5 credits
Electives ..... 15 credits
Total ..... 180 credits

Economics Courses

EC 100 Nature of Economic Society 5 credits
Evolution of economic institutions, with emphasis on market capitalism, its critics and problems, past and present. Changing roles and responsibilities of government and the private sector.

EC 271 Principles of Economics — Macro 5 credits
Organization, operation and control of the American economy in its historical and socio-political settings; problems of inflation, unemployment, taxation, the public debt, money and banking, growth. Prerequisite: Sophomore standing. (fall, winter, spring).

EC 272 Principles of Economics — Micro 5 credits
Operation of the American economy with emphasis on prices, wages, production and distribution of income and wealth; problems of the world economy. Prerequisite: Sophomore standing. (fall, winter, spring).

EC 291 Special Topics 1-5 credits
EC 292 Special Topics 1-5 credits
EC 293 Special Topics 1-5 credits

EC 371 History of Economic Thought 5 credits
Major historical developments in economic throught, ancient to contemporary, Christian influence, merchantilism, laissez faire; German and Austrian schools, Marx and socialists; Keynes and neo-Keynesian analysis.

EC 372 National Income Analysis 5 credits
Determination of levels of national income, employment and prices. Problems of unemployment and inflation. Policies for stabilization and growth. Prerequisite: Ec 271.

EC 374 Intermediate Price Theory 5 credits
Demand, supply, costs and market prices under competitive and imperfectly competitive market conditions. Relationships between price and costs; income and its functional distributions in a capitalistic society. Prerequisite: Ec 272.

EC 375 Managerial Economics 5 credits
Theory of the consumer, the firm, the industry; with special emphasis on using the analytical tools of microeconomics for managerial decision-making within the firm. Prerequisite: Ec 272. This course does not satisfy a major requirement.

EC 377 Government and Business 5 credits
Development in the United States of public policy. Government regulation of industry and commerce and application to mergers, business concentration and restrictive business practices, regulation of public utilities. Prerequisite: Ec 272.

EC 378 Urban Economics 5 credits
The causes and consequences of the interdependencies of firms, individuals, households and governmental units within the constrained space of urban areas. Problems of land, housing, transportation, labor and public services.

EC 471 Government Finance 5 credits
Revenues, expenditures and debts of federal, state and local governments; economic theories; constitutional limitations; government finance as means for social reform; shifting and incidence of taxes. Prerequisites: Ec 271, 272.

EC 472 International Trade and Development 5 credits
Pattern, organization and promotion of U.S. and world trade. Trade theories. Exchange rates. Foreign prices and payments. Protection and free trade. G.A.T.T. European Community Multinationals in foreign trade. Prerequisite: Ec 271, 272.

EC 473 International Finance and Investment 5 credits
Foreign Exchange Market. Balance of Payments. Gold standard and developments. Bretton Woods system, the I.M.F. and current problems. Oil prices and inflation. Post-war international investment. Eurodollars. Prerequisite: Ec 271, 272.

EC 474 Forecasting Business Conditions 5 credits
Introduction to casual and ad hoc time series methods of forecasting utilized by business firms. Regression, exponential smoothing, decomposition and Box Jenkins methods are included. Prerequisites: Ec 271: Bus 260.

EC 476 Labor Economics 5 credits
Survey of the economics of industrial relations; effects of industrial changes on labor; hours and wages; employment and unemployment; trade unionism and labor legislation. Prerequisite: Ec 272.

EC 477 Economic Development 5 credits
Developing nations and agriculture, industry, population, education, technology, exports, imports, capital and savings, unemployment. Commodity agreements. Special preferences. Foreign aid. U.N.C.T.A.D. Prospects and limits. Prerequisite: Ec 271, 272.

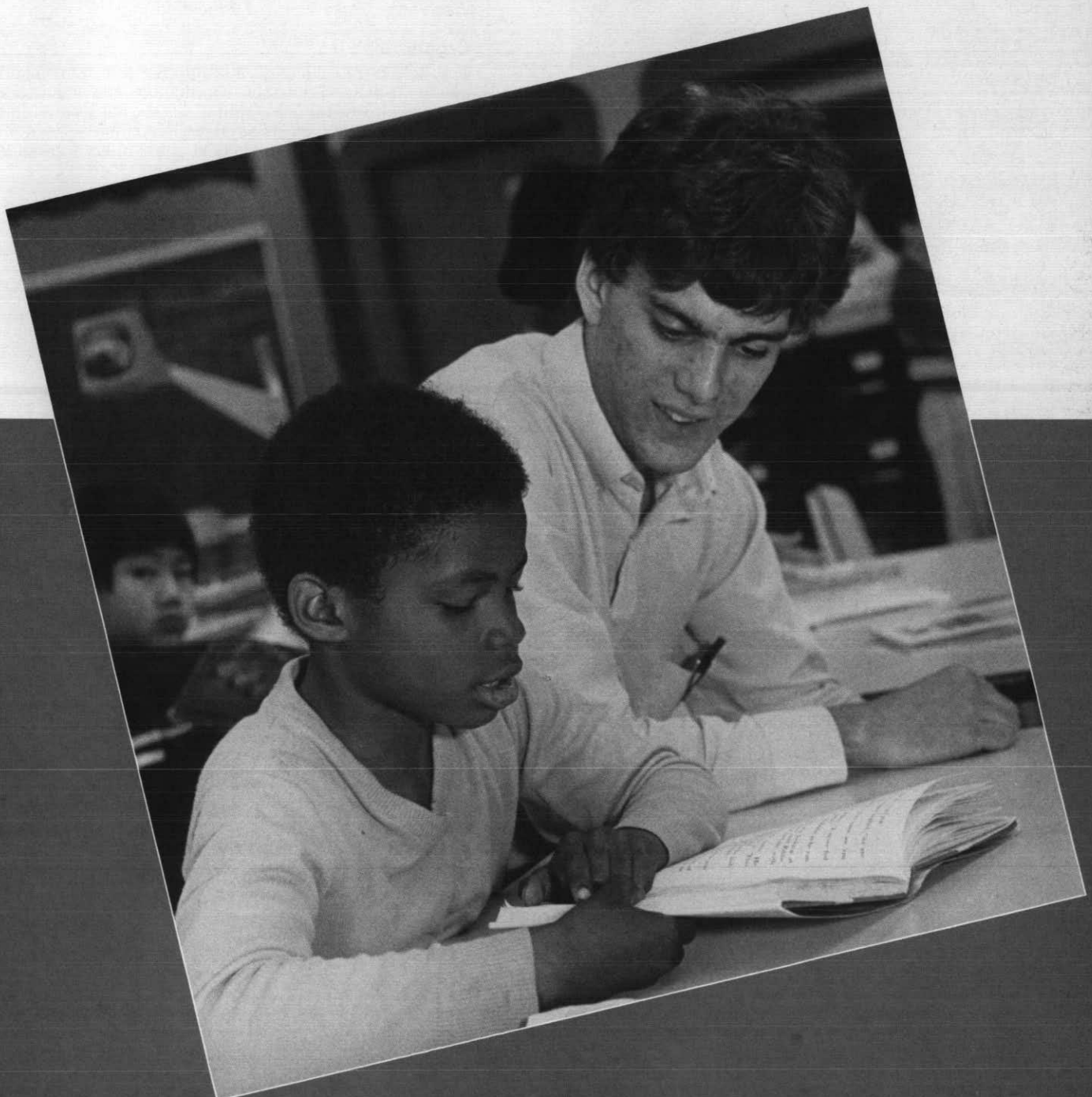
EC 478 Comparative Economic Systems 5 credits
Economic systems in theory and practice. Classical, Marxian, Neoclassical, Keynesian, post-Keynesian theories. Soviet agricultural and industrial organization and operation. Market socialism. Future trends. Prerequisites: Ec 271 and 272.

EC 479 Senior Research 5 credits
An advanced course providing the opportunity for students to pursue topics in breadth and depth, and apply the tools of economic analysis to current issues in national and international economic policy. Prerequisite: Permission.

EC 491 Special Topics 2-5 credits

EC 496 Independent Study 1-5 credits
EC 497 Independent Study 1-5 credits
EC 498 Independent Study 1-5 credits
EC 499 Independent Study 1-5 credits
Supervised individual research. Open to senior economics majors with approval of adviser.

School of Education



School of Education

John J. Gilroy, Ph.D., Dean

Department Chairpersons

Counselor Preparation:
R. Michael O'Connor, Ph.D.

Curriculum and Instruction:
Kristin E. Guest, Ph.D.

Educational Leadership:
John A. Morford, Ed.D.

Teacher Education:
Bonnie J. Denoon, Ph.D.

Objectives

Within the framework of the Jesuit tradition of a liberal education and guided by Seattle University's tripartite mission emphasizing teaching, growth of persons and preparation for service, the School of Education has as its objectives the preparation of men and women who:

1. are dedicated to their profession and knowledgeable of its underlying theory and research;
2. understand the importance of continuing their personal and professional growth throughout their lives;
3. have the competency and commitment to contribute to the welfare of others through their work;
4. reflect actively upon and develop their personal value system;
5. reflect the humanistic philosophy of Jesuit educational tradition.

The School offers programs leading to Washington initial and continuing teaching certificates in elementary education and in a variety of secondary school subjects. Also available are programs to prepare teachers in the areas of early education, developmentally disabled, learning disabled and gifted.

Through reciprocal agreements School of Education graduates also qualify for certification in many other states.

Accreditation

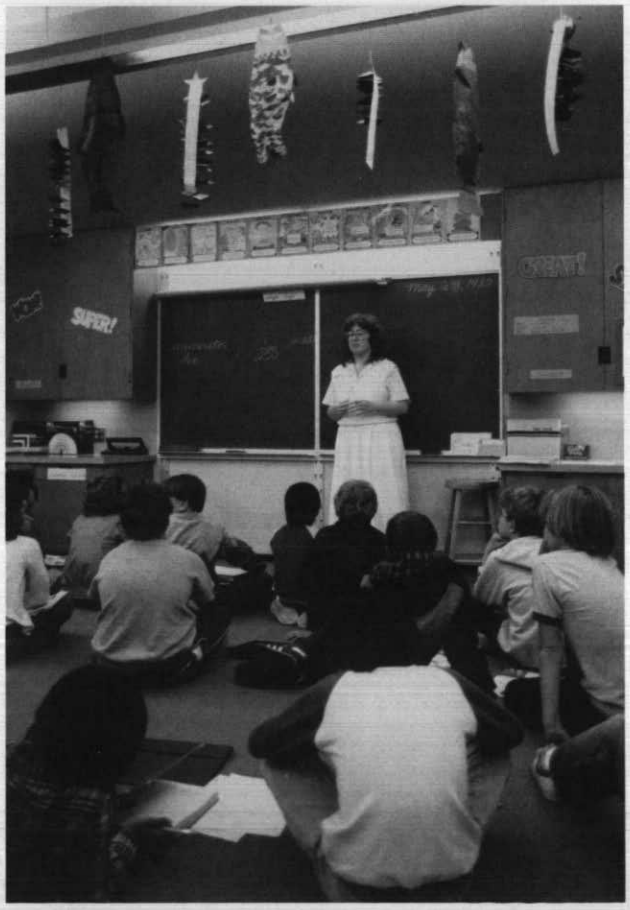
The School is accredited by the National Council for Accreditation of Teacher Education and approved by the Washington State Board of Education.

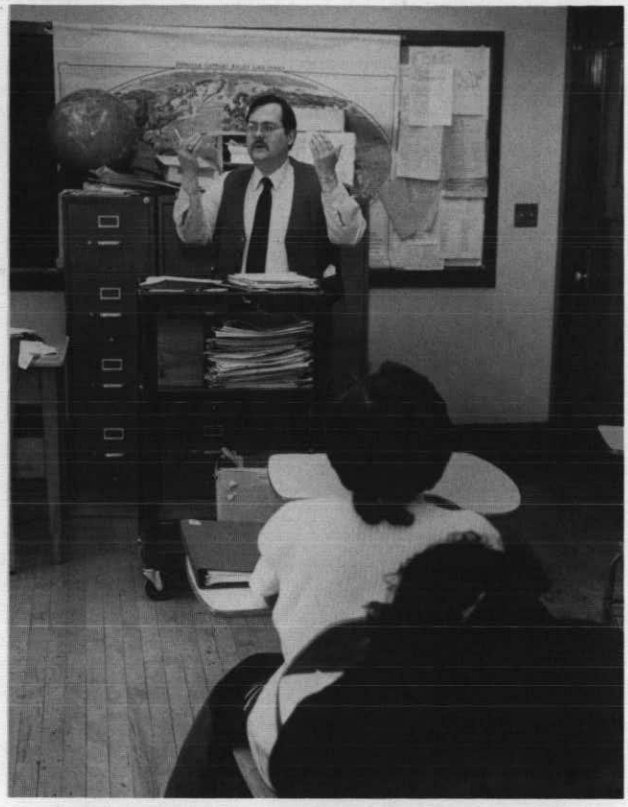
Organization

The School of Education is organized into four departments: Teacher Education, Curriculum and Instruction, Counselor Preparation, and Educational Leadership. Close cooperation exists among all departments, schools and colleges of the University in working out a program of preparation for the individual student.

Degrees Offered

Bachelor of Arts in Education
Bachelor of Education
Master of Arts in Education — See Graduate Bulletin
Master of Education — See Graduate Bulletin
Master of Counseling — See Graduate Bulletin
Educational Specialist — See Graduate Bulletin
Doctor of Education — See Graduate Bulletin





Undergraduate Programs

Teacher Education

Admission Requirements

1. All students seeking admission to the School of Education must submit their test scores on the WPCT, SAT or ACT.
2. All entering freshmen may be admitted to the School of Education if they meet the University's regular admission standards.
3. Students transferring into Seattle University who seek admission to the School of Education must have a g.p.a. of 2.5, either cumulative or based on most recent 90 credits hours and, if applying for the secondary education program, a g.p.a. of 2.75 in the intended major teaching field.
4. Students already attending Seattle University who wish to transfer to the School of Education must have a cumulative g.p.a. of 2.5 based on a minimum of 25 credit hours taken at Seattle University and, if applying for the secondary education programs, a g.p.a. of 2.75 in the intended major teaching field.

Criteria for Admission into Upper-Division Candidacy in the Teacher Education Programs

Requirements for entrance into upper-division courses in the Teacher Education Program are higher than those for graduation. Before registering for Ed. 323, 325, 326 or 432 the student must:

- have completed a minimum of 90 hours of college level course work
- have a cumulative g.p.a. of 2.5
- have a g.p.a. of 2.75 in the major teaching field (if in a secondary education program)

Before registering for ED 330, 336, 337, 340, 352, 420, 430 or 460 the student must:

- have a cumulative g.p.a. of 2.5
- have a g.p.a. of 2.75 in the major teaching field (if in a secondary education program)

Before student teaching, the student must:

- have met all of the above criteria
- have a g.p.a. of 2.75 in professional education courses
- have passed the required basic skills tests
- have been recommended by the student's major academic department (if in a secondary education program)

Transfer students must also meet the criteria listed above. All grade point averages may be either cumulative or based on most recent 90 credit hours.

Admission to Student Teaching

Acceptance into upper division candidacy in the teacher education program and completion of prerequisite courses does not guarantee admittance into student teaching. An application must be submitted to the Chairperson of the Department of Teacher Education by the end of the fourth week of the quarter prior to the one in which the student wishes to fulfill the student teaching requirement. Specific dates during which forms may be obtained and submitted are announced each quarter.

Note: International students cannot be recommended for certification in Washington State unless they have filed an Intent of Citizenship.

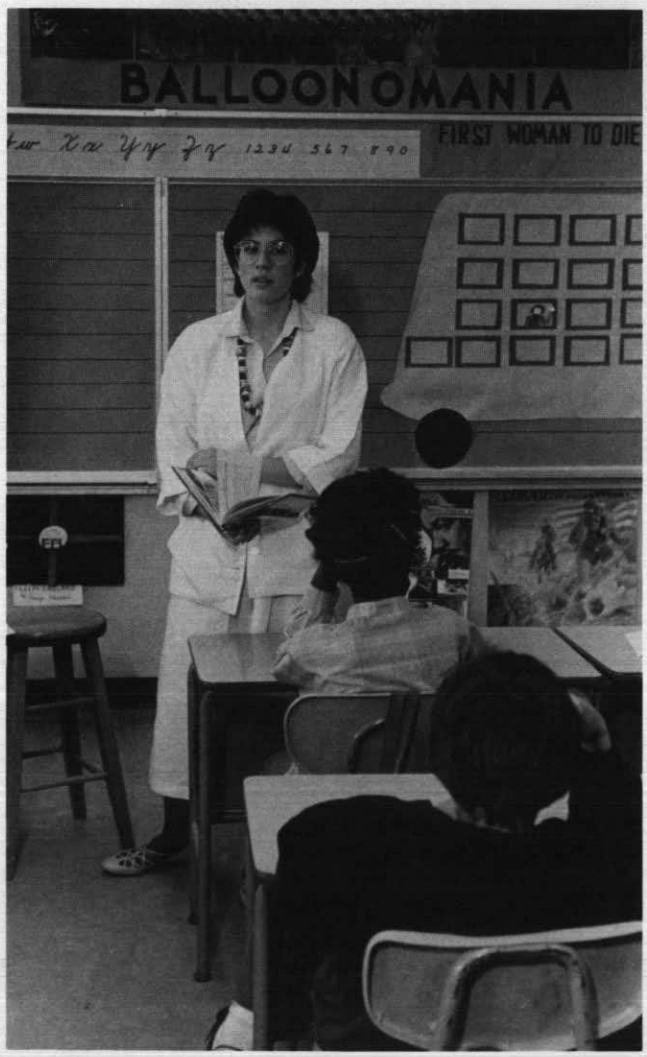
Special Non-Degree Programs

Student entering initially as post-bachelor students who are seeking initial certification must:

- — possess a Bachelor's degree from an accredited institution
- — have a cumulative g.p.a. of 2.5
- — have a g.p.a. of 2.75 in the major teaching field (if entering a secondary education program)
- — secure from the academic department at Seattle University written verification of the appropriateness of course work in the teaching major or an approved plan to meet department requirements.

Cumulative grade point averages may be based either on total academic record or on most recent 90 credit hours.

1. At the discretion of the Chairperson, applicants whose coursework is more than seven years old and who do not meet the g.p.a. criteria may be admitted conditionally. Such students will be required to take approriate coursework and maintain the required g.p.a. in such coursework before admission to Education courses.
2. Students whose coursework is more than seven years old and do meet admissions criteria may, nevertheless, be required to take additional coursework. Such persons should consult with the chairperson of the Teacher Education Program before registering.



Curriculum

The liberal arts core comprises approximately one third of the prospective teacher's course of study. This strong liberal arts background is a distinctive feature of the Seattle University graduate and serves as a lifelong tool to assist the individual to solve problems and think critically.

The second component of the curriculum is the academic specialization which provides the student with in-depth knowledge of the subjects which she/he may teach in the elementary or secondary school. For the secondary teacher, this is the teaching major; for the elementary teacher it is two areas of specialization.

Courses in professional education comprise the remainder of the student's course of study. The nature of the teaching profession, generic and specialized teaching skills, developmental psychology, theories of learning and evaluation techniques are included here. This coursework is taken in conjunction with closely supervised field experiences which culminate in the student teaching experience.

General Program Requirements

Bachelor of Arts in Education

Secondary

Bachelor of Arts in Education (middle school, junior high school, or senior high school teaching) — 1) All University core requirements as found on page 26: 71 credits. Of these 71, the five credit requirement in Social Science II may be met by Ed 325 ;and either Ed 322 or Ed 363. 2) A teaching major of at least 55 credits in any subject commonly taught in secondary schools. (See departmental sections of the bulletin for exact requirements in each teeaching major. 3) Professional education courses: 41 credits. 4) Electives: 23 credits. Students are advised to use electives to complete additional teaching fields.

For recommendation to Comprehensive Social Studies the following are required: 1) a major in **one** of the social studies fields, 2) at least 25 hours in history, including American, Western, non-Western and Pacific Northwest and 3) a minimum total of 70 quarter credits in the social

studies, including courses in at least three social studies areas in addition to history.

For recommendation in Business Education the following must be completed: 1) Mt 130; 2) Ec 271 and 272; 3) Bus 230, 231, 260, 270, 340, 380, 460; 4) CSC 103; 5) Ed 430 and 6) proficiency must be demonstrated in **two** of these skills — typing, word processing, office machines.

Typical Program

Freshman year

English 110/Philosophy 110 sequence ..... 10 credits
History 120/English 120 sequence ..... 10 credits
Fine Arts 120 ..... 5 credits
History Elective ..... 5 credits
Mathematics ..... 5 credits
Major or electives ..... 10 credits

Sophomore year

Education 363 ..... 3 credits
Ethics ..... 5 credits
Philosophy 220/Social Science I sequence ... 10 credits
Laboratory Science ..... 5 credits
Theology and Religious Studies I ..... 5 credits
Major or electives ..... 15 credits

Junior year

Education 323, 325, 326, 353 ..... 10 credits
Major or electives (including
course in teaching of major) ..... 30 credits
Theology and Religious Studies II ..... 5 credits

Senior year

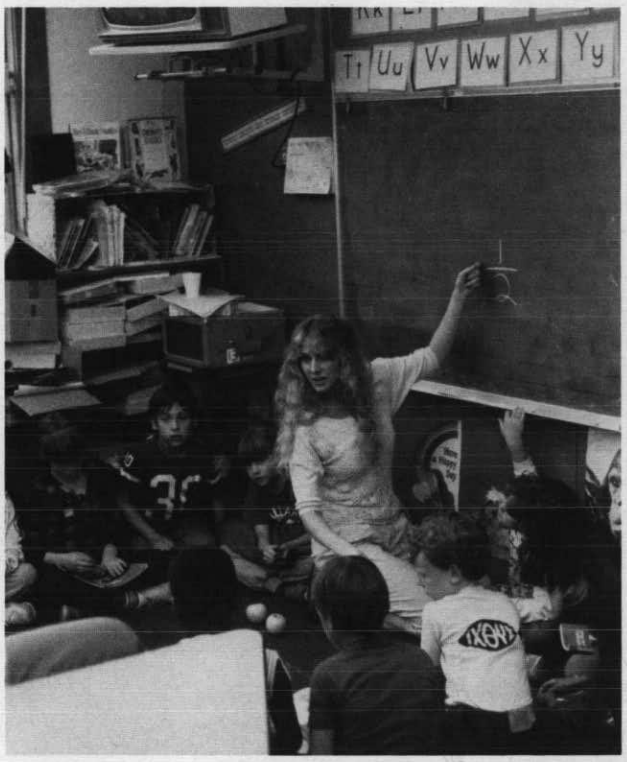
Education 330, 337, 354, 430, 432,
460 and 439 ..... 22 credits
Student Teaching ..... 12 credits
Major and electives ..... 23 credits
Total ..... 190 credits

Bachelor of Education

Elementary

Bachelor of Education (elementary, middle school or high school teaching) — 1) All University core requirements: 71 credits. Of these 71, the five credit requirement in Social Science II may be met by Ed 325 and either Ed 322 or Ed 363. The B.Ed. requires certain specific core courses as shown in the program outline. See pages 26-28 for remaining core requirements. 2) A fine arts methodology class. 3) A teaching major of at least 25 credits in a single subject and a teaching minor of at least 20 credits in subjects or areas commonly taught in elementary or junior high schools. Junior high candidates must take the 25 hour teaching major in a specific subject taught at the junior high level. 4) Professional education courses: 59 credits 5) 12 hours of electives.

Students interested in special education should confer with their Program Coordinator early in their studies.



Elementary

Typical Program

Freshman year

English 110/Philosophy 110 sequence ..... 10 credits
History 120/English 120 sequence ..... 10 credits
Laboratory Science ..... 5 credits
U.S. History ..... 5 credits
Teaching subject or supporting area ..... 15 credits

Sophomore year

Education 322 ..... 3 credits
Ethics ..... 5 credits
Fine Arts 120 Core ..... 5 credits
Mathematics 200 ..... 5 credits
Philosophy 220/Social Science II sequence 10 credits
Theology and Religious Studies I ..... 5 credits
Teaching subject ..... 10 credits

Junior year

Education 323, 325, 326, 353, 432 ..... 13 credits
Education 330, 336, 340, 354 ..... 14 credits
Fine Arts Methods ..... 3 credits
Teaching subject and electives ..... 18 credits
Theology and Religious Studies II ..... 5 credits

Senior year

Education 438, 420, 352, 460, 355 ..... 17 credits
Student teaching ..... 12 credits
Teaching subject and supporting
area and electives ..... 20 credits
Total ..... 190 credits

Typical Program

Special Education

Freshman year

English 110/Philosophy 110 sequence ..... 10 credits
History 120/English 120 sequence ..... 10 credits
U.S. History ..... 5 credits
Lab Science core ..... 5 credits
Teaching subject or supporting area ..... 15 credits

Sophomore Year

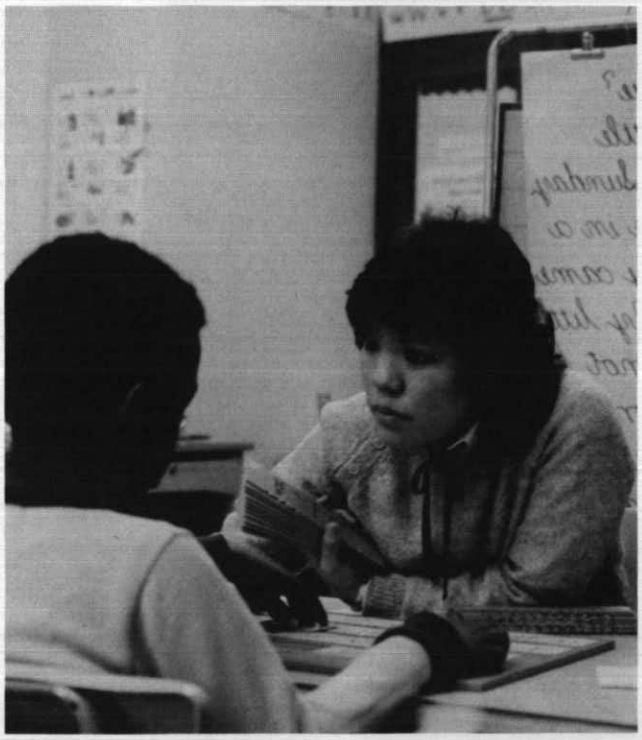
Fine Arts 120 core ..... 5 credits
Mathematics 200 ..... 5 credits
Education 322 ..... 3 credits
Ethics ..... 5 credits
Philosophy 220/Social Science I sequence ... 10 credits
Teaching Subject ..... 10 credits
Theology and Religious Studies I ..... 5 credits
Theology and Religious Studies II ..... 5 credits

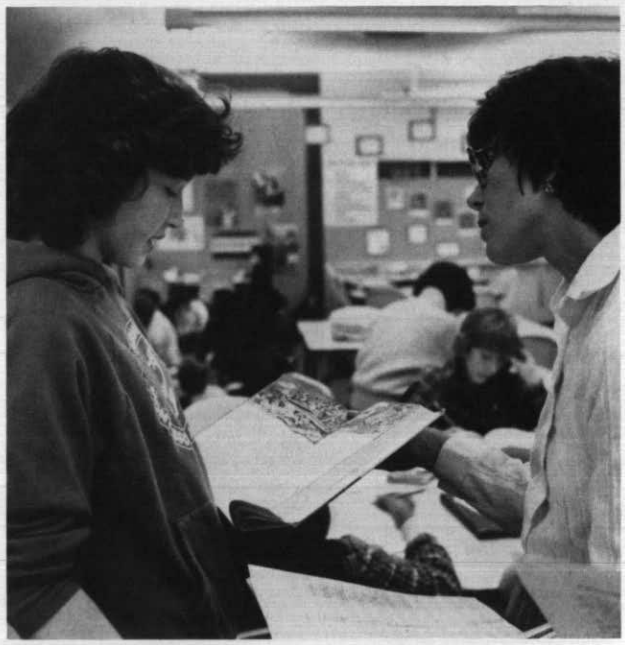
Junior Year

Education 323, 325, 326, 432, 353 ..... 13 credits
Education 330, 336, 340, 354 ..... 14 credits
Education 424, 425, 352, 428 ..... 12 credits
Teaching Subjects ..... 13 credits

Senior Year

Education 355, 420, 422, 423, 426, 427, 460 ... 23 credits
Student Teaching: Ed 440, Ed 446 ..... 18 credits
Teaching Subjects ..... 10 credits
Total ..... 196 credits





Education Courses

ED 322 **Child Development** **3 credits**
Developmental changes in the normal human being with emphasis on application to the school age years. Includes observations in the field. Credit will not be allowed for **both** Ed 322 and Psy 322. (fall, winter)

ED 323 **Introduction to the Teaching Profession** **2 credits**
An examination of the nature of the teaching profession, forces affecting the profession and current issues facing schools and teachers. Prerequisites: Ed 322 or Ed 363. (fall, winter)

ED 325 **Psychology of Learning** **3 credits**
Study of learning in classroom; theories of learning; organization and retention of knowledge; evaluation of mental processes; factors in the economy of learning. Prerequisite: Ed 322 or 363 (fall, winter)

ED 326 **Measurement and Evaluation in the Classroom** **3 credits**
Concentrated practice in the planning and construction of classroom tests based on instructional objectives, and an overview of standardized tests commonly used in schools. (fall, winter)

ED 330 **Strategies for Instructional Effectiveness** **4 credits**
Application of principles of learning and development to preparing, organizing and presenting learning units. Prerequisites: Ed 323, 325; corequisites: Ed 340 and 336 or 337. (winter, spring)

ED 336 **Fundamentals of Reading Instruction — Elementary** **4 credits**
Nature of the reading process, sequence of skills K-6, recommended practices, materials, methods of diagnosis and evaluation. Includes field experience. Prerequisites: Ed 322, 325; corequisite: Ed 330. (winter, spring)

ED 337 **Fundamentals of Reading Instruction— Secondary** **4 credits**
Development of reading and study skills; reading in content areas; diagnosis and evaluation, special reading programs. Prerequisites: Ed 323, 325; corequisite: Ed 330. (winter, spring)

ED 340 **Fundamentals of Mathematics Instruction — Elementary** **4 credits**
Study of number systems including basic operations and properties of numbers; principles of teaching these concepts K-6. Prerequisite: Mt 200. (winter, spring)

ED 352 **Health and Physical Education In the Elementary School** **3 credits**
Curriculum and methods of teaching Health and Physical Education. Legal issues included. (spring)

ED 353 **Field Experience I** **2 credits**
Observation in selected K-12 schools. To be taken concurrently with Ed 323, 325, 326.

ED 354 **Field Experience II** **2 credits**
Practical experience in selected K-12 schools. To be taken concurrently with Ed 330, 336, 337.

ED 355 **Field Experience III** **2 credits**
Practical experience in selected K-12 schools. To be taken concurrently with Ed 420.

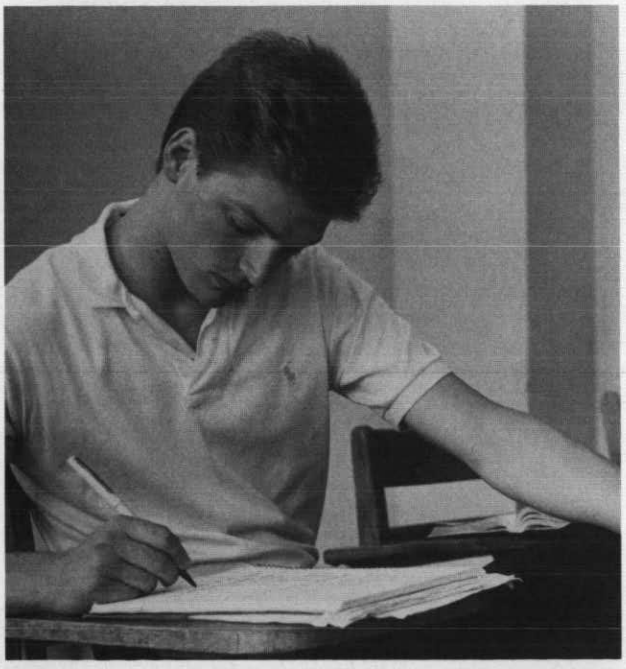
ED 363 **Adolescent Development** **3 credits**
Developmental changes in the person during the adolescent years. Problems, issues confronting the adolescent. (fall, spring)

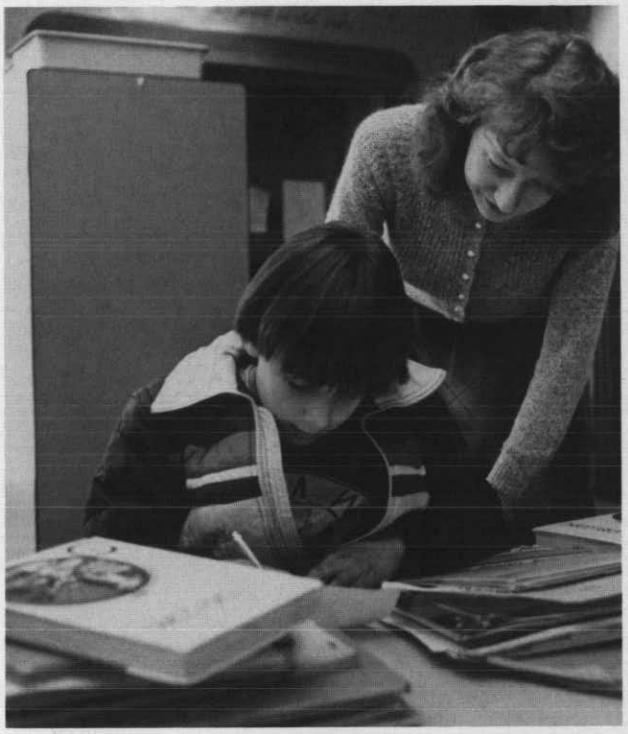
ED 391 **Special Topics** **1-5 credits**
ED 392 **Special Topics** **1-5 credits**
ED 393 **Special Topics** **1-5 credits**

ED 411 **Early Education and Child Development** **3 credits**
Current issues and trends in early childhood education — birth through eight years. Emphasis on preschool and kindergarten. Topics will include infant programs, management of learning centers, and parent participation in early education.

ED 412 **Early Education Practicum** **3 credits**
Supervised field experience in an early education setting.

ED 413 **Programs in Early Childhood Education** **3 credits**
Comparative study of current models in early education, including public and private kindergartens, infant centers, Montessori schools, and programs for special children. (spring)





ED 420 **Curriculum and Materials in the Elementary School** **6 credits**
Methods of teaching in specific subject areas and levels of the elementary school. Prerequisite: Ed 330. (fall, spring)

ED 422 **Working with Parents and Professionals** **3 credits**
This course will focus on skills necessary for teachers to have in order to work with parents and professionals. Included are techniques for involving parents in the educational process, counseling approaches and conferencing practices. Emphasis is placed on working with the parents of exceptional students.

ED 423 **Introduction to Classroom Management** **3 credits**
Provides theory and strategies for managing the K-12 classroom. While a variety of theories will be studied, the systematic use of applied behavior analysis techniques will be a major emphasis of the course.

ED 424 **Introduction to Learning Disabilities** **3 credits**
History and current practices in diagnosis and remediation of students who are learning disabled and mildly handicapped.

ED 425 **Introduction to Special Education** **3 credits**
Survey of characteristics of exceptional students served by special educators. A review of special ed. practices and federal and state laws guiding special education. Writing Individual Education Programs which lead to effective instruction is also included.

ED 426 **Introduction to Mental Retardation** **3 credits**
Examination of characteristics of students with developmental disabilities; emphasis on current trends and practices in their education.

ED 427 **Methods in Special Education** **3 credits**
An examination of methods of teaching exceptional students in varied settings. Prerequisite: Ed 425 or permission of the instructor.

ED 428 Language Development 3 credits
An introduction to critical features of the developmental processes of receptive and expressive language with consideration of diagnosis, curriculum and method.

ED 430 Teaching Secondary School Subjects 3 credits
General methods of teaching in specific subjects, areas and levels of the secondary school.(winter)

ED 432 Mainstreaming the Exceptional Student 3 credits
Issues surrounding mainstreaming; methods for working with exceptional students in the regular classroom. (fall, winter)

ED 438 Laboratory Experience — Elementary 1-6 credits
Mandatory CR/NC. (fall, winter, spring)

ED 439 Laboratory Experience — Secondary 1-6 credits
Mandatory CR/NC. (fall, winter, spring)

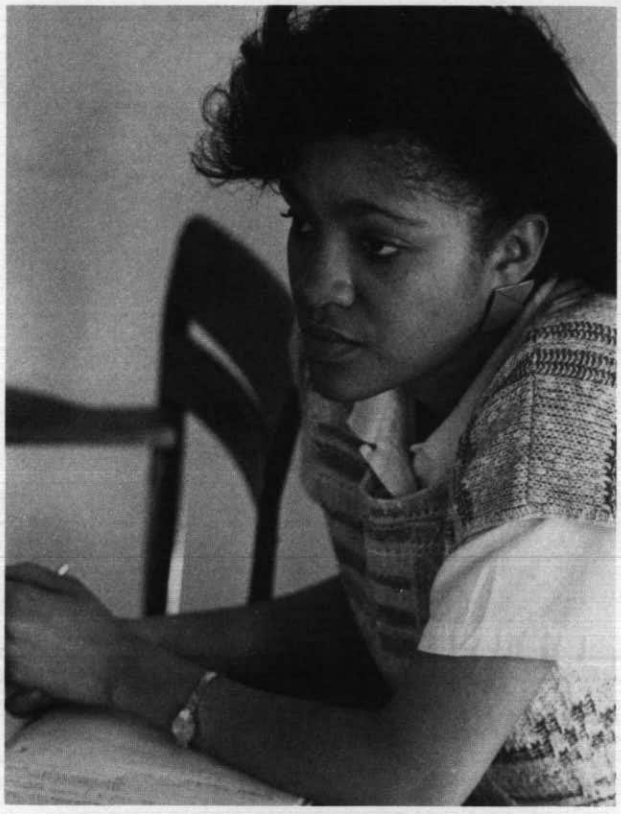
ED 440 Student Teaching — Elementary 12 credits
One quarter of full-day supervised teaching experience on the elementary school level. Prerequisite: Ed 330 and permission of the Dean. (fall, winter, spring)

ED 445 Student Teaching — Secondary 12 credits
One quarter of full-day supervised teaching experience on the secondary school level. Prerequisite: Ed 330 and permission of the Dean. (fall, winter, spring)

ED 446 Student Teaching — Supplementary 5-15 credits

ED 450 Introduction to Gifted Education 3 credits
An introduction to gifted education, including definition and identification of areas of giftedness, curriculum modes, program organization, awareness of and attitudes toward giftedness and evaluation of student performance. Language Arts, humanities and the arts will be considered.

ED 451 Gifted Education: Mathematics 3 credits
Current research exploring the relationship of brain development to the types of giftedness will be studied. Implications of this research and its application to mathematics lessons for gifted students will be identified and examined.



ED 452 Gifted Education: Science 3 credits
Rationale for and methods of science instruction for gifted students. Emphasis will be placed on the implications of Piaget in cognitive development for curriculum design.

ED 460 Computers and Instructional Technology in the Classroom 3 credits
An examination of the uses of computers and other forms of media in the classroom. (winter, spring)

ED 470 Manual Language 3 credits
The use of manual English for the developmentally handicapped. Includes the deaf fingerspelling alphabet and a 600-800 word vocabulary. Emphasis is on understanding of alternative methods of communication.

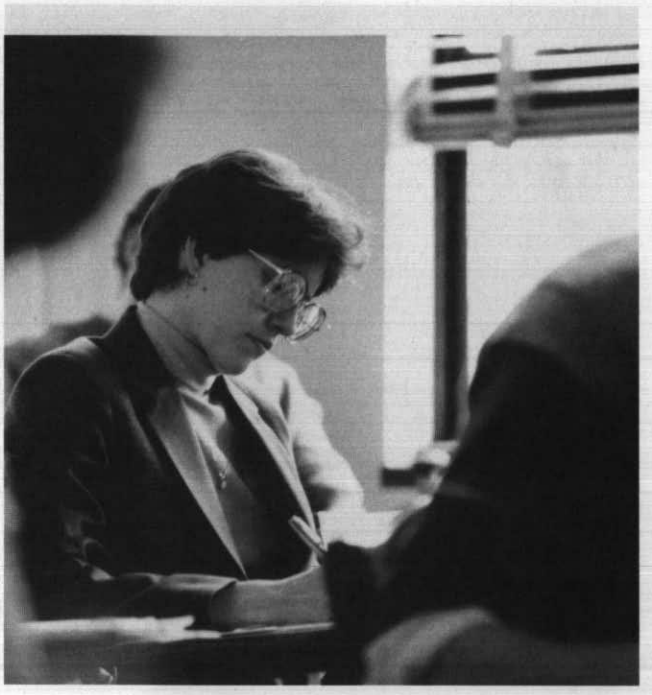
ED 472 Literature for Early Education 3 credits
Examination of distinguished books for young children. Includes discussion of the literary and artistic merit as well as the human values represented in early childhood literature.

ED 477 Multicultural Literature 3 credits
Analysis of multicultural literature written for children for use by the teacher in assisting children to appreciate cultural diversity. Discussion of racism, sexism and other dehumanizing influences expressed in literature and ways educators can bring about positive change.

ED 491 Special Topics 1-5 credits
ED 492 Special Topics 1-5 credits
ED 493 Special Topics 1-5 credits

ED 496 Independent Study 1-5 credits
ED 497 Independent Study 1-5 credits
ED 498 Independent Study 1-5 credits

Institute of Public Service



Public Administration

Esther R. Mills, Ph.D., Director
James B. Hogan, Ph.D., Program Coordinator

Objectives

The Bachelor of Public Administration (BPA) degree introduces students to public service — to governmental and private non-profit organizations which address critical questions of public policy. The curriculum is designed for preservice students who desire a broad general understanding of the ways in which public business is transacted, and who seek to comprehend the interplay of public management and public policy. The BPA degree is an interdisciplinary liberal arts degree, drawing upon knowledge from several fields, including political science, economics, philosophy, and organization theory.

The program emphasizes theory and practice, both in its course work and in its internship opportunities. Both core and elective classes pay particular attention to the critical role of human resources in public affairs and public policy. These considerations make the BPA degree particularly appropriate for students who wish to combine a broad liberal arts background with an introduction to a professional field.

Degree Requirements

1. Students in public administration must satisfy the core curriculum requirements of the University as given on page 26 of this bulletin.
2. 2.3 (C+) g.p.a. required in the major
3. No PUB major courses may be taken CR/NC
4. The required internship is ungraded
5. Ec 271 or Ec 272 is required as partial fulfillment of the social science core.

Public Administration minor; 30 credits comprised of PUB 280, 281, 282, 480, 481, 482.

Organization

The Institute of Public Service is an interdisciplinary center offering both undergraduate and graduate studies. Academic programs are oriented to the needs of working professionals as well as full-time students. Most courses are scheduled in the late afternoon, in the evening, and on the weekends.

The Institute's approach to education includes substantial opportunities for applying new knowledge and skills through case study analysis, practica and internships. In addition, the Institute is involved in activities to cultivate professional development in the fields of public administration and human resources, including conferences, seminars, research and technical assistance.

Degrees Offered

Bachelor of Public Administration
Master of Public Administration — See Graduate Bulletin.

Degree Requirements

The 65 credit major consists of two components. 50 credits are earned in core requirements, and 15 credits are earned in emphasis courses.

1. BPA Core Requirements — 50 credits

PLS 100	American National Government
PLS 210	Introduction to Local and State Politics
PLS 390	Research Methods and Design
PUB 280	Introduction to Public Administration
PUB 281	Working in Public Organizations
PUB 282	Origins of Public Policy
PUB 480	Management Control
PUB 481	Policy Process
PUB 482	Issues Seminar
PUB 495	Internship

2. Emphasis Courses — 15 credits, 5 from each category

Institutional

EC 377	Government and Business*
EC 271/272	Micro or Macro**
EC 471	Government Finance*
PLS 310	Urban Politics and Public Policy
PLS 335	Welfare States and Planned Societies
PL 312	Contemporary Ethical Theory*
EC 476	Labor Economics*
PUB 492	Special Topics

Analytic

BUS 260	Business Statistics*
EN 307	Advanced Writing Skills
PSY 201	Statistics, or
SC 201	Social Statistics
PSY 385	Computer Research Methods
BUS 230	Accounting I
SC 382	Evaluation Research*
SPH 201	Interpersonal Speech Communication
PUB 492	Special Topics

Organizational

BUS 380	Organization Behavior
BUS 383	Personnel Management*
CJP 425	Problems of Public Service Bureaucracies
PSY 461	Theory of Group Dynamics

SC 360	Complex Organizations
PUB 349	Collective Bargaining
PUB 444	Training and Development
PUB 492	Special Topics
CJP 460	Management Theory and Organization Behavior

* Prerequisite to course
**Whichever economics course is not used to fulfill the social science core can apply as an emphasis course.

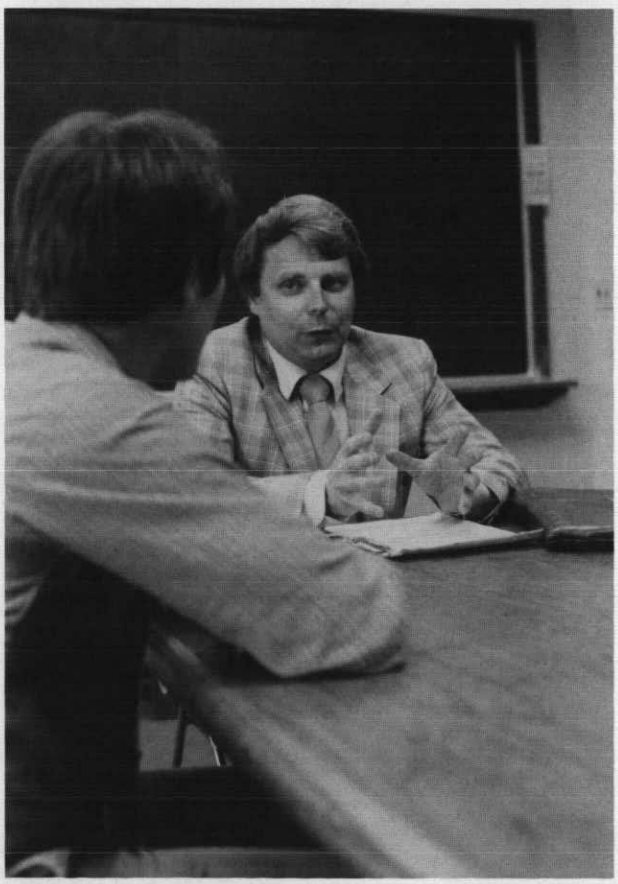
Bachelor of Public Administration

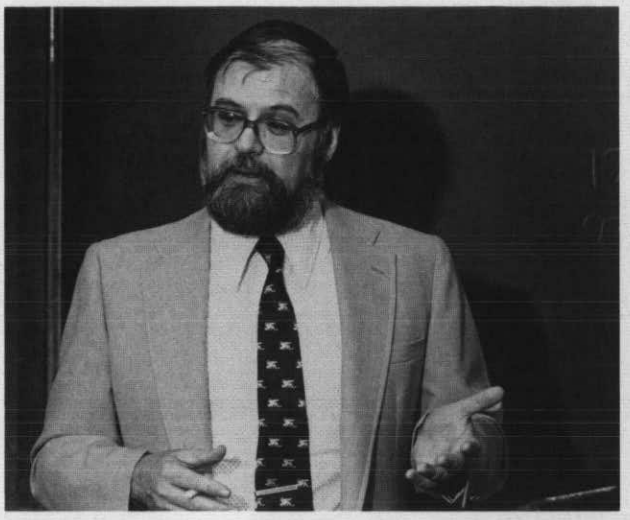
Freshman year

American National Government Pls 100 ..... 5 credits
English 110/Philosophy 110 sequence ..... 10 credits
Fine Arts ..... 5 credits
History 120/English 120 sequence ..... 10 credits
Lab Science ..... 5 credits
Mathematics ..... 5 credits
Electives ..... 5 credits

Sophomore year

Political Science Pls 210 ..... 5 credits
Introduction to Public Administration Pub 280 .. 5 credits
Working in Public Relations Pub 281 ..... 5 credits
Philosophy 220/Social Science I sequence ... 10 credits
Social Science II ..... 5 credits
Theology and Religious Studies I ..... 5 credits
Economics 271 or 272 ..... 5 credits
Electives ..... 5 credits





Junior year

Origins of Public Policy Pub 282 ..... 5 credits
Political Science Pls 390 ..... 5 credits
Public Administration emphasis courses ..... 15 credits
Theology and Religious Studies II ..... 5 credits
Electives ..... 15 credits

Senior year

Management Control Pub 480 ..... 5 credits
Policy Process Pub 481 ..... 5 credits
Issues in Public Administration Pub 482 ..... 5 credits
Internship Pub 495 ..... 5 credits
Ethics ..... 5 credits
Interdisciplinary course ..... 3-5 credits
Senior Synthesis ..... 3 credits
Electives ..... 14 credits
Total ..... 180 credits

Institute of Public Service Courses

PUB 280 Introduction to Public Administration **5 credits**
Tour of the multi-disciplinary nature of public administration. Role of public organizations in the American polity at the federal, state, and local levels. Constitutional definition of administration. Exposure to daily workings of public agencies. Role of independent sector organizations.

PUB 281 Working in Public Organizations **5 credits**
Daily life in public and nonprofit organizations, examining the relationship between the worker and working environment. Focus on the human resource in organizations, emphasizing training and development, employee relations, motivation, productivity, and group behavior.

PUB 282 Origins of Public Policy **5 credits**
Introduction to public policy analysis within the framework of contemporary public issues. Includes historical and philosophical origins of the rationale for public action and traces the development of method in social science.

PUB 291 Special Topics **1-5 credits**
PUB 292 Special Topics **1-5 credits**
PUB 293 Special Topics **1-5 credits**

PUB 349 Collective Bargaining **5 credits**
History of statutory requirements, dynamics and strategies of labor-management relations. Simulation of a realistic collective bargaining situation. Not available to MPA students for credit.

PUB 444 Training and Development **5 credits**
Application of behavioral science concepts in human resource development, including adult learning theory and roles and competencies of the training and development professional. Instructional methods include lecture, group discussion, information interviewing, simulation and action research.

PUB 480 Management Control **5 credits**
Characteristics of the control structure in public and nonprofit organizations, including financial reporting, output measurement, programming, budget preparation, performance monitoring and evaluation. Prerequisite: Upper division standing.

PUB 481 Policy Process **5 credits**
An inquiry into the nature of the public policy process. How problems originate and alternative solutions are formulated; the influence of information and advice on policy choice; and an examination of intergovernmental and organizational factors that shape policy as it is being implemented. Prerequisite: Upper division standing.

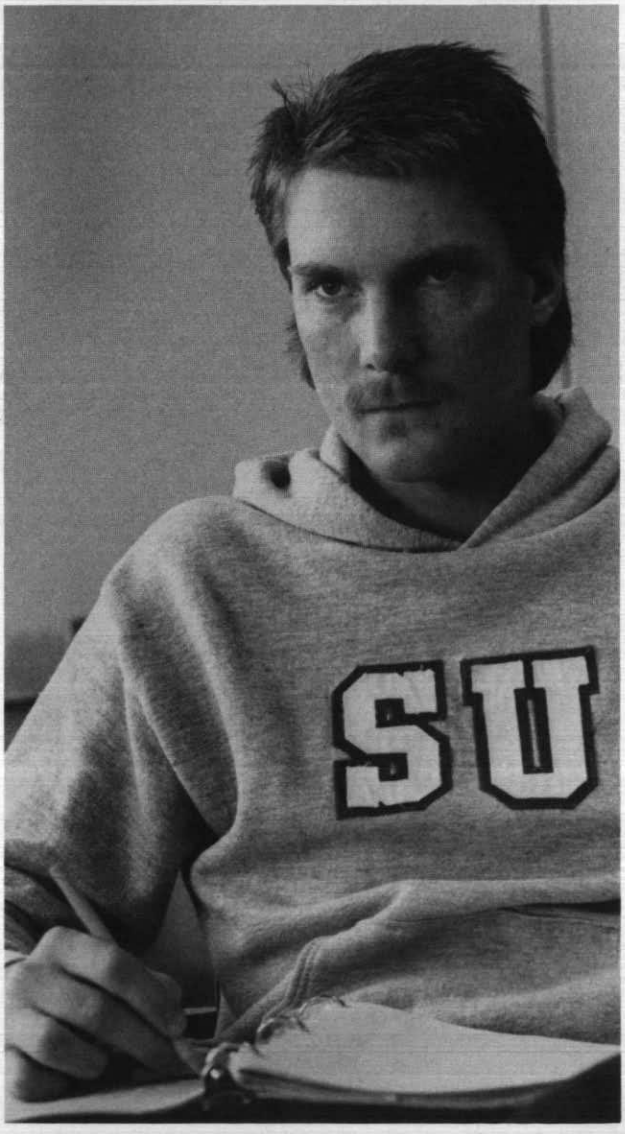
PUB 482 Issues in Public Administration **5 credits**
A seminar focusing on one or more current issues in public policy or public management. Emphasis is on integrating and applying knowledge from previously completed course work. Prerequisites: Completion of core or permission.

PUB 491 Special Topics **1-5 credits**
PUB 492 Special Topics **1-5 credits**
PUB 493 Special Topics **1-5 credits**

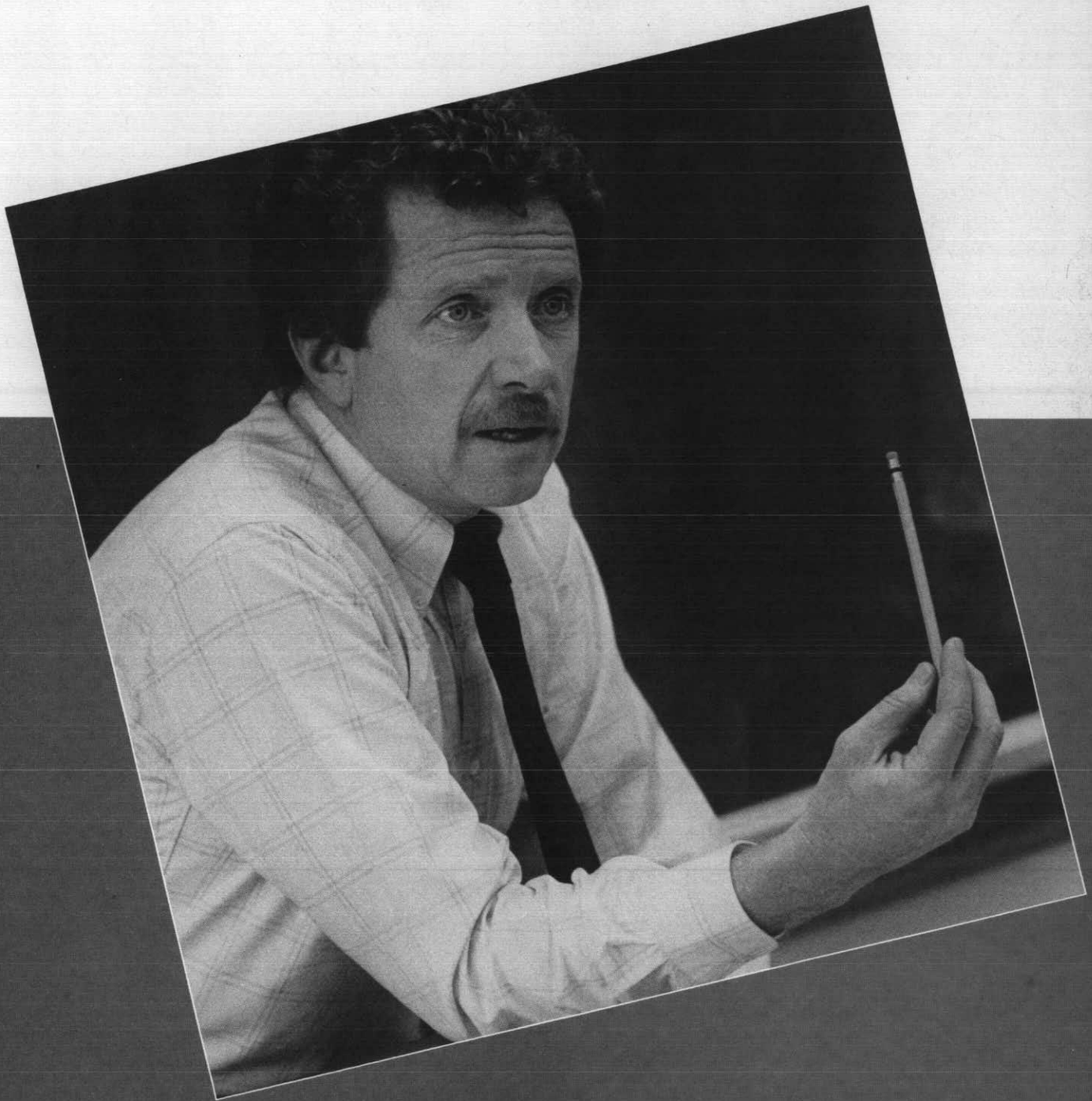
PUB 494 Practica **1-5 credits**
Short courses to integrate theory and practice in human resources, public and non-profit management. Topics vary with contemporary student interest. Courses are offered on Friday evenings and Saturdays.

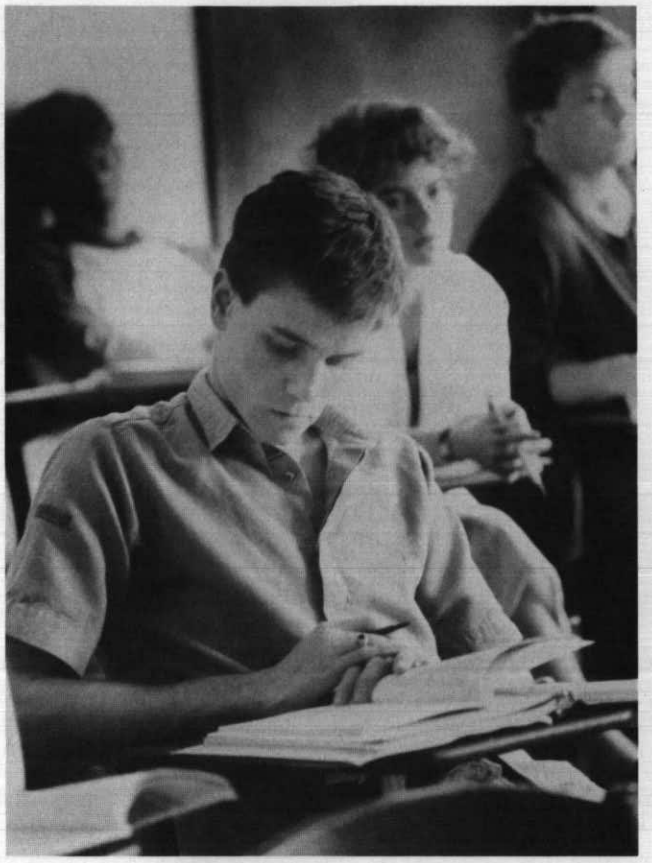
PUB 495 Internship (Ungraded) **2-5 credits**
Supervised work with seminars on job expectations, organizational setting, client relationships and performance.

PUB 496 Independent Study **1-5 credits**
PUB 497 Independent Study **1-5 credits**
PUB 498 Independent Study (Graded) **1-5 credits**



Matteo Ricci College-II





Matteo Ricci College — II

Bernard M. Steckler, Ph.D., Dean
Jodi Kelly, M.R.E., Assistant Dean

Matteo Ricci College is a coordinated and integrated six year program which begins with the traditional freshman year of secondary school and concludes with the granting of a baccalaureate degree by Seattle University. Form One, the first three years of the program, operates out of the Interlaken Campus of Seattle Preparatory School. Form Two, the subsequent three years, is an academic division of Seattle University on the Seattle University campus.

Objectives

Matteo Ricci College seeks to develop students who shape their personal and social futures through responsible choices. The objectives of the Form II program are to continue the harmonious development of the student's cognitive, affective, and valuative potential; bring the student to a reflective consciousness of "how" he or she learns; and foster an inquiring, caring community of learners and teachers. Focusing on the student's intellectual, aesthetic, emotional, ethical, and religious life, the curriculum is designed to sharpen and test generalizable learning skills; exercise and develop verbal and nonverbal communication skills; develop specific skills, both in a broad range of traditional disciplines and in an area of specialization; expose a variety of values clarifying themes and problems for interdisciplinary investigation; and encourage prescriptive self-assessment.

While the Matteo Ricci College program does not attempt to advance the student in only six years to the level of vocation-oriented specialization sometimes acquired in eight, it does provide a foundation for, and initiation into, professional training, effectively preparing the student to pursue either a second baccalaureate or graduate degree.

Admission Requirements

Only students who have successfully completed the academic program of Matteo Ricci College-I will be admitted to the academic program of Matteo Ricci College-II at Seattle University.

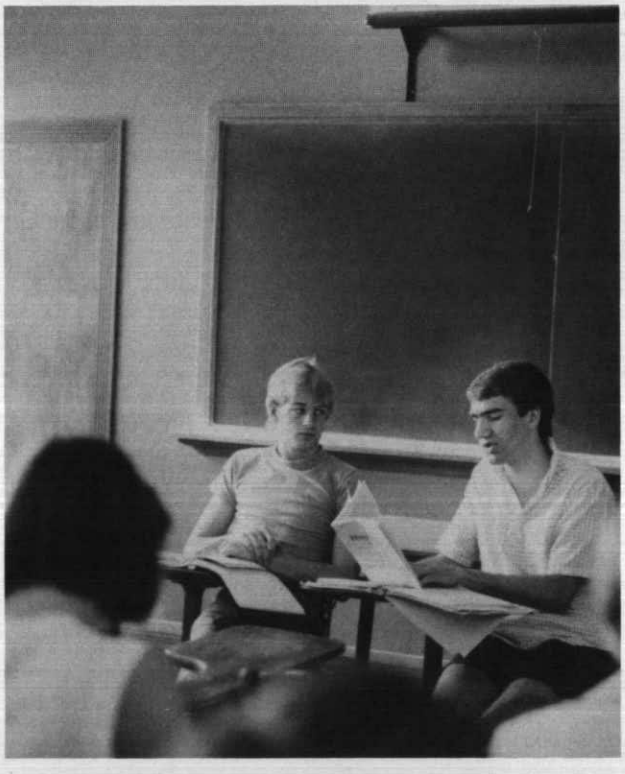
Degree Offered

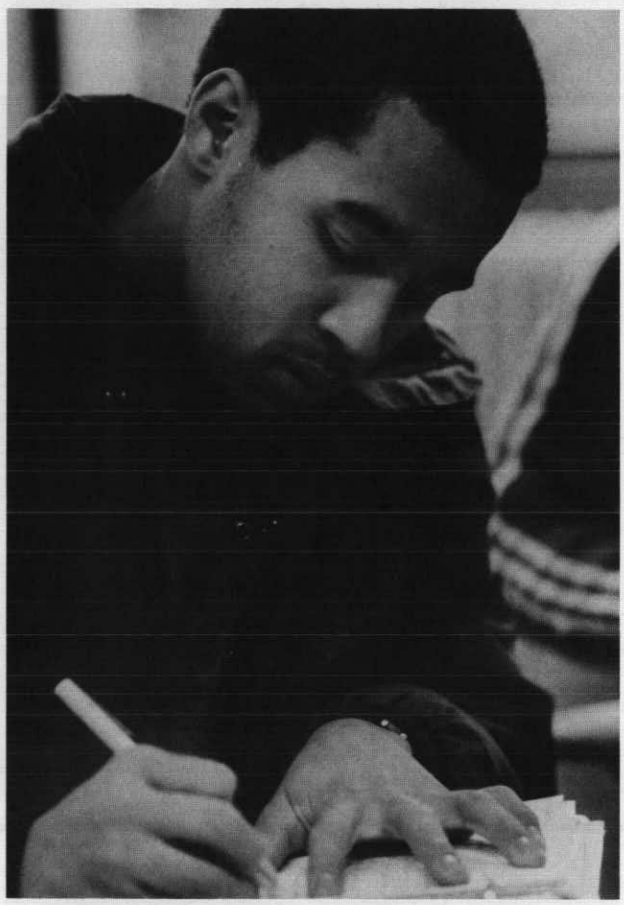
Bachelor of Arts

General Program Requirements

MRC-II students are expected to make normal progress toward completing the required courses in sequence. They must maintain a cumulative academic grade point average of 2.0 during the year/4 course of study and 2.25 or above during the remainder of the program. Students failing to meet these expectations will be placed on probation for two quarters, and thereafter are subject to dismissal from the MRC program.

The MRC-II peer advisers members serve as the principal advisers to all MRC-II students on academic and academically-related matters. Consequently, an MRC-II student may not register for any Seattle University course, either in the summer session or during the regular academic year, without first consulting and receiving the written permission of a peer adviser.





Degree Requirements

135 credits which must include: 60 credits in MRC/HUManities courses; 4-5 credits in Fine Arts; 5 credits in Science and Technology; an Area of Concentration consisting of 45 credits in a single discipline OR 55 credits in a pre-professional discipline, OR a minimum of 50 credits and a maximum of 55 credits in general studies; and the remaining credits in courses approved by the student's MRC-II adviser.

MRC-II students who have successfully completed an area of concentration may apply the credits earned toward a second baccalaureate degree in certain major fields of study, subject to the approval of the appropriate school, and the University regulation of 45 minimum additional credits for a second baccalaureate degree.

Typical Schedule

Year/4

HUM 100, 200 series courses ..... 30 credits
Fine Arts course ..... 4-5 credits
Area of Concentration and
Approved Courses ..... 10-11 credits

Year/5

HUM 280 and 300 series ..... 15 credits
Science and Technology course ..... 5 credits
Area of Concentration and
Approved Courses ..... 25 credits

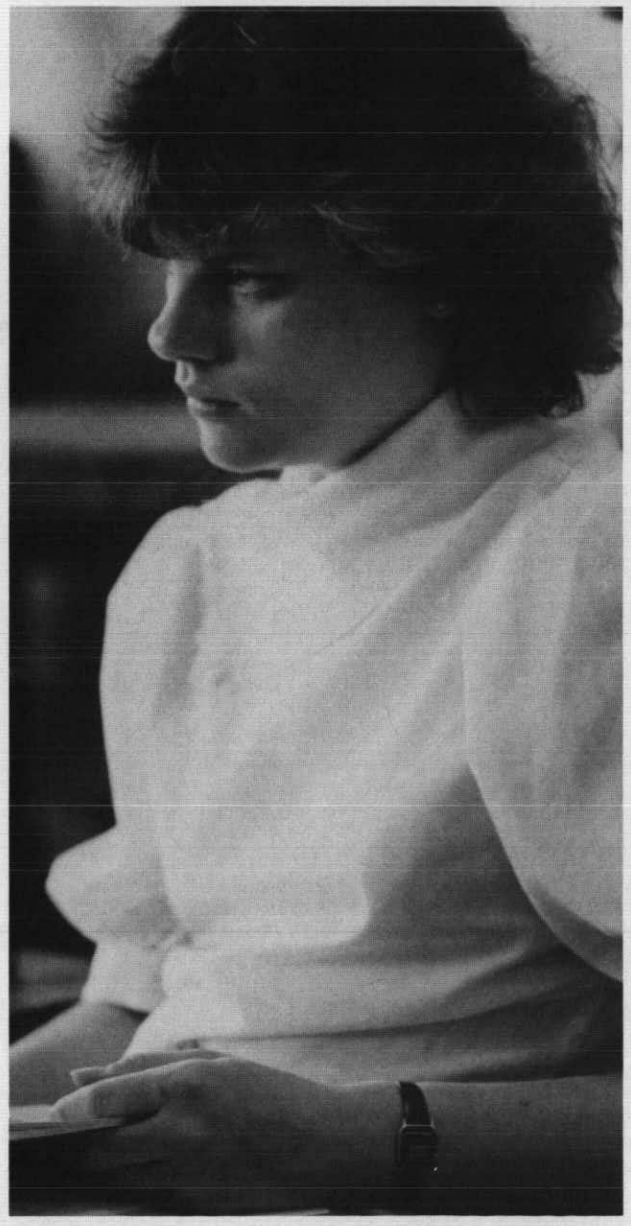
Year/6

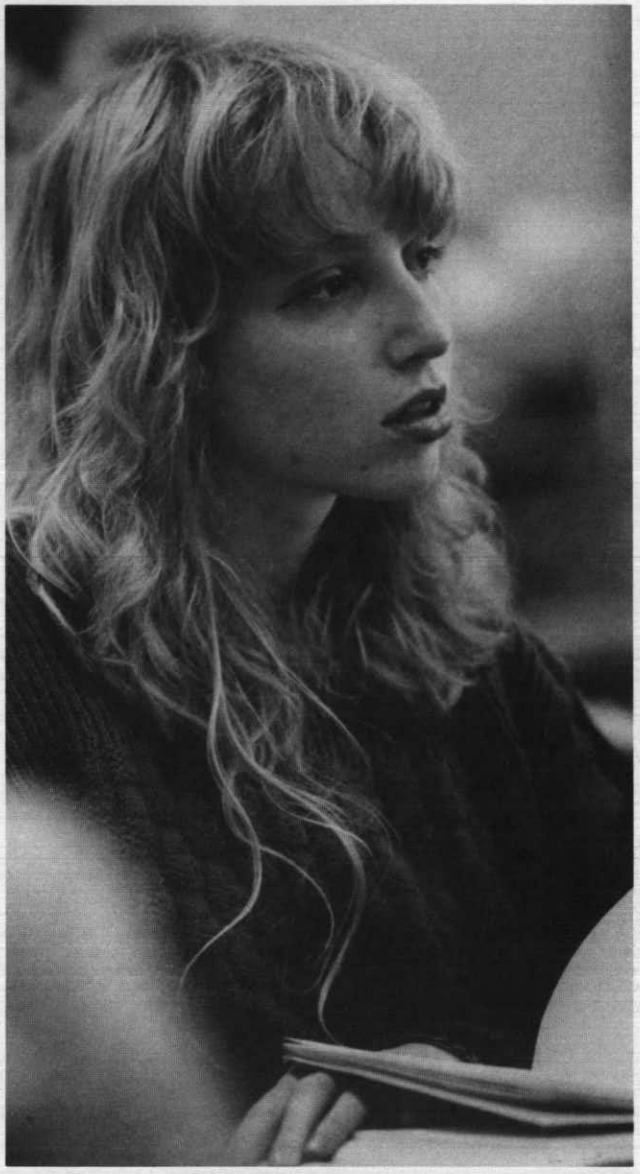
HUM 400 series ..... 15 credits
Area of Concentration and
Approved Courses ..... 30 credits
Total ..... 135 credits

Matteo Ricci College/HUM Courses

HUM 150 Composition: Language and Thought **5 credits**
Study and practice in informal logic and argumentation, with emphasis upon the composition of clear, persuasive writing.

HUM 151 Composition: Language and the Arts **5 credits**
Interdisciplinary study of artistic composition in a variety of art forms, with emphasis upon, and practice in, literary composition.





HUM 180 Socio-Cultural Transformations I **5 credits**
HUM 181 Socio-Cultural Transformations II **5 credits**
HUM 182 Socio-Cultural Transformations III **5 credits**
A three quarter, interdisciplinary study of the evolution of major systems of meaning and value in Western Civilization and the social expressions of these systems; emphasis on analysis of social and cultural phenomena and on interpretation of the personal and communal significance of cultural change in the past, present and future.

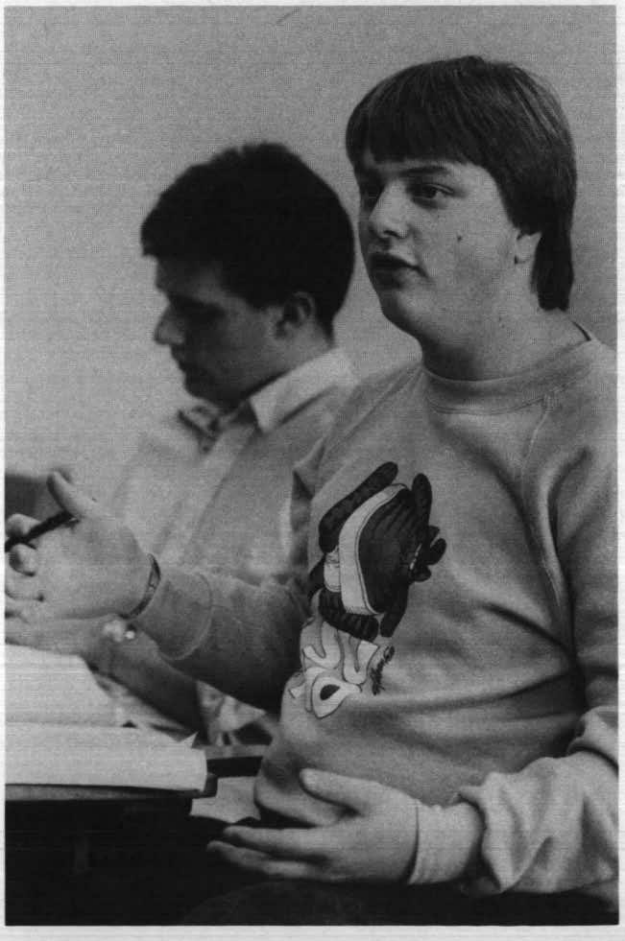
HUM 260 Modes of Inquiry **5 credits**
Inquiry into the dynamic of human knowing, especially in the context of content and methods characteristic of the natural and human sciences; focus on increasing awareness of processes of understanding, of the dependence of knowing on interpretive frameworks, and their dependence on social and cultural forces shaping human existence, and on rigorous interrogation of these frameworks.

HUM 280 Cultural Interface **5 credits**
Interdisciplinary study of the elements of human behavior which define culture, and the processes of interaction between European culture and cultures of Asia and Africa.

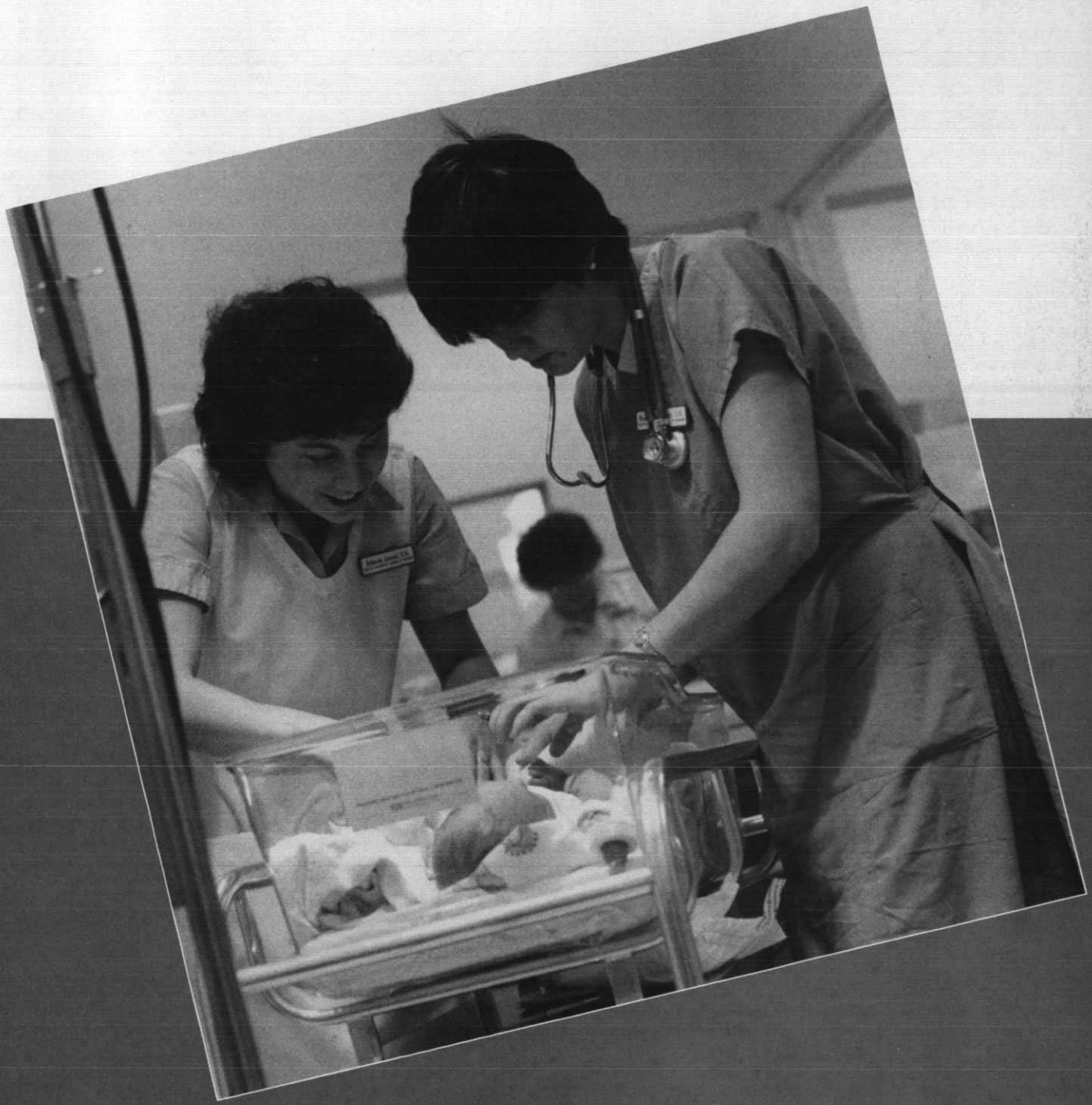
HUM 291 Special Topics **1-5 credits**
HUM 292 Special Topics **1-5 credits**
HUM 293 Special Topics **1-5 credits**

HUM 301 Perspectives on the Person I **5 credits**
HUM 302 Perspectives on the Person II **5 credits**
Reflective and critical examination of the structures of experience which define and shape human reality from philosophical, theological, psychological and literary perspectives; emphasis on understanding of self and on appropriation of a religiously-grounded sense of care and responsibility at both individual and social levels.

HUM 400 MRC Seminar **5 credits**
HUM 401 MRC Seminar **5 credits**
HUM 402 MRC Seminar **5 credits**
Several seminars each quarter which challenge students to apply knowledge and skills already acquired to complex social and cultural issues of the contemporary world; emphasis on searching for the normative and the ideal in economic, political, scientific, technological, religious and aesthetic contexts and on integrating the academic and the "real" world.



School of Nursing



School of Nursing

Kathleen E. Korthuis, Ph.D., R.N., Dean

Objectives

The aim of the School of Nursing is to provide educational preparation for professional practice that reflects an appreciation of the heritage and responsibilities of nursing. The philosophy of the University is expressed through educational opportunities that are broadly based in the humanities, social and biological sciences and in nursing. The school seeks to prepare graduates capable of applying their knowledge and skills in the promotion, maintenance and restoration of health and who are able to assume responsible roles in a variety of health care settings.

Accreditation

National League for Nursing
Washington State Board for Nursing

Organization

The School of Nursing is organized within the University structure under the direction of a dean, offering an undergraduate program in nursing.

Admission Requirements

All entering freshmen, transfer students from accredited institutions of higher learning and registered nurses who wish to complete requirements for the Bachelor of Science degree in Nursing must meet University entrance requirements described in the admissions section of this bulletin. Chemistry is the required laboratory science for entering freshmen. Additional requirements for registered nurses are:

- Graduation from an accredited school of nursing
- Current nursing licensure in the State of Washington
- Report of complete physical examination within six months before entrance
- Recommendation from the Director of the Nursing Program and from employer

Degree Offered

Bachelor of Science in Nursing

Degree Requirements

The Bachelor of Science in Nursing consists of the Core Curriculum of 66 credits. Additional science requirements in Chemistry, Anatomy, Physiology, and Microbiology total 20 credits. The Psychology of Growth and Development, 5 credits, is also a major requirement. Nursing credits total 85. Students considering graduate study are encouraged to take statistics for the 5 credit elective. Total credits for graduation: 181-183.

Curriculum

The baccalaureate degree program is designed for high school graduates, transfer students and registered nurses who wish to complete requirements for the degree. The program is planned to provide the student with a foundation in the liberal arts and nursing, to stimulate students to assume responsibility for self-directed learning and professional development, and to provide a basis for post baccalaureate education.

The professional portion of the curriculum includes study of persons with a variety of health problems requiring different modalities of care with a focus on the individual, the family and the community.

Clinical experience is provided through cooperating teaching units which include Children's Hospital and Medical Center, Group Health Cooperative Hospital and Clinics, Harborview Medical Center, Northwest Hospital, Pacific Medical Center, Providence Medical Center, Seattle King County Health Department, Swedish Hospital Medical Center, Veterans Administration Medical Center, Virginia Mason Hospital, Valley Medical Center and other selected health care agencies.

General Program Requirements

Students in the School of Nursing must satisfy core curriculum requirements of the University given on pages 26-28 of this bulletin. For additional required sequences see the program of study which follows.

A cumulative academic grade point average of 2.75 or above from high school or another college or university is the minimum requirement for admission into the School of Nursing.

A student in the School of Nursing must have achieved a cumulative grade point average of 2.50 or above by the end of the sophomore year, and a grade of (2.00) or above in the nursing, chemistry, biology courses, and psychology courses for approval to proceed into the upper division nursing courses. The academic and clinical performances of each nursing student are evaluated at the end of each year to determine progression in the program. National League for Nursing Achievement Examinations are required at designated times during the program of studies. Specific requirements for progression may be obtained from a faculty adviser.

Students must meet the School of Nursing/Clinical Agency requirements for annual health screening and C.P.R. certification, immunization protection, and evidence of medical insurance coverage. Students are responsible for these expenses as well as uniforms and transportation costs to, from, and while in cooperating teaching units. A current driver's license and car covered by insurance as prescribed by state law are recom-

mended for all clinical courses. Professional liability insurance is strongly recommended for clinical nursing courses. Students are referred to the School of Nursing Student Handbook for a more detailed overview of requirements and expectations.

Bachelor of Science in Nursing

Typical Program

Freshman year

Biology 200 ..... 5 credits
Chemistry 101, 102 ..... 10 credits
(5 credits fulfill Core Requirement)
Fine Arts OR Social Science II Elective ..... 5 credits
History 120/English 120 sequence ..... 10 credits
Mathematics ..... 5 credits
Philosophy 110/English 110 sequence ..... 10 credits

Sophomore year

Biology 210 ..... 5 credits
Biology 220 ..... 5 credits
Nursing 205, 206, 300 ..... 15 credits
Philosophy 220/Social Science I
(Psychology) sequence ..... 10 credits
Psychology 322 ..... 5 credits
Theology and Religious Studies I ..... 5 credits

Junior year

Nursing 312, 314, 316, 330, 332, 335,
337, 340, 341 ..... 45 credits

Senior year

Ethics ..... 5 credits
Interdisciplinary course ..... 3 credits
Nursing 408, 409, 432, 433 ..... 25 credits
Senior Synthesis ..... 3 credits
Theology and Religious Studies II ..... 5 credits
Elective ..... 5 credits
Total ... 181-183 credits

Transfer Students Who Are Registered Nurses

Registered nurses not holding bachelors' degrees in nursing are encouraged to apply for admission as transfer students. In order to earn a B.S. degree in Nursing, registered nurses must complete a minimum of 180 quarter credits of course work. Those RN's transferring from associate degree programs in Washington State community colleges which have signed transfer agreements with Seattle University may transfer a maximum of 90 credits, as determined by the University's Registrar. Registered nurses transferring from other programs will have all previous training evaluated on a course by course basis by the University's Registrar.

In order to complete degree requirements, diploma graduates must earn nursing credits by either successfully completing credit by examinations or by taking the following courses: N 330, 332, 335, 337, 340, 341 = 30 credits.

Registered nurses must complete the equivalent of the Seattle University CORE, which includes:

History ..... 10 credits
Literature ..... 5 credits
Philosophy ..... 15 credits
Religious Studies ..... 10 credits

In addition, all registered nurses must earn a minimum of 45 credits in upper division nursing classes, including the following courses:

Pathophysiology ..... 5 credits
Health Appraisal ..... 5 credits
Research and Trends in Nursing ..... 5 credits
The Childbearing Family: Current
Perspectives ..... 5 credits
Psychiatric/Mental Health Nursing ..... 10 credits
Community/Advanced Nursing ..... 15 credits

Nursing Courses

N 205 **Basic Nursing I (For nursing majors only)** **5 credits**
Introduction to scope of practice and nursing roles; focus on nursing process, people's needs as consumer of health services, concepts and skills related to comfort and safety; simulated laboratory practice.

N 206 **Basic Nursing II** **5 credits**
Theory and practice focused on concepts of anxiety, defense mechanisms, immobility and nutrition, principles and skills related to pre- and post operative care and oxygenation. Supervised practice in direct patient care. Prerequisites: Bl 200, 210 and N 205. Concurrent with N 300.

N 291 **Special Topics** **1-5 credits**
N 292 **Special Topics** **1-5 credits**
N 293 **Special Topics** **1-5 credits**

N 300 **Pathophysiology** **5 credits**
Study of the functional changes of the body which accompany illness and form the basis for nursing intervention. Prerequisites: Ch 101, Ch 102, Bl 200, Bl 210, N 205. Concurrent with Bl 220, N 206 or RN student.

N 312 **Health Appraisal** **5 credits**
Introduction to basic techniques and skills necessary to assess and describe a person's health state. Common behavioral, developmental and physiological parameters are assessed to form basis for making sound judgments. Variations and modifications for differences in age groups and ethnicity are included. Prerequisites: Bl 200, Bl 210, N 205, N 206, N 300 and Psy 332. Concurrent with either N 335, N 337, or N 341 or RN student.

N 314 **Mental Health Concepts** **5 credits**
Concepts basic to assisting self and others to maintain wellness and cope with reactions to the stress of illness. Organized around behavioral science principles which promote the nursing skills necessary for developing the inherent capabilities of the student and the patient. Prerequisites: Bl 200, Bl 210, Bl 271 and Bl 220, N 205, N 206, N 300 and Psy 322; concurrent with either N 335, N 337 or N 341.

N 316 **Research and Trends in Nursing** **5 credits**
Legal, ethical and professional issues are studied in relation to concepts of power, authority, responsibility in present and emerging health care patterns. The research process is stressed. Prerequisites: Bl 200, Bl 210, Bl 271, and Bl 220; N 205, N 206, N 300 and Psy 322; concurrent with either N 335, N 337 or N 341, or RN student.

N 330 **Medical-Surgical Nursing I** **4 credits**
Problems in various phases of illness; nursing process in assisting individuals to maintain-regain health or adapt to chronic illness; nursing care related to pulmonary, renal and gastro-intestinal problems and alterations in fluid and electrolyte and acid-base balance. Prerequisites: N 205, N 206, N 300; concurrent with N 312 or N 314 and N 335 or N 337.

N 332 **Medical-Surgical Nursing II** **4 credits**
Further development of the nursing process; nursing care needs related to neuro-sensory, endocrine, musculo-skeletal and cardiovascular problems. Prerequisites: N 205, N 206, N 300; concurrent with N 312 or N 316 and N 335 or N 337.

N 335 **Nursing Care of Children** **6 credits**
Experiences are arranged in a variety of settings selected to provide opportunities to apply concepts and principles from concurrent theory courses. Prerequisites: N 205, N 206, N 300; concurrent with N 312, N 314 or N 316.

N 337 **Nursing Care of Adults** **6 credits**
Experiences are arranged in a variety of settings, selected to provide opportunities to apply concepts and principles from concurrent theory courses. Prerequisites: N 205, N 206, N 300; concurrent with N 312, N 314 or N 316.

N 340 **Maternal-Child Nursing: Family and Community** **4 credits**
Assessment of family dynamics and parental roles; family system and its use of community resources; current concepts in women's health care. Prerequisites: N 205, N 206, N 300; concurrent with N 312, N 314 or N 316 and N 341.

N 341 **Maternal-Child Nursing Practice: Family and Community** **6 credits**
Clinical practice to promote application of concepts from N 340; supervised experience with childbearing families in a range of community settings. Prerequisites: N 205, N 206, N 300; concurrent with N 312, N 314 or N 316 and N 340.

N 345 **The Childbearing Family: Current Perspectives** **5 credits**
Combined theory and clinical practice individualized to broaden experiential base, focused on health supervision during reproductive cycle. A transition course for Registered Nurse students only.

N 391 **Special Topics** **1-5 credits**
N 392 **Special Topics** **1-5 credits**
N 393 **Special Topics** **1-5 credits**

N 408 **Psychiatric-Mental Health Nursing** **4 credits**
Psychodynamics, psychopathology, and group interaction in psychiatric nursing care; use of behavioral science principles to promote mental health and provide care for individuals with emotional problems. Prerequisite: All N 300 courses; concurrent with N 409.

N 409 **Psychiatric-Mental Health Nursing Practice and Assertiveness Training** **6 credits**
Clinical practice to promote application of concepts from N 408 in a manner that facilitates growth and constructive problem solving in client, family and student. An assertiveness training component includes the theory and practice of assertive communication skills. Prerequisites: All N 300 courses; concurrent with N 408.

N 432 **Community/Advanced Nursing** **5 credits**
Interrelated health-illness problems examined in a framework of the decision making process; concepts of family and family systems are studied. Relies on concepts and principles from previous nursing courses. Prerequisites: All N 300 numbered courses; concurrent with N 433.

N 433 **Community/Advanced Nursing Practice** **10 credits**
Clinical practice to promote application of concepts, principles and processes from N 432; experiences in hospitals, clinics and other community agencies with individual clients, groups of clients/patients and families. Prerequisites: All N 300 courses; concurrent with N 432.

N 491 **Special Topics** **1-5 credits**
N 492 **Special Topics** **1-5 credits**
N 493 **Special Topics** **1-5 credits**

N 496 **Independent Study** **2-5 credits**
N 497 **Independent Study** **2-5 credits**
N 498 **Independent Study** **2-5 credits**

School of Science and Engineering

School of Science and Engineering

Terry J. van der Werff, D.Phil., Dean

Objectives

Rooted in the Jesuit tradition of liberal education, the School of Science and Engineering at Seattle University seeks to provide dynamic, integrated, and challenging academic programs in science, engineering, and health for promising students preparing themselves for responsible roles in their chosen professions and for practicing professionals seeking to advance their educational qualifications; to foster among all students an understanding of scientific inquiry and a critical appreciation of technological change; and to inspire them to lifelong intellectual, professional, and humane growth.

Accreditation

Individual programs within the school are accredited by the following professional bodies:

American Chemical Society (Chemistry)

Accreditation Board for Engineering and Technology (Civil Engineering, Electrical Engineering, Mechanical Engineering)

Council on Allied Health Education and Accreditation (Diagnostic Ultrasound, Health Information Administration, Nuclear Medicine Technology)

Organization

The School of Science and Engineering offers degrees in Biology, Chemistry, Clinical Chemistry, Computer Science, Cytotechnology, Diagnostic Ultrasound, General Science, Health Information Administration, Mathematics, Medical Technology, Nuclear Medicine Technology, Physics, and Civil, Electrical, Mechanical, and Software Engineering.

Students interested in other scientific, technical, and health-related careers, such as medicine or dentistry, may either pursue a disciplinary degree and use any elective courses to suit their needs or tailor their complete curriculum within the General Science Department.

Admission Requirements

In addition to the requirements for admission to Seattle University, freshmen applicants for admission to the School of Science and Engineering (except for health information administration) must have completed at least three years of high school mathematics, preferably including trigonometry, and at least two years of laboratory science for all majors except mathematics and computer science.

Transfer applicants will be considered when their overall college GPA is at least 2.50 on a 4.00 scale and when their cumulative GPA in all engineering, mathematics, or science courses is also at least 2.50. Transfer admission is on the basis of space available, with academic performance being the prime consideration. A history of withdrawals, incompletes and repeated courses lessens the chances for admission. To be accepted for transfer credit, any required engineering, mathematics, or science courses must be graded C (2.00) or above. No technology courses will be accepted as transfer credit.

Degrees Offered

Bachelor of Arts with a major in Chemistry, Computer Science, Mathematics or Physics.

Bachelor of Science with a major in Mathematics.

Bachelor of Science in Biology, Chemistry, Civil Engineering, Clinical Chemistry, Computer Science, Cytotechnology, Diagnostic Ultrasound, Electrical Engineering, General Science, Health Information Administration, Mathemathics, Mechanical Engineering, Medical Technology, Nuclear Medicine Technology and Physics.

Master of Software Engineering — See Graduate Bulletin

General Program Requirements

Students seeking the Bachelor's degree in the School of Science and Engineering must complete 180 credits, including the University core requirements shown on pages 26-28 of this Bulletin. The three engineering degrees require 192 credits. The core requirements have been modified for several of the degree programs, as described in the individual departmental sections of this Bulletin. Students also must complete the specific departmental requirements for their particular degree.

No course may be taken without the indicated prerequisites. Only the Dean may waive this policy.

Allied Health Technology

Vicky M. Brautigan, Ph.D., Chairperson
Andrea C. Skelly, BS, RDMS,
Director, Diagnostic Ultrasound Program

Objectives

The Allied Health Technology programs are designed to prepare students for professional careers as technologists in several medical laboratory disciplines or as laboratory assistants in biological research laboratories. Founded on a concentration in basic sciences, the programs afford simultaneous opportunities for receiving a liberal arts education and practical exposure to the medical laboratory environment.

Degrees Offered

Bachelor of Science in Cytotechnology
Bachelor of Science in Diagnostic Ultrasound
Bachelor of Science in Medical Technology

Bachelor of Science in Nuclear Medicine Technology — Program will not be continued after Fall, 1987.

Accreditation

The Diagnostic Ultrasound and Nuclear Medicine Technology programs are accredited by the Committee on Allied Health Education and Accreditation (CAHEA). Only CAHEA-accredited internship sites are used in our Cytotechnology and Medical Technology programs.

General Program Requirements

Students in any of the Allied Health Technology programs must satisfy the core curriculum requirements of the University as given on pages 26-28 of this Bulletin except for the requirement in Fine Arts.

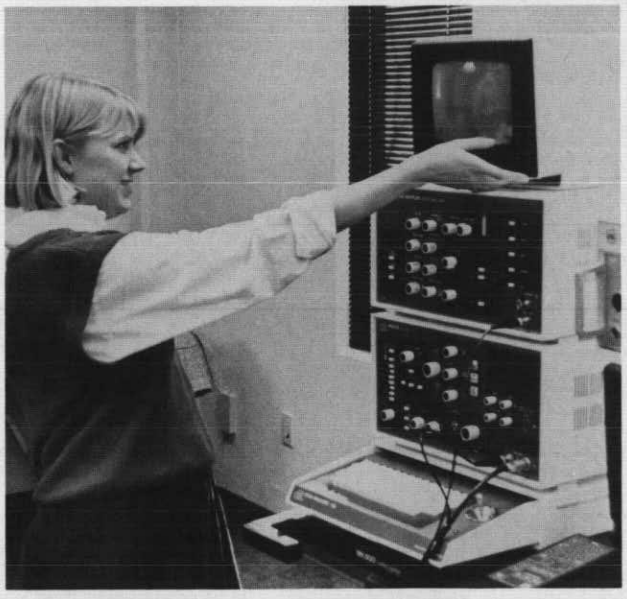
Departmental Requirements

Bachelor of Science in Cytotechnology — 50 credits of biology including BL 165, 166 and 167; CH 101 and 102 or CH 121, 122, 131 and 132; MT 111; and 45 credits of AH 310, 311 and 312, which must be completed in an accredited cytotechnology internship site. AH 415, HI 322 and N 300 (or BL 305) are recommended. Biology electives recommended are BL 200, 210 (or 270, 271), 220 (or 300), 310, 330, 350, 351, and 485.

Bachelor of Science in Diagnostic Ultrasound — 20 credits of biology, including BL 165 or 167, BL 200 and 210 (or BL 270 and 271); N 300 (or BL 305); PH 105 and 106 and 350; MT 131; CSC 113 or 114, AH 330, 331, 332, 333, 334, 355, 370, 375, 473, 474 (three times), 483 (four times), 484 (twice). A calendar year internship is necessary for entry into professional employment and certification. This internship is a part of the degree and follows after the academic course requirements are met. Students must provide verification (from physician) of good health prior to ultrasound specific courses.

Bachelor of Science in Medical Technology — 45 credits of biology, including 10 credits of BL 165, 166, 167; BL 200 and 210 (or BL 270 and 271), 300, 350, 351, 360, and 485; 47 credits in chemistry, including CH 121, 122, 131, 132, 219, 470, 471, 472; MT 111, 131; CSC 113 or 114; PH 105, 106; and AH 410, 415 and 420. Professional certification requires one year of internship in an accredited laboratory training program after completion of the degree.

Bachelor of Science in Nuclear Medicine Technology — BL 200, 210, (or 270, 271); N 300, (or BL 305); HI 322, PH 105, 106, 107; MT 111, 131; CSC 113 or 114; 30 credits in chemistry, including CH 121, 122, 123, 131, 132, 133, 241, 242, 251, 252, (or Ch 230, 232, 233, 234); and 48 credits in allied health, including AH 370, 440, 441, 442, 447, 448, 449, 450, 451, 452, 453, 456, 457, 458, 459. Admission to internship requires an interview with the Nuclear Medicine admissions committee for all students with less than 3.0 gpa. Interviews are held Spring quarter prior to a Fall internship. A minimum 2.5 must be achieved in the 44 credits of AH courses in the internship.



Bachelor of Science in Cytotechnology

Freshman year

Biology 165, 166, 167 ..... 15 credits
English 110/Philosophy 110 sequence ..... 10 credits
History 120/English 120 sequence ..... 10 credits
Mathematics ..... 5 credits
Elective ..... 5 credits

Sophomore year

Biology 200, 210 (or 270, 271)
220 (or 300), 485 ..... 20 credits
Chemistry 101, 102
(or 121, 122 and 131, 132) ..... 10 credits
Philosophy 220/Social Science I sequence ... 10 credits
Theology and Religious Studies I ..... 5 credits

Junior year

Allied Health 415 ..... 3 credits
Biology 310, 330, 350, 351 ..... 15 credits
Ethics ..... 5 credits
Health Information 322 ..... 3 credits
Nursing 300 (or BL 305) ..... 5 credits
Social Science II ..... 5 credits
Theology and Religious Studies II ..... 5 credits
Elective ..... 4 credits

Senior year

Allied Health 310, 311, 312 ..... 45 credits

Total ..... 180 credits

Bachelor of Science in Diagnostic Ultrasound

Freshman year

Biology 165 or 167 ..... 5 credits
Biology Elective ..... 5 credits
Computer Science 113 ..... 5 credits
English 110/Philosophy 110 sequence ..... 10 credits
History 120/English 120 sequence ..... 10 credits
Mathematics 131 ..... 5 credits
Elective ..... 5 credits

Sophomore year

Biology 200, 210 (or 270, 271) ..... 10 credits
Nursing 300 ..... 5 credits
Philosophy 220/Social Science I sequence ... 10 credits
Physics 105, 106 ..... 10 credits
Social Science II ..... 5 credits
Theology and Religious Studies I ..... 5 credits

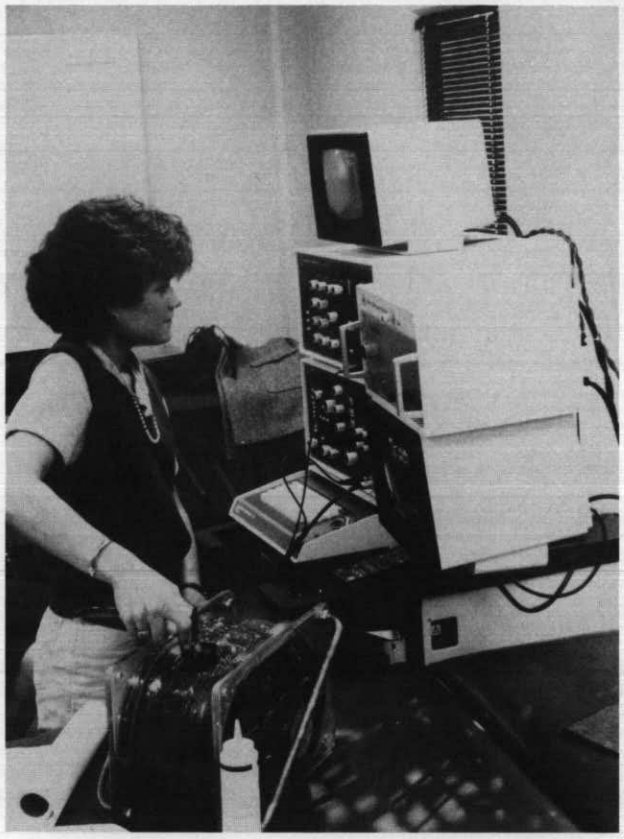
Junior year

Allied Health 330, 331, 332, 333, 334,
355, 370, 375 ..... 31 credits
Philosophy 255 ..... 5 credits
Physics 350 ..... 3 credits
Theology and Religious Studies II ..... 5 credits

Senior year

Allied Health 473, 474 (3 times) ..... 34 credits
Allied Health 483 (4 times), 484 (2 times) ..... 12 credits

Total ..... 180 credits



Bachelor of Science in Medical Technology

Freshman year

Biology 160 series ..... 10 credits
Chemistry 121, 122, 131, 132 ..... 10 credits
English 110/Philosophy 110 sequence ..... 10 credits
History 120-129 ..... 5 credits
Mathematics 111, 115, 131 ..... 12 credits

Sophomore year

Biology 200, 210 (or 270, 271) ..... 10 credits
Chemistry 123, 133, 231, 232, 233, 234 ..... 15 credits
English 120-129 ..... 5 credits
Philosophy 220/Social Science I sequence ... 10 credits
Social Science II ..... 5 credits

Junior year

Allied Health 410, 420 ..... 6 credits
Biology 300, 350, 360 and Elective ..... 15 credits
Chemistry 219 ..... 5 credits
Computer Science 113 ..... 5 credits
Physics 105, 106 ..... 10 credits
Theology Religious Studies I ..... 5 credits

Senior year

Allied Health 370, 415 ..... 6 credits
Biology 485 ..... 5 credits
Chemistry 455, 470, 471, 472 ..... 14 credits
Philosophy 255 ..... 5 credits
Theology and Religious Studies II ..... 5 credits
Electives ..... 7 credits

Total ..... 180 credits

Bachelor of Science in Nuclear Medicine Technology
— Program will not be continued after Fall, 1987.

Freshman year

Chemistry 121, 122, 123, 131, 132, 133 ..... 15 credits
English 110/Philosophy 110 sequence ..... 10 credits
History 120-129 ..... 5 credits
Mathematics 111, 115, 131 ..... 12 credits
Electives ..... 5 credits

Sophomore year

Chemistry 241, 242, 251, 252
(or 231, 232, 233, 234) ..... 12 credits
English 120-129 ..... 5 credits
Philosophy 220/Social Science I sequence ... 10 credits
Physics 105, 106, 107 ..... 15 credits
Social Science II ..... 5 credits

Junior year

Allied Health 370 ..... 3 credits
Biology 200, 210 (or 270, 271) ..... 10 credits
Chemistry Elective ..... 3 credits
Computer Science 113 or 114 ..... 5 credits
Health Information 322 ..... 3 credits
Nursing 300 (or Biology 305) ..... 5 credits
Philosophy 255 ..... 5 credits
Theology and Religious Studies I and II ..... 10 credits

Senior year

Allied Health 440, 441, 442 ..... 9 credits
Allied Health 447, 448, 449 ..... 3 credits
Allied Health 450, 451, 452, 453 ..... 26 credits
Allied Health 456, 457, 458, 459 ..... 7 credits
Total ..... 180 credits

Allied Health Courses

AH 310 **Cytotechnology Internship I** **15 credits**
AH 311 **Cytotechnology Internship II** **15 credits**
AH 312 **Cytotechnology Internship III** **15 credits**

AH 330 **Diagnostic Ultrasound I** **5 credits**
AH 331 **Diagnostic Ultrasound II** **5 credits**
Review of acoustical physics, modes of display, introduction to equipment. Pathophysiology of organ systems visualized by ultrasound and their ultrasonic appearance. Prerequisites: AH 355, PH 350. (330 winter, 331 spring)

AH 332 **Echocardiography** **3 credits**
Anatomy, physiology and pathological conditions of the adult and pediatric heart, their visualization and evaluation with real-time imaging, Doppler and M-mode echocardiography. Prerequisites: BL 200, 210; AH 355; PH 350. (winter)

AH 333 **Methods of Cardiac Evaluation** **2 credits**
Integration of various modes of cardiac evaluation with echocardiography. Cardiac catheterization, ECG, auscultation and phonocardiography are covered in addition to other pertinent topics. The course serves to expand the student's knowledge of cardiac physiology and pathophysiology. Prerequisite: AH 332 (spring)

AH 334 **Vascular Evaluation and Doppler** **2 credits**
Introduction to applications of Doppler ultrasound for the detection and evaluation of vascular disease. Vascular anatomy, physiology, and pathology. Additional methods of evaluating vascular disease which complement Doppler data. Prerequisites: AH 355, PH 350. (winter)

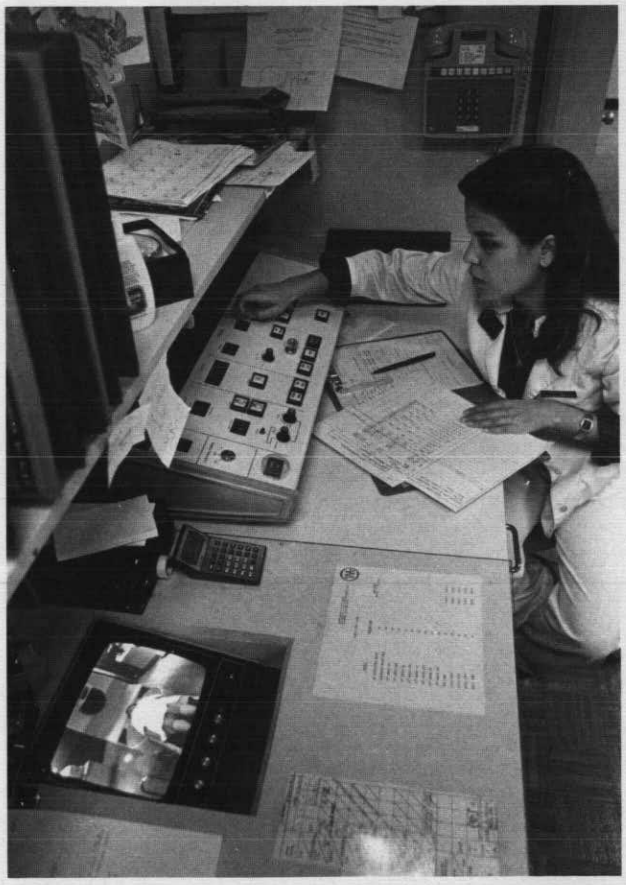
AH 355 **Human Cross Section Anatomy** **5 credits**
Survey of cross section anatomy with emphasis on organs of body amenable to ultrasound diagnostic techniques. Prerequisites: BL 200 and 210 (or 270 and 271). (fall)

AH 370 **Management and Professionalism** **3 credits**
Methods of budgeting, hiring and firing, and departmental administration. The technologist's role in relation to the patient, physician and staff and the study of medical ethics. (fall)

AH 375 **Ultrasound Instrumentation** **4 credits**
Understanding the operation of diagnostic ultrasound equipment, including 'A' and B-mode, M mode and 2D scanners of the heart and real-time systems. Doppler principles and knobology. Prerequisite: PH 350. (spring)

AH 391 **Special Topics** **1-5 credits**
AH 392 **Special Topics** **1-5 credits**
AH 393 **Special Topics** **1-5 credits**

AH 396 **Independent Study** **1-5 credits**
AH 397 **Independent Study** **1-5 credits**
AH 398 **Independent Study** **1-5 credits**



AH 410 **Clinical Hematology** **3 credits**
Automated and manual cell counting; cellular morphology; testing procedures related to red and white cell disorders. Prerequisite: permission (winter-odd numbered years)

AH 415 **Fundamentals of Immunology** **3 credits**
Properties and occurrence of antigens and haptens; nature of antibodies, blood groups, and autoimmune response; transfusions; tumor specialties. Prerequisites: BL 200, 210 or 270, 271; CH 123, 133 and organic. AH 410 recommended. (spring-even numbered years)

AH 420 **Clinical Virology and Mycology** **3 credits**
Medically important viruses, classification, tissue culture and serological methods of identification, viral immunology and chemotherapy. Terminology, taxonomy, laboratory diagnosis of pathogenic dermatophytes and systemic fungi. Prerequisites: BL 165, 166; CH 123, 133; BL 300 or 220. (fall-even numbered years)

AH 440 **Basic Science of Nuclear Medicine I** **5 credits**
AH 441 **Basic Science of Nuclear Medicine II** **2 credits**
AH 442 **Basic Science of Nuclear Medicine III** **2 credits**
I. Review of basic principles of radioactive decay, interaction of radiation with matter, radiation detection. Rectilinear and Anger-type imaging devices; collimaters, resolution, sensitivity, contrast and modulation transfer function. II. Radiopharmaceuticals and radiopharmacy; drugs, drug distribution, radionuclide production, radiopharmaceutical dosimetry. Radiation biology. III. Tracer methodology and non-imaging uses of radionuclides: in vivo function studies, in vitro tests. Prerequisites for I, II, III: permission. (Offered in sequence: I-fall, II-winter, III-spring.)

AH 447 **Clinical Nuclear Medicine I** **1 credit**
AH 448 **Clinical Nuclear Medicine II** **1 credit**
AH 449 **Clinical Nuclear Medicine III** **1 credit**
Applications of nuclear medicine procedures in medical diagnosis. Relative role of in vivo and in vitro radionuclide studies in diagnostic process. Prerequisite: permission. (I-fall; II-winter; III-spring.)

AH 450 **Applied Nuclear Medicine Technology I** **5 credits**
AH 451 **Applied Nuclear Medicine Technology II** **7 credits**
AH 452 **Applied Nuclear Medicine Telchnology III** **7 credits**
AH 453 **Applied Nuclear Medicine Technology IV** **7 credits**
Practical experience in static organ imaging, dynamic radionuclide studies, in vivo and in vitro testing, hematologic studies, gastro-intestinal absorption, and radioassay procedures. Prerequisite: permission.

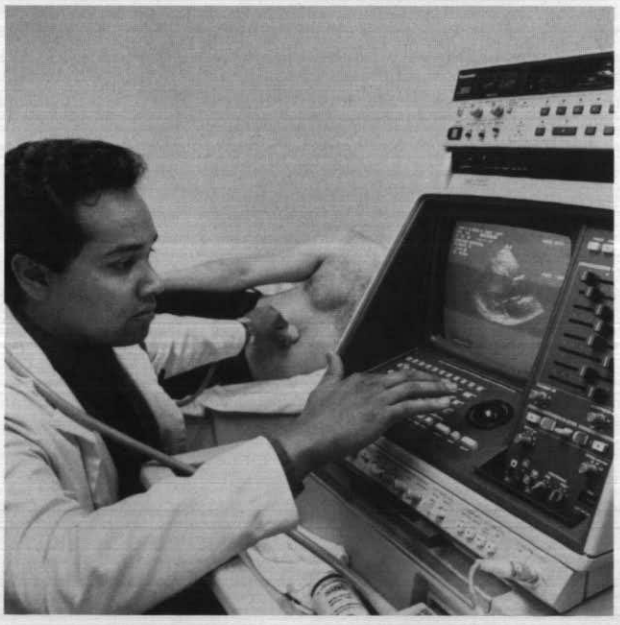
AH 456 **Nuclear Medicine Seminar I** **1 credit**
AH 457 **Nuclear Medicine Seminar II** **2 credits**
AH 458 **Nuclear Medicine Seminar III** **2 credits**
AH 459 **Nuclear Medicine Seminar IV** **2 credits**
Student and faculty discussions of topics of professional interest; critical examination of current literature. Prerequisite: permission.

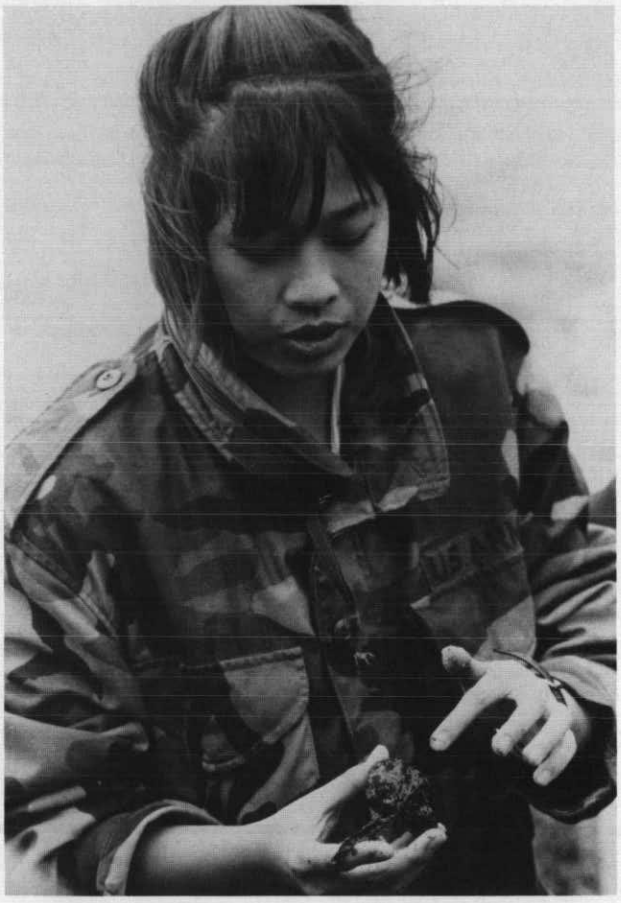
AH 473 **Clinical Orientation to Ultrasound** **10 credits**
Five days per week spent in a hospital environment, learning patient care, practical medical ethics, observing and performing ultrasound procedures and other diagnostic modalities. Prerequisite: permission. Corequisite: AH 483.

AH 474 **Clinical Experience in Ultrasound I** **8 credits**
Five 8-hour days per week in an approved ultrasound department of a hospital. Prerequisite: permission. Program requires this course be taken three times for a maximum of 24 credits. Corequisite: AH 483.

AH 483 **Ultrasound Seminar I** **2 credits**
Seminar to review and discuss cases performed by students. Seattle based students meet one day every other week. Students based outside Seattle area have projects assigned by correspondence, by the faculty and staff. Prerequisite: permission. Program requires this course be taken four times for a maximum of eight credits. Corequisite: 473 or 474.

AH 484 **Basic Science of Ultrasound** **2 credits**
Project of professional interest assigned by faculty involving critical examination of current literature. Prerequisite: permission. Program requires this course be taken for a maximum of four credits. Corequisite with second and third quarter internship, AH 474.





Biology

David Brubaker, Ph.D., Chairperson

Objectives

Biology is not only a disciplined study of the sciences of life, but it is also a vital part of liberal education. A knowledge of biology contributes directly to an understanding of contemporary life and appreciation of human values. The study of biology provides insights into the nature of the human body, human social structure and behavior, as well as the ecological interrelationships, genetics and evolution, physiological functions, cellular and subcellular processes of all living things.

A Bachelor of Science in Biology degree offers students breadth and depth of experiences across the entire field of biology along with solid training in the supporting sciences. It is designed for preparation for graduate work in basic and applied fields of biology and for professional careers in fields such as medicine, dentistry, veterinary medicine, and careers in technical areas with biological applications. Students interested in premedical, predental, or preveterinary medicine should consult the Premed section of this bulletin. Those interested in a more interdisciplinary approach to the life sciences should consider a Bachelor of Science degree in General Science.

Majors interested in high school teaching may elect to complete a sequence of education courses leading to a secondary teacher certification. 190 credits are required for certification. Additional details are contained in the School of Education listing in this Bulletin of Information.

Degree Offered

Bachelor of Science in Biology

General Program Requirements

Students in biology must satisfy the core curriculum requirements of the University as given on pages 26-28 of this bulletin.

Departmental Requirements

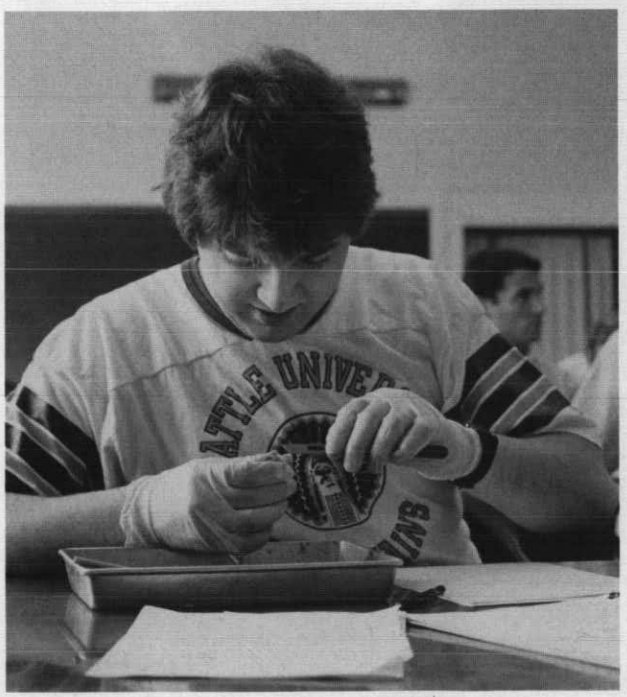
Bachelor of Science in Biology — 60 credits of biology which must include BL 165, 166, 167, BL 350, 351, BL 370, BL 485, BL 235 or 252, BL 385 or 388, and BL 310, 325, or 330; at least one but no more than three credits of Seminar; and at least 5 credits of plant science beyond that included in BL 165, 166, 167. Also required are 30 credits in Chemistry, which must include CH 121, 122, 123, 131, 132, 133, 241, 242, 243, 251, 252; PH 105, 106, 107 or PH 200, 201, 202; and MT 131, or 134 and 135; 10 credits of either a foreign language (FR 105, 106 or the equivalent in another language) or statistics (PSY 201, 202). Additional courses in biology, chemistry, mathematics, statistics, or computer science are recommended.

Teaching Major (School of Education)
Secondary — 45 credits in biology which must include BL 165, 166, 167; BL 350, 351; BL 370; BL 252 or 235; and BL 200, 210 or BL 270, 271 or BL 385, 388; 5 credits of biology electives. Also required are at least 10 credits of chemistry (CH 101, 102 or the equivalent).

Elementary — 25 credits in biology which must include BL 165, 166, 167. 10 credits of biology electives.

Biology Supporting Area: 25 credits in biology, which must include BL 165, 166, 167; BL 370; and BL 252 or 235.

Undergraduate Minor — 30 credits in biology which must include BL 165, 166, 167; 15 credits of biology electives of which 10 credits must be in courses numbered 200 or above.



Bachelor of Science in Biology
(suggested program sequence)

Freshman year

Biology 165, 166, 167 ..... 15 credits
Chemistry 121/131, 122/132, 123/133 ..... 15 credits
English 110/Philosophy 110 sequence ..... 10 credits
Mathematics 131 ..... 5 credits

Sophomore year

Biology elective ..... 5 credits
Chemistry 241/251, 242/252, 243 ..... 15 credits
Foreign Language or Statistics ..... 10 credits
History 120/English 120 sequence ..... 10 credits
Systematics choice (BL 235 or 252) ..... 5 credits

Junior year

General Ecology ..... 5 credits
Philosophy 220/Psychology 120 sequence ... 10 credits
Philosophy 255 ..... 5 credits
Physics 105, 106, 107 ..... 15 credits
Physiology choice (BL 385 or 388) ..... 5 credits
Theology and Religious Studies I ..... 5 credits

Senior year

Biological Structure choice
(BL 310, 325 or 330) ..... 5 credits
Biology Electives ..... 9 credits
Cell Physiology ..... 5 credits
Genetics plus Genetics Lab ..... 5 credits
Fine Arts 120 ..... 5 credits
Interdisciplinary course ..... 3 credits
Senior Synthesis ..... 3 credits
Social Science II ..... 5 credits
Theology and Religious Studies II ..... 5 credits
Total ..... 180 credits

Biology Courses

BL 101 Principles of Biology **5 credits**
Important areas of biology, beginning at the cellular level and culminating with a consideration of interactions and changes in natural populations. Four lecture and three laboratory hours per week. (fall, spring)

BL 165 General Biology I **5 credits**
BL 166 General Biology II **5 credits**
BL 167 General Biology III **5 credits**
Survey of the biological world, concepts and principles. 1—cell biology, metabolism, respiration, photosynthesis, genetics. 2—evolution, diversity and comparisons of groups of living organisms. 3—development and differentiation; comparative functions of tissues and organ systems; animal behavior; ecology. Four lecture and three laboratory hours per week. Prerequisite: High School Algebra and Chemistry. BL 165 prerequisite to BL 166 and 167. (I—fall, winter, II—winter, III—spring.)

BL 182 Elementary Human Anatomy and Physiology **5 credits**
A one-quarter survey of structure and function of the human body. Two three-hour lecture-laboratory sessions per week. (fall)

BL 185 Biology of Human Sexuality **5 credits**
The development of sexuality of the human being from in utero to old age. Emphases are on family relationships, bonding, healthy modeling for younger persons, biological aspects of conception, intrauterine development, and birthing. Practical problems are considered in each of these areas. (winter)

BL 190 Principles of Physical Anthropology **5 credits**
Evidence for primate evolution from the fossil record and from the morphological, physiological, genetic and behavioral variability of living primates. Two 3 hour lecture-laboratory sessions per week. (fall)

BL 200 Anatomy and Physiology I **5 credits**
Major structural and functional systems of the human body. Cells, tissue, bone, muscle and nervous system. Laboratory emphasis on microscopic and gross anatomy. Credits not applicable for biology major. Three lecture and four laboratory hours per week. (fall)

BL 210 Anatomy and Physiology II **5 credits**
Major structural and functional systems of the human body. Digestive, circulatory, respiratory, endocrine, urinary and reproductive systems. Physiological interactions among systems. Laboratory emphasis on physiology. Credits not applicable for biology major. Three lecture and four laboratory hours per week. Prerequisite: BL 200. (winter)

BL 220 Microbiology **5 credits**
Introduction to medical microbiology. Three lecture and four laboratory hours per week. Credits not applicable for biology major. Prerequisite: BL 210. (spring)

BL 235 Invertebrate Zoology **5 credits**
Survey of invertebrate phyla including their anatomy, morphology, taxonomy and ecology. Four hours lecture and three hours laboratory per week. One weekend field trip. Prerequisite: BL 165, 166, 167. (spring)

BL 241 Vertebrate Zoology **5 credits**
Structure, physiology, ecology and behavior of Hemichordata and Chordata. Three lectures and four lab-

oratory hours per week. Prerequisite: BL 165, 166, 167. (fall)

BL 252 Taxonomy of Flowering Plants 5 credits
Native flora as an introduction to taxonomy, involving the principal orders and families of flowering plants. Three lecture and four laboratory hours per week. Prerequisite: BL 165, 166. (spring, odd years)

BL 270 Human Structure and Function I 5 credits
BL 271 Human Structure and Function II 5 credits
I. Integrated study of microscopic and gross structure and the functions of the human organism; basic tissues, skeletal, muscular, nervous, circulatory and respiratory systems. II. Digestion and metabolism, the excretory, endocrine and reproductive systems. Introduction to regional anatomy. Three lectures and four laboratory hours per week. Prerequisites: BL 165, 166, 167, CH 101, 102 for 270; 270 for 271. (I-winter, II-spring)

BL 291 Special Topics 1-5 credits
BL 292 Special Topics 1-5 credits
BL 293 Special Topics 1-5 credits

BL 296 Independent Study 1-5 credits
BL 297 Independent Study 1-5 credits
BL 298 Independent Study 1-5 credits

BL 300 Microbiology 5 credits
Morphology, physiology and distribution of microorganisms. Three lecture and four laboratory hours per week. Prerequisite: BL 210 or 271 or 388 or 485. (winter)

BL 305 Pathophysiology 5 credits
A conceptual study of the derangements of the physiologic mechanisms and the compensatory responses involved in the disease process. Special attention is given to correlations between physiological changes and signs, symptoms and the development of basic pathology at the cellular, molecular and systemic levels. Forms the basis for the rationale of medical and nursing intervention. Three lecture and three laboratory hours per week. Prerequisite: BL 200 and 210, or BL 270 and 271. Recommended: BL 310, 330. (spring)

BL 310 Comparative Vertebrate Embryology 5 credits
Early development of the frog and chick with consideration of the early development of the human. Three lecture and four laboratory hours per week. Prerequisite: BL 165, 166, 167. (fall)

BL 321 Vertebrate Natural History 5 credits
Ecology, behavior, life history and taxonomy of vertebrate animals, with emphasis on those in the Pacific Northwest. Three lecture and four laboratory hours per week. Prerequisite: BL 165, 166, 167. (spring)

BL 325 Comparative Anatomy of the Vertebrates 5 credits
Comparative study of the structures of the integumentary, muscular, skeletal, digestive, respiratory, excretory, reproductive, circulatory, and nervous systems of selected vertebrates with emphasis on evolutionary relationships between organisms and development of structures within individuals. Prerequisites: BL 165, 166, 167. Recommended: BL 310. (winter)

BL 330 Comparative Vertebrate Histology 5 credits
Study of the fundamental body tissues. Three lecture and four laboratory hours per week. Prerequisite: BL 270, 271; Recommended BL 310 or 325. (winter)

BL 350 Genetics 3 credits
Classical and molecular principles of the transfer of hereditary information. Three lecture hours per week. Prerequisite: BL 165, 166, 167. (winter)

BL 351 Genetics Laboratory 2 credits
Experience in genetic experimentation. Four laboratory hours per week. Prerequisite: BL 350 or taken concurrently. (winter)

BL 360 Parasitology 5 credits
Study of parasitic protozoa, helminths and anthropods. Three lecture and four laboratory hours per week. Prerequisite: BL 165, 166, 167; Recommended: BL 235, (spring)

BL 370 General Ecology 5 credits
Study of the interations between organisms in biological communities, and the relationship of biological communities to the environment. Topics include: population growth and regulation, competition and predation, community energetics and nutrient cycling, comparative ecosystem analysis, and the evolution of ecosystems. Laboratory exercises include: field sampling techniques, experimental population manipulations, and ecosystem modeling. Four lecture and three laboratory hours per week. One weekend field trip. Prerequisites: BL 235 or 252; MT 111. (fall)

BL 371 **Field Ecology** **3 credits**
Field studies including techniques used in ecological research and analysis. Two hours of lecture and three hours of laboratory per week, and one weekend field trip. Prerequisites: BL 165, 166, 167; recommended: BL 252, 370. (spring)

BL 375 **Marine Biology**
Study of the marine environment and the animals and plants inhabiting it. Four lecture and three laboratory hours per week and one weekend field trip. Prerequisite: BL 165, 166, 167; BL 235. (spring, even years)

BL 385 **Plant Physiology** **5 credits**
Study of the function of plants, with emphasis on the wide range of physiological process that may contribute to success and survival of plants in their environment. Transport mechanisms; water and mineral management; responses to light, including photosynthesis, photoperiodism, and photomorphogenesis; functions of plant hormones; responses to environmental stresses; events in development. Four lecture and three laboratory hours per week. Individual project. Prerequisites: BL 165, 166, 167; CH 241/251. (spring)

BL 388 **Animal Physiology** **5 credits**
Study of the function of animals, particularly vertebrates, with emphasis on a wide variety of functional processes that contribute to the success and survival of animals in their respective environments. The course is centered about control theory: the precise mechanisms of internal control, and how these systems interact to sustain the animal in a wide range of environments. Three lecture and four laboratory hours per week. Prerequisites: BL 165, 166, 167, CH 241, 251. (fall)

BL 430 **Endocrinology** **5 credits**
Structure and function of the glands of internal secretion of vertebrates. Prerequisite: Advanced standing in biology and CH 242/252. (fall, odd years)

BL 440 **Neurobiology** **5 credits**
Pathways of the vertebrate nervous system, gross and microscopic study of the human brain and spinal cord. Three lecture and four laboratory hours per week. Prerequisite: BL 200, 210 or 270, 271 or 310, 325. (fall, even years)

BL 460 **Limnology** **5 credits**
Study of freshwater systems and the plants and animals inhabiting them, with emphasis on the invertebrate animals. Four lecture and three laboratory hours per week, one weekend field trip. Prerequisites: BL 235, CH 123, 133. Recommended: BL 370. (spring)

BL 465 **Population Biology: Evolution** **5 credits**
Causes and mechanisms of genetic adaptation of organisms. Five lectures per week. Prerequisite: BL 350. (spring)

BL 470 **Entomology** **5 credits**
Structure, function, classification, ecology, behavior and economic importance of insets. Three lecture and four laboratory hours per week. Prerequisite: BL 235. (spring, odd years)

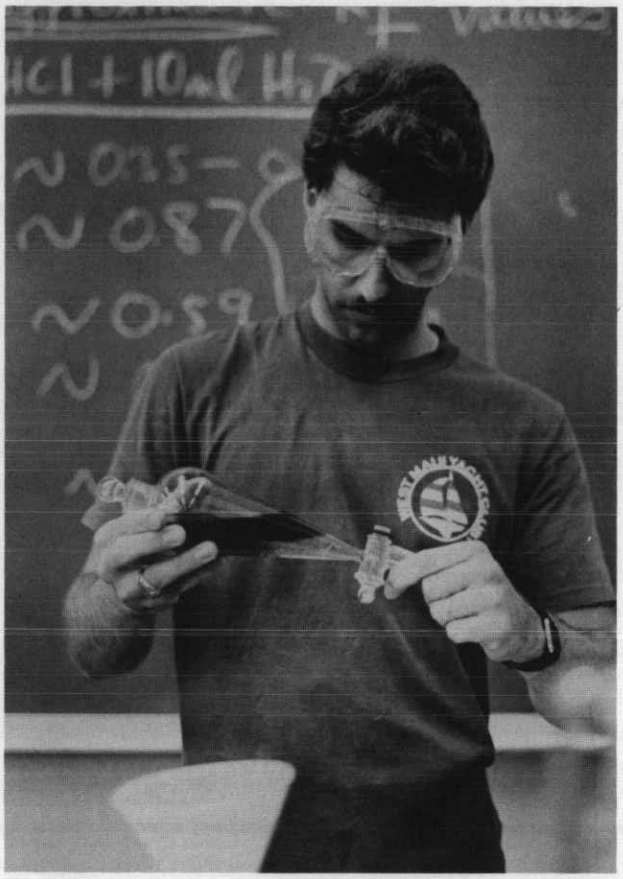
BL 485 **Cell Physiology** **5 credits**
Advanced treatment of cellular structure and function from a molecular approach. Topics include fundamental cellular processes: membrane transport, bioenergetics, cell division, protein synthesis and secretion, gene regulation, and cell mortality. Emphasis on biochemical laboratory techniques. Four lecture and three laboratory hours per week. Prerequisites: BL 165, 166, 167; CH 243. Recommended: CH 455; MT 111. (winter)

BL 486 **Seminar** **1 credit**
BL 487 **Seminar** **1 credit**
BL 488 **Seminar** **1 credit**
Problems in modern biology. Prerequisite: Junior or Senior standing. (fall, winter, spring)

BL 491 **Special Topics** **1-5 credits**
BL 492 **Special Topics** **1-5 credits**
BL 493 **Special Topics** **1-5 credits**

BL 496 **Independent Study** **1-5 credits**
BL 497 **Independent Study** **1-5 credits**
BL 498 **Independent Study** **1-5 credits**

BL 499 **Undergraduate Research** **1-5 credits**
Literature and laboratory investigation of a basic research problem. Preparation of a written report. Prerequisite: permission of chairperson (fall, winter, spring)



Chemistry

David L. Thorsell, Ph.D., Chairperson

Objectives

Programs offered by the Chemistry department are designed to prepare the student for professional work in the various fields of basic and applied chemistry. The Bachelor of Science in Chemistry degree program is recommended to students who wish to prepare themselves for graduate studies in chemistry, or for medical school. By completion of CH 415 and nine additional approved credits in chemistry, beyond the minimum requirements for this degree, the student is eligible for certification of the degree by the Committee on Professional Training of the American Chemical Society.

The Clinical Chemistry degree program is suited to those students interested in a career in the important field of clinical chemistry. The degree also provides preparation for graduate studies in clinical chemistry, biochemistry, or (with additional biology) medicine or dentistry.

The Bachelor of Arts degree is recommended for those desiring a solid foundation in chemistry along with greater freedom of choice for elective courses from programs such as education, business, engineering or other fields within the University.

Majors interested in high school teaching may elect to complete a sequence of education courses leading to secondary teacher certification. 190 credits are required for certification. Additional details are contained in the School of Education listing in this Bulletin of Information.

Degrees Offered

Bachelor of Arts
Bachelor of Science in Chemistry
Bachelor of Science in Clinical Chemistry

General Program Requirements

Students in chemistry must satisfy the core requirements of the University given on pages 26-28 of this Bulletin.

Departmental Requirements

Bachelor of Arts — 45 credits of chemistry which must include CH 121, 122, 123, 131, 132, 133, 219, 231, 232, 233, 234, 361 and 363, plus electives from the following: CH 243, 260, 360, 362, 364, 415, 436, 455, 461, 499, and special topics or independent study courses; 15 credits of mathematics including two quarters of calculus and 15 credits of physics.

Bachelor of Science in Chemistry — 60 credits in chemistry which must include CH 121, 122, 123, 131, 132, 133, 219, 241, 242, 243, 251, 252, 326, 360, 361, 362, 363, 364; MT 134, 135, 136; PH 200, 201, 202; and CSC 113 or 114. A student is eligible for certification of the degree by the American Chemical Society if CH 415 and nine additional credits of approved advanced work in chemistry are taken. For students planning graduate work. MT 232, 233, 234 and PH 204, 205 are strongly recommended as electives.

Bachelor of Science in Clinical Chemistry — 69 credits in chemistry which must include CH 121, 122, 123, 131, 132, 133, 219, 241, 242, 251, 252 (or 231, 232, 233, 234), 326, 361, 362, 363, 364, 455, 470, 471, 472, 475, 476, 481, 482, 483; MT 134, 135, 136; CSC 113 or 114; and one year of introductory physics. Recommended electives: CH 243, 360; BL 280, 300, 330 and 350.

Teaching Major (School of Education) - Secondary — 45 credits of chemistry are required which must include CH 121, 122, 123, 131, 132, 133, 219, 260, two quarters of organic chemistry (CH 241, 242, 251, 252 or CH 231, 232, 233, 234), one quarter of physical chemistry (CH 361, 363) or biochemistry (CH 455), also one year of physics (PH 105, 106, 107 or 200, 201, 202) and mathematics including calculus (MT 111, 115, 134, 135 or MT 112, 131 and CSC 113 or 114). Courses in biology are also recommended.

Teaching Minor (School of Education) - Secondary — 31 credits in chemistry consisting of CH 121, 122, 123, 131, 132, 133, 219, two quarters of organic chemistry (CH 241, 242, 251, 252 or CH 231, 232, 233, 234) and CH 260. PH 105 and MT 111 are also required. PH 106, 107 and CSC 113 or 114 are recommended.

Undergraduate Minor — 35 credits in chemistry which must include CH 121, 122, 123, 131, 132, 133, 219, 241, 242, 251 and 252 (or 231, 232, 233, 234).

Bachelor of Arts

Freshman year

Chemistry 121, 122, 123, 131, 132, 133 ..... 15 credits
English 110/Philosophy 110 sequence ..... 10 credits
History 120/English 120 sequence ..... 10 credits
Electives ..... 10 credits

Sophomore year

Chemistry 231, 232, 233, 234 ..... 10 credits
Fine Arts 120 ..... 5 credits
Mathematics 111, 115, 134, 135 ..... 17 credits
Philosophy 220/Social Science I sequence ... 10 credits
Electives ..... 3 credits

Junior year

Chemistry 219 ..... 5 credits
Ethics ..... 5 credits
Physics 105, 106, 107 ..... 15 credits
Social Science II ..... 5 credits
Theology and Religious Studies I ..... 5 credits
Electives ..... 10 credits

Senior year

Chemistry 361 and 363 ..... 5 credits
Chemistry Electives ..... 10 credits
Interdisciplinary course ..... 5 credits
Senior Synthesis ..... 3 credits
Theology and Religious Studies II ..... 5 credits
Electives ..... 17 credits
Total ..... 180 credits

Bachelor of Science in Chemistry

Freshman year

Chemistry 121, 122, 123, 131, 132, 133 ..... 15 credits
English 110/Philosophy 110 sequence ..... 10 credits
Mathematics 134, 135, 136 ..... 15 credits
Physics 200 ..... 5 credits

Sophomore year

Chemistry 241, 242, 243, 251, 252 ..... 15 credits
Computer Science 113 or 114 ..... 5 credits
Fine Arts 120 ..... 5 credits
History 120/English 120 sequence ..... 10 credits
Physics 201, 202 ..... 10 credits

Junior year

Chemistry 219, 360, 361, 362, 363, 364 ..... 18 credits
Ethics ..... 5 credits
Philosophy 220/Social Science I sequence ... 10 credits
Social Science II ..... 5 credits
Theology and Religious Studies I ..... 5 credits
Electives ..... 2 credits

Senior year

Chemistry Electives ..... 12 credits
Interdisciplinary course ..... 5 credits
Senior Synthesis ..... 3 credits
Theology and Religious Studies II ..... 5 credits
Electives ..... 20 credits
Total ..... 180 credits

Bachelor of Science in Clinical Chemistry

Freshman year

Chemistry 121, 122, 123, 131, 132, 133 ..... 15 credits
English 110/Philosophy 110 sequence ..... 10 credits
Fine Arts 120 ..... 5 credits
Mathematics 134, 135, 136 ..... 15 credits

Sophomore year

Chemistry 219, 241, 242, 251, 252 ..... 17 credits
Computer Science 113 or 114 ..... 5 credits
History 120/English 120 sequence ..... 10 credits
Physics 105, 106, 107 ..... 15 credits

Junior year

Chemistry 326, 361, 362, 363, 364, 455 ..... 20 credits
Ethics ..... 5 credits
Philosophy 220/Social Science I sequence ... 10 credits
Social Science II ..... 5 credits
Theology and Religious Studies I ..... 5 credits

Senior year

Chemistry 470, 471, 472, 475, 476, 481, 482, 483 ..... 17 credits
Interdisciplinary course ..... 5 credits
Senior Synthesis ..... 3 credits
Theology and Religious Studies II ..... 5 credits
Electives ..... 15 credits
Total ..... 180 credits

Chemistry Courses

Credit may be received for only one of each of the following pairs of courses: CH 231/241; 232/242; 233/251; 234/252. A student who completes CH 231 with a grade of B or better may enroll in CH 242 with the permission of the instructor and successful completion of a one-credit independent study course in the principles of physical organic chemistry.

CH 101 Introduction General Chemistry 5 credits
Survey of inorganic chemistry treating the basic principles and descriptive material relevant to the health sciences. Four lecture and three laboratory hours per week. (fall, winter)

CH 102 Introductory Organic and Biochemistry 5 credits
Organic chemistry and introduction to biochemistry with application to the health sciences. Four lecture and three laboratory hours per week. Prerequisite: CH 101 or equivalent. (winter, spring)

CH 110 Fundamentals of Chemistry 5 credits
An introduction to Chemistry designed for students with little or no preparation in science. Also for students desiring a review of high school chemistry prior to enrolling in CH 101 or CH 121. (fall, spring)

CH 121 **General Chemistry 1** **4 credits**
CH 122 **General Chemistry 2** **4 credits**
CH 123 **General Chemistry 3** **4 credits**
1. Atomic and molecular structure, weight relationships, states of matter, thermodynamics, periodic properties. 2. Solutions, kinetics, chemical equilibrium, acids, bases, solubility equilibria, thermodynamics, hydrogen, oxygen and water. 3. Transition metals, kinetics, oxidation, reduction, electrochemistry, chemistry of the nonmetals, the metallic state, nuclear chemistry. Four lecture hours per week. Prerequisites: Two years of high school algebra for CH 121; 121 for 122; 122 for 123; corequisites: 131 for 121; 132 for 122; 133 for 123. (121, fall, winter; 122, winter, spring; 123, spring, summer).

CH 131 **General Chemistry Lab 1** **1 credit**
CH 132 **General Chemistry Lab 2** **1 credit**
Introduction to basic laboratory procedures and safety, practice in modes of scientific inquiry, including observation, measurement, data collection, interpretation and evaluation of results and reporting. Three hours per week. Prerequisite: CH 131 for 132. Corequisites: CH 121 for 131; 122 for 132. (131, fall, winter; 132, winter, spring).

CH 133 **General Chemistry Lab 3** **1 credit**
Introduction to qualitative chemical analysis on a semimicro scale. Experimentation in the chemistry of ionic systems and basic quantitative analytical methods. Four hours per week. Corequisite: CH 123; Prerequisite: CH 132. (spring, fall)

CH 219 **Quantitative Analysis** **5 credits**
Theory, methods and techniques of gravimetric, volumetric, electro-analytical and chromatographic procedures in quantitative analysis; introductory statistics. Two lecture and eight laboratory hours per week. Prerequisite: CH 123 and 133. (fall)

CH 231 **Fundamental Organic Chemistry 1** **4 credits**
CH 232 **Fundamental Organic Chemistry 2** **4 credits**
Structure, bonding, nomenclature, reactions and synthesis of organic compounds: 1) alkanes, alkenes, alkynes, alkyl halides, aromatic and heteroaromatic compounds; 2) alcohols, ethers, phenol, thiols, aldehydes, ketones, carboxylic acids and derivatives, amines, carbohydrates, amino acids and proteins. Spectroscopic applications. Each is four lecture hours per week. Prerequisites: CH 123, 133 for 231; 231 for 232. (231 winter; 232 spring) (Not for premed students).

CH 233 **Fundamental Organic Chemistry Lab 1** **1 credit**
CH 234 **Fundamental Organic Chemistry Lab 2** **1 credit**
Techniques used in synthesis, isolation and identification of organic compounds. Each is three laboratory hours per week. CH 231 corequisite for 233; CH 232 corequisite for 234; CH 233 prerequisite for 234. (233 winter; 234 spring)

CH 241 **Organic Chemistry 1** **4 credits**
CH 242 **Organic Chemistry 2** **4 credits**
Structural theory; functional groups; nomenclature; properties, applications, reactions and syntheses of organic compounds; stereochemistry; reaction mechanisms; kinetic and thermodynamic properties of reactions. Compounds and reactions of biological interest. Four lecture hours per week. Prerequisite: CH 123 for 241; 241 and 251 for 242. (241, fall and summer, 242, winter and summer)

CH 243 **Organic Chemistry 3** **3 credits**
Synthesis of organic compounds; ultraviolet, visible, infrared and nuclear magnetic resonance spectra; laboratory work in organic qualitative analysis and applications of spectroscopy. Two lecture and three laboratory hours per week. Prerequisite: CH 242, 252. (spring)

CH 251 **Organic Chemistry Lab 1** **2 credits**
Theory and practice of laboratory techniques; experimental study of properties of organic compounds; introduction to organic synthesis. Four hours per week. Corequisite: CH 241. (fall, summer)

CH 252 **Organic Chemistry Lab 2** **2 credits**
Application of laboratory techniques in simple and multistep syntheses; qualitative and quantitative measurements of properties of organic compounds; determination of kinetic and thermodynamic parameters. Four hours per week. Prerequisite: CH 251; Corequisite: CH 242. (winter, summer)

CH 260 **Laboratory Safety** **1 credit**
Important aspects of hazardous chemicals and laboratory safety including pertinent laws and regulations. Establishing and maintaining a safe working environment in the laboratory. Prerequisite: CH 241, 251. (spring)

CH 291 **Special Topics** **1-5 credits**
CH 292 **Special Topics** **1-5 credits**
CH 293 **Special Topics** **1-5 credits**

CH 326 **Instrumental Analysis** **5 credits**
Theory and techniques of instrumental methods representative of spectrophotometric electroanalytical and chromatographic techniques. Two four-hour laboratory periods per week including discussion of principles. Prerequisite: CH 219, 361, 363.

CH 352 **Biophysical Chemistry** **5 credits**
Introduction to physical chemistry. Principles of thermodynamics, kinetics, molecular structure and radioactivity applied to biology. Four lecture and three laboratory hours per week. Prerequisite: CH 219.

CH 360 **Physical Chemistry 1** **3 credits**
CH 361 **Physical Chemistry 2** **3 credits**
CH 362 **Physical Chemistry 3** **3 credits**
1. Quantum chemistry, spectroscopy, photochemistry. 2. Gases, thermodynamics, changes of state, solutions, 3. Chemical equilibrium, electrochemistry, kinetic molecular theory, reaction kinetics. Three lectures per week. 1. may be taken either before or after 2. and 3. Prerequisites: CH 123, 133, MT 136 and one year of physics for 360 and 361; 361 for 362. (1-fall, 2-winter, 3-spring)

CH 363 **Physical Chemistry Laboratory 1** **2 credits**
CH 364 **Physical Chemistry Laboratory 2** **2 credits**
Quantitative measurements of physical chemical phenomena, detailed data analysis, evaluation. Four laboratory hours per week. Prerequisites: CH 219 for 363; 363 for 364. CH 361 is pre-or co-requisite for 363; CH 362 is a pre- or co-requisite for 364. (1-winter; 2-spring)

CH 391 **Special Topics** **1-5 credits**
CH 392 **Special Topics** **1-5 credits**
CH 393 **Special Topics** **1-5 credits**

CH 396 **Independent Study** **1-5 credits**
CH 397 **Independent Study** **1-5 credits**
CH 398 **Independent Study** **1-5 credits**

CH 415 **Advanced Inorganic Chemistry** **3 credits**
Advanced topics in inorganic chemistry with particular attention to the transition metals and their compounds. Prerequisites: CH 360 and 361. (Alternate years with CH 436)

CH 436 **Advanced Organic Chemistry** **3 credits**
Advanced topics in organic chemistry. Directed reading and/or lectures. Prerequisite: One year of physical and one year organic chemistry. (Alternate years with CH 415)

CH 455 **Biochemistry** **5 credits**
Composition and metabolism of carbohydrates, lipids, proteins, enzymes and nucleic acids. Four lecture and three laboratory hours per week. Prerequisite: CH 242, 252. (fall)

CH 460 **Advanced Physical Chemistry** **3 credits**
Quantum chemistry, vibrational and rotational energies, absorption and emission of radiation, molecular symmetry, group theory, electronic spectra. Prerequisite: One year of physical chemistry.

CH 470 **Clinical Chemistry 1** **3 credits**
CH 471 **Clinical Chemistry 2** **3 credits**
CH 472 **Clinical Chemistry 3** **3 credits**
1. Theory and techniques of spectrophotometry, atomic absorption spectroscopy, flame photometry, fluorimetry and infrared analysis; electrophoretic techniques and densitometry; specific ion electrodes; automated analysis in clinical laboratory use. 2. Critical comparison of analytical methodologies for carbohydrates, lipids, electrolytes, enzymes, hemoglobins and prophyrins; emphasis on biosynthesis, metabolism, analytical methods of importance, normal ranges, and pathological conditions leading to abnormalities, statistics and normal values. 3. Toxicology, steroids, catecholamines, gas chromatographic and radioimmunossay techniques, renal and hepatic function assessment. Two lectures per week. Prerequisites: CH 219, 455. (Offered in sequence: fall, winter, spring)

CH 475 **Clinical Chemistry Laboratory 1** **1 credit**
CH 476 **Clinical Chemistry Laboratory 2** **1 credit**
Practical experience in instrumental techniques and analytical methodologies of importance to the clinical chemist, including colorimetry, atomic absorption, gas chromatography, infrared, enzymatic assays and statistical treatment of data. Three laboratory hours per week. Prerequisite: Simultaneous enrollment in CH 470 or CH 471. (Offered in sequence: fall, winter)

CH 481 **Clinical Practice** **2 credits**
CH 482 **Clinical Practice** **2 credits**
CH 483 **Clinical Practice** **2 credits**
Practical experience in approved hospital clinical laboratory. Six laboratory hours per week. Mandatory CR/NC. Prerequisite: Permission.

CH 491 **Special Topics** **1-5 credits**
CH 492 **Special Topics** **1-5 credits**
CH 493 **Special Topics** **1-5 credits**
Directed reading and/or lecture at an advanced level.

CH 496 **Independent Study** **1-5 credits**
CH 497 **Independent Study** **1-5 credits**
CH 498 **Independent Study** **1-5 credits**

CH 499 **Undergraduate Research** **1-6 credits**
Literature and laboratory investigation of a basic research problem. Four laboratory hours per week per credit.

Civil Engineering

Dale A. Carlson, Ph.D., Chairperson

Objectives

Civil Engineering is the profession in which a knowledge of the mathematical and physical sciences gained by study, experience and practice is applied with judgment to develop ways to utilize economically the materials and forces of nature for the progressive well-being of mankind in creating, improving and protecting the environment, in providing facilities for community living, industry and transportation, and in providing structures for the use of mankind.

The Civil Engineering Department is concerned with the education of those who wish to be professional Civil Engineers. The Civil Engineering profession is a calling in which special knowledge and skills are used in the service of mankind, and in which the successful expression of creative ability and the application of professional knowledge are primary rewards. This implies the application of the highest standards of excellence in education, in performance of services and in ethical conduct. It also implies that specialization in engineering subjects is integrative with courses which speak to the arts and culture of civilization and to the study of natural systems.

To accomplish these ends, analysis and design courses in the fields of hydraulic, structural, transportation and sanitary engineering are offered in addition to preparatory courses in sciences and basic mechanics. A broad base of theory is provided along with sufficient quantity of current practices of the profession.

Degrees Offered

Bachelor of Science in Civil Engineering

General Program Requirements

Students in Civil Engineering must satisfy the core curriculum requirements of the University as given on pages 26-28 of this Bulletin, except for the requirement in Fine Arts. Civil Engineering students take CE 402 to substitute for the requirement in Social Science II.

Departmental Requirements

Bachelor of Science in Civil Engineering — 75 credits in civil engineering which must include CE 221, 222, 311, 323, 324, 331, 335, 337, 351, 353, 371, 402, 445, 473, 487, 488, and 489. Also required are MT 134, 135, 136, 232, 233 and 234; ME 105, 107, 210, 230, and 321; PH 200, 201, and 202; CH 121, 131, CSC 230 and a 5 credit approved science elective. Departmental Candidacy must be achieved prior to being granted entry into CE 323. Candidacy is achieved by successfully completing all required 100 and 200 level CE, CH, CSC, ME, MT, and PH courses with a combined grade point average of at least 2.50, as well as EN 110. Only courses graded C (2.0) or better may be transferred into the department to offset degree requirements. 300 and 400 level courses have Departmental Candidacy in one of the engineering departments as well as the specified courses as prerequisites. Taking the Washington State Engineers-in-Training examination is required for the degree. This degree is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

Bachelor of Science in Civil Engineering

Freshman year

English 110/Philosophy 110 sequence	10 credits
History 120-129	5 credits
Mathematics 134, 135, 136	15 credits
Mechanical Engineering 105, 107	5 credits
Physics 200, 201	10 credits

Sophomore year

Chemistry 121, 131	5 credits
Civil Engineering 221, 222	6 credits
English 120-129	5 credits
Mathematics 232, 233, 234	10 credits
Mechanical Engineering 210, 230	10 credits
Philosophy 220	5 credits
Physics 202	5 credits
Science Elective	5 credits

Junior year

Civil Engineering 311, 323, 324, 331, 335, 337, 351, 353, 371	30 credits
Computer Science 230	3 credits
Mechanical Engineering 321	4 credits
Social Science I	5 credits
Theology and Religious Studies I	5 credits

Senior year

Civil Engineering 402, 445, 473, 487, 488, 489 and electives	39 credits
Engineer-in-Training Examination	0 credits
Ethics	5 credits
Theology and Religious Studies II	5 credits
Total	192 credits

Civil Engineering Courses

CE 291 Special Topics **1-5 credits**
(ECL 291)
CE 292 Special Topics **1-5 credits**
(ECL 292)
CE 293 Special Topics **1-5 credits**
(ECL 293)

CE 221 Strength of Materials I **4 credits**
(ECL 321) Mechanics of solid deformable bodies; relationships between the external forces acting on elastic bodies and the stresses and deformations produced. Members subjected to tension, compression, flexure and torsion. Four lecture hours per week. Prerequisite: ME 230, MT 232, 233. (fall, spring)

CE 222 Strength of Materials Laboratory I **2 credits**
(ECL 322) Laboratory experiments on the mechanics of solid deformable bodies and the relationships between tension, compression, flexure and torsion. Four hours per week. Pre- or corequisite: CE 221. (fall, spring)

CE 311 Engineering Mesurements **5 credits**
(ECL 211) Engineering measurements as applied to civil engineering. Planning for surveys, introduction to photogrammetry. Public Land and State Plane Coordinate Systems. Four lecture and one laboratory period per week. Prerequisites: MT 111, 115, ME 105. (spring)

EC 323 Strength of Materials II **4 credits**
(ECL 323) Continuation of the mechanics of solid deformable bodies. Beam topics, stability of columns, combined stresses and strains, fatigue and energy relationships. Prerequisites: CE 221, 222, MT 234. (fall, winter)

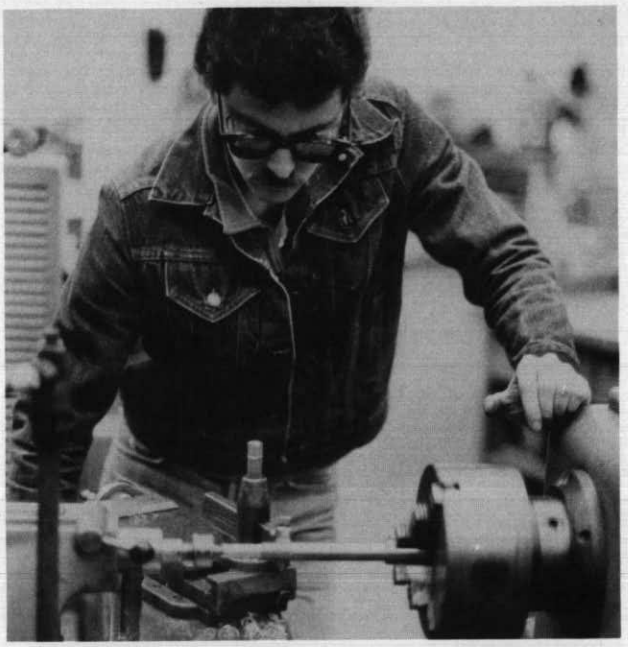
CE 324 Strength of Materials Laboratory II **2 credits**
(ECL 324) Laboratory experiments on the mechanics of solid deformable bodies and the stresses and deformations produced. Members under tension, compression, torsion, flexure and buckling. Composite structures. Fatigue. One lecture and four laboratory hours per week. Pre- or co-requisite: CE 323. (fall, winter)

CE 331 Fluid Mechanics **4 credits**
(ECL 331) Fluid statics and dynamics. Topics include fluid properties, continuity equation, Euler's equation; laminar and turbulent flow regimes. Prerequisites: ME 230, MT 234. (fall, winter)

CE 335 Applied Hydraulics **4 credits**
(ECL 335) Weekly student projects in the field of incompressible flow; pump design, hydrographic studies, graphical analysis of overflow or spillway design, model studies, open channel flow. Prerequisite: CE 331. (winter)

CE 337 Fluids Laboratory **2 credits**
(ECL 337) Experimental calibration of various flow meters, loss coefficients and pipe friction factors. Experimental verification of various principles of fluid mechanics. One lecture and one four-hour laboratory per week. Prerequisite: CE 331. (winter, spring)

CE 351 Engineering Geology **3 credits**
(ECL 351) Elementary study of the material structure and internal condition of the earth and of the physical and chemical processes at work upon and within it. Three lecture hours per week. (winter)



CE 353 Soil Mechanics and Foundations **3 credits**
(ECL 353) Engineering properties of soils; consolidation, shear strength, permeability. Fundamentals of slope stability and earth pressure theories. Fundamentals of foundation design. Two lecture and one laboratory session per week. Prerequisites: CE 221, 222, 351. (spring)

CE 371 Water Resources I **3 credits**
(ECL 371) Conception, planning, design, construction, and operation of facilities to control and utilize water. Stream and flood analysis. Prerequisite: CE 331. (spring)

CE 391 Special Topics **1-5 credits**
(ECL 391)
CE 392 Special Topics **1-5 credits**
(ECL 392)
CE 393 Special Topics **1-5 credits**
(ECL 393)

CE 402 Engineering Economy **3 credits**
(ECL 402) Elements of immediate and long-term economy of facility design, construction, and maintenance; interest rates, present worth and prospective return on investment; depreciation and replacement studies. Prerequisite: Senior standing. (fall, winter)

CE 403 Project and Systems Management **5 credits**
(ECL 403) Introduction to project and construction management. How to plan and organize these services. Network scheduling, contracting procedures, risk analysis and estimating. Prerequisite: Senior standing. (spring)

CE 445 Structural Mechanics **5 credits**
(ECL 445) Classical and matrix methods in structural mechanics. Basic structural theory in both classical and matrix notation. Introduction to structural computer programs. Prerequisite: CE 323, 324. (fall)

CE 447 Structural Design I **5 credits**
(ECL 447)

CE 449 Structural Design II **5 credits**
(ECL 449) Design of basic structural members and connections. Specific structural design building codes. I. Steel design. II. Reinforced and prestressed concrete design. Prerequisites: CE 445 for I, 447 for II. (I. winter, II. spring)

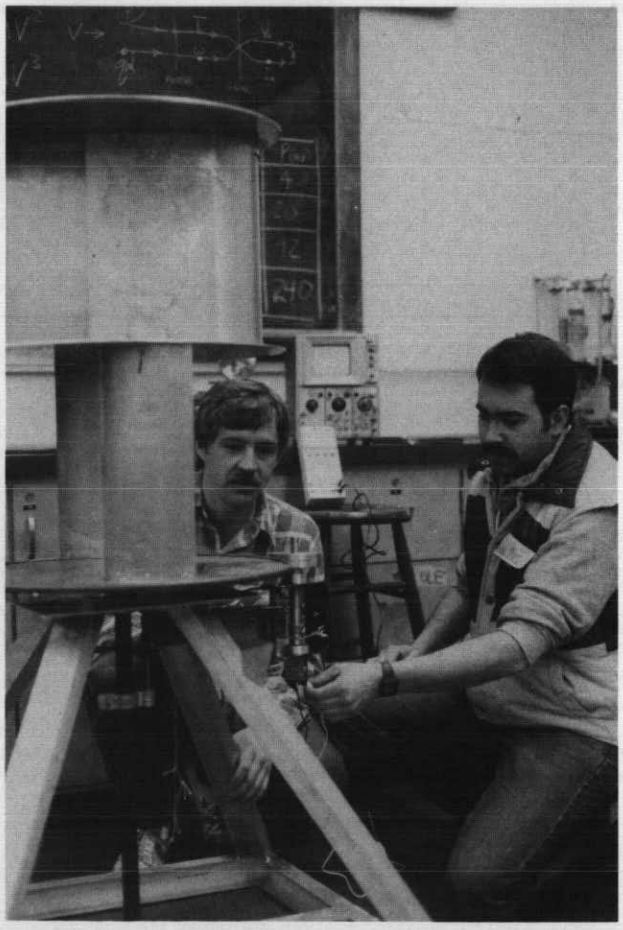
CE 461 (ECL 461) Introduction to Urban Transportation Engineering **4 credits**
Presentation of urban modes. Introduction to planning. Environmental issues and citizen participation. Three lectures and three engineering design laboratory hours per week. Prerequisite: Senior standing. (fall)

CE 463 (ECL 463) Transportation Planning **4 credits**
Historical background. The planning process. Goals and objectives. Models. Impact of transportation decisions. Benefit/cost. Legal and political issues. Three lectures and three engineering design laboratory hours per week. Prerequisite: CE 461 (winter)

CE 465 (ECL 465) Fundamentals of Traffic Engineering **3 credits**
Terminology. Traffic control studies. Traffic control concepts on urban street systems. Surveillance. Detectors. Local controllers. Design plans and specifications. Three lectures per week. Prerequisite: CE 463. (spring)

CE 466 (ECL 466) Traffic Engineering Laboratory **2 credits**
Experiments with the 15 Eagle Signal Traffic Controllers mounted on a frame to control the traffic flow in street system. The present street system is Waycross, Georgia. One four hour laboratory per week. Corequisite: CE 465. (spring)

CE 472 (ECL 471) Water Resources II **3 credits**
Geologic and hydrologic occurence of ground water, underground flow, and ground water supply. Other selected related topics. Prerequisite: CE 371. (fall)



CE 473 (ECL 485) Sanitary Engineering I **5 credits**

CE 474 (ECL 486) Sanitary Engineering II **5 credits**
I. Examination of water and waste. Physical treatment processes. Laboratory experiments in microbial, bacteriological and chemical examination of water and wastes. Chemical and biological treatment, sludge disposal, disinfection, reuse of water, comprehensive planning. Four lectures and one laboratory per week. II. Stream pollution and self-purification. Analysis of water and waste water. Four lectures per week plus one laboratory field trip each week. Prerequisites: CH 121, 131 for 473; CE 473 for 474. (I. fall, II. winter)

CE 475 (ECL 483) Industrial Waste and Hazardous Treatment **5 credits**
Design of waste treatment systems for industrial processes, especially as related to the Northwest industries. Four lectures and one laboratory per week. (spring)

CE 481 (ECL 481) Cold Regions Engineering **4 credits**
Engineering considerations in design of structures, utilities, and other facilities under cold climate conditions. Prerequisite: Senior Civil Engineering standing. (fall)

CE 487 (ECL 487) Engineering Design I **4 credits**
Design process, problem solving and decision making, modeling and simulation, optimization, economics, casting, reliability. Four lecture hours per week. Prerequisite: Senior standing. Corequisite: CE 402. (fall)

CE 488 (ECL 488) Engineering Design II **4 credits**
Group design project focusing on the integrative aspects of engineering subject matter. The project should focus on: (1) philosophy of design, a creative approach, and a comprehensive design project; planning, organizing and leading an engineering project, exercising judgment and considering economic facors; and (2) integrated aspects of creative design and analysis; case studies; design of a novel device or system. Two lecture and four design hours per week. Prerequisite: CE 487. (winter)

CE 489 (ECL 489) Engineering Design III **4 credits**
Continuation of CE 488. Two lecture and four design hours per week. Prerequisite: CE 488. (spring)

CE 491 (ECL 491) Special Topics **1-5 credits**

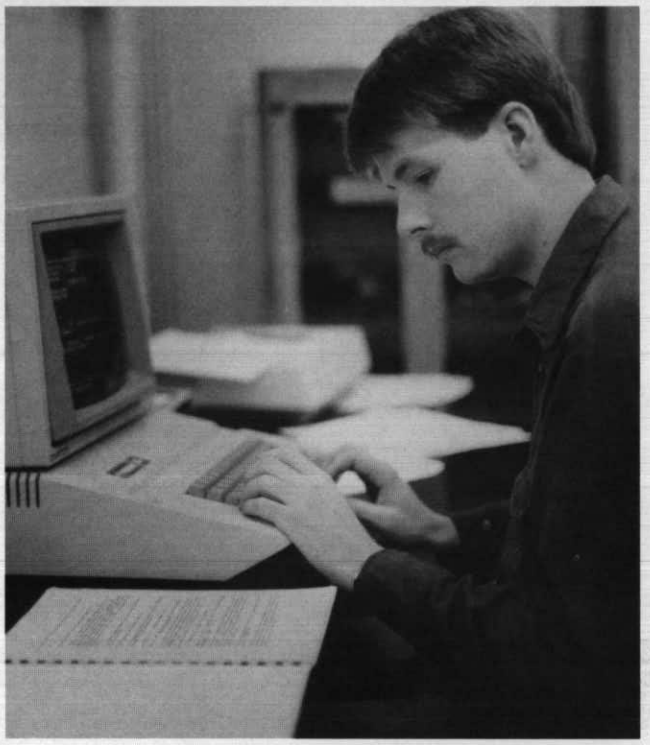
CE 492 (ECL 492) Special Topics **1-5 credits**

CE 493 (ECL 493) Special Topics **1-5 credits**

CE 496 (ECL 496) Independent Study **1-5 credits**

CE 497 (ECL 497) Independent Study **1-5 credits**

CE 498 (ECL 498) Independent Study **1-5 credits**



Computer Science

Everald E. Mills, Ph.D., Director

Objectives

The Computer Science Program provides four major functions. A rigorous Bachelor of Science in Computer Science degree prepares students for graduate study or professional careers involving computers and their applications in scientific and technical areas. A more flexible Bachelor of Arts degree prepares students for professional careers involving computer applications in less technical areas such as business or education. A minor in Computer Science provides students pursuing degrees in other areas with a solid background in the fundamental concepts and elementary applications of computer science. Finally, a suite of Computer Science courses caters to computer literacy amongst the general student population.

Majors interested in high school teaching may elect to complete a sequence of education courses leading to secondary teacher certification. 190 credits are required for certification. Additional details are contained in the School of Education listing in this Bulletin of Information.

Degrees Offered

Bachelor of Arts
Bachelor of Science in Computer Science
Master of Software Engineering — See Graduate Bulletin

General Program Requirements

Students in Computer Science must generally satisfy the core curriculum requirements of the University, as given on pages 26-28 of this Bulletin. However, computer science majors are not required to take the Fine Arts course.

Both the Bachelor of Arts and the Bachelor of Science in Computer Science degrees require completion of 15 credits of courses designated as Sequence Electives. The Sequence Electives are designed to orient the degree program toward a particular area of application. Standard Sequence Electives exist for Engineering, Mathematics, and Physics. Students may request approval of other course sequences as Sequence Electives. In any case, the Sequence Electives must be approved in advance by the Computer Science Department.

Standard Sequence Electives

The following course sequences are recommended as the standard Sequence Electives for the indicated departments or disciplines.

Computer Science

Department	Standard Sequence Electives
Engineering	EML 210 Statics (5) EML 230 Dynamics (5) EEL 315 Elements of Electrical Engineering (5)
Physics	PH 204 Relativity and Kinetic Theory (2) PH 205 Introduction to Quantum Physics (3) plus 10 additional credits in Physics courses numbered 300 or above. (10)
Mathematics	Any three of the following courses: MT 234 Differential Equations (4) MT 351 Probability (5) MT 411 Introduction to Abstract Algebra I (5) MT 437 Introduction to Complex Variables (5) MT 371 Introduction to Numerical Methods (5)

Students pursuing the Bachelor of Science in Computer Science degree and selecting the Mathematics Sequence Electives must complete four of the courses listed above.

Advanced Placement Credit

Students who have taken the Advanced Placement Test in computer science may petition the Department for advance credit on the basis of their test results. Advanced placement credit may be granted to students whose test scores are 3 or above.

Departmental Requirements

Bachelor of Arts — 45 credits in computer science which must include CSC 113 or 114, CSC 150, 170, 235, 250, 361, 362, 490, and 5 additional credits in Computer Science courses numbered 300 or above; MT 134, 135, and 222; and 15 credits of Sequence Electives.

Bachelor of Science in Computer Science — 60 credits in Computer Science which must include CSC 113 or 114, CSC 150, 170, 235, 240, 250, 310, 361, 362, 490, and 10 additional credits in Computer Science courses numbered 400 or above; MT 134, 135, 136, 222, 232, 233, and 234 or 351; EEL 387, 486, 487; PH 200, 201, 202; and 15 credits of Sequence Electives. Students in this program must maintain a cumulative grade point average and a computer science grade point average of 2.50.

Teaching Major (School of Education) — 45 credits in Computer Science and Mathematics which must include CSC 113 or 114, 150, 170, 235, 250 and 310; MT 134, 135 and 222.

Undergraduate Minor — 30 credits in Computer Science which must include CSC 113 or 114, 150, 170 or 180, 235, and at least 10 additional hours of Computer Science courses numbered 240 or above.

NOTE: For all of the above programs, courses numbered 300 or above require that all prerequisite Computer Science courses be completed with a grade of C or better.

Bachelor of Arts

Freshman Year

Computer Science 113 or 114, 150, 170 ..... 15 credits
English 110/Philosophy 110 sequence ..... 10 credits
History 120/English 120 sequence ..... 10 credits
Mathematics 134, 135 ..... 10 credits

Sophomore Year

Computer Science 235, 250 ..... 10 credits
Lab Science ..... 5 credits
Mathematics 222 ..... 5 credits
Philosophy 220/Social Science I ..... 10 credits
Electives ..... 15 credits

Junior Year

Computer Science 310*, 361, 362 ..... 15 credits
Core Options ..... 15 credits
Electives ..... 15 credits

Senior Year

Computer Science 490 ..... 5 credits
Sequence Electives ..... 15 credits
Core Options ..... 11-13 credits
Electives ..... 12-14 credits
Total ..... 180 credits

*Recommended Elective

Bachelor of Science in Computer Science

Freshman Year

Computer Science 113 or 114, 150, 170 ..... 15 credits
English 110/Philosophy 110 sequence ..... 10 credits
History 120-129 ..... 5 credits
Mathematics 134, 135, 136 ..... 15 credits

Sophomore Year

Computer Science 235, 240, 250 ..... 15 credits
English 120-129 ..... 5 credits
Mathematics 222, 232, 233, 234 or 351 ..... 15 credits
Physics 200, 201 ..... 10 credits

Junior Year

Computer Science 310, 361, 362 ..... 15 credits
Electrical Engineering 387, 486, 487 ..... 11 credits
Philosophy 220/Social Science I ..... 10 credits
Physics 202 ..... 5 credits
Social Science II ..... 5 credits

Senior Year

Computer Science 490 ..... 5 credits
Computer Science Electives ..... 10 credits
(Includes Interdisciplinary course and Senior Synthesis)
Core Options ..... 15 credits
(Ethics, Religious Studies I and II)
Sequence Electives ..... 14 or 15 credits
Total ..... 180 credits

Computer Science Courses

CSC 103 Introduction to Computers and Applications 5 credits
An introduction to computers. No prior experience with computers is assumed or required. The course includes an overview of computers and their applications to information processing. Students are introduced to the use of computers in word processing, spreadsheets and data base systems, and to elementary concepts of computer programming. (For students in the School of Business, CSC 103 may be substituted for CSC 113 or 114 as the general computer course requirement. Students in other departments which require CSC 113 or 114 should check with their department office to determine whether CSC 103 is acceptable as a substitute.) Four lecture and one laboratory hour per week. (fall, winter, spring)

CSC 113 Introductory Programming with BASIC 5 credits
An introductory course in computer programming using the BASIC language. Includes an overview of computers and their application to information processing. Emphasis on developing good programming style to solve representative problems on the computer. Four lecture and one laboratory hour per week. (fall, winter, spring)

CSC 114 Introductory Programming with FORTRAN 5 credits
An introductory course in computer programming using the FORTRAN language. Includes an overview of computers and their application to information processing. Emphasis on developing good programming style to solve example problems of various types. Programs will be developed and run on the computer as laboratory projects. Four lecture and one laboratory hour per week. Prerequisites: MT 101 or equivalent. (fall, winter)

CSC 150 Introduction to Computer Science 5 credits
An introduction to the fundamental concepts and areas of computer science. Topics include basic concepts of computer hardware and software, representation of data, and algorithm analysis and design. Various data and control structures are also discussed. Five lecture hours per week. Prerequisites: CSC 113 or 114. (fall, winter)

CSC 170 Intermediate Programming with PASCAL 5 credits
Continued development of programming skills through the writing, debugging and testing of a number of

intermediate level programs in PASCAL. Topics covered include basic aspects of string processing, recursion, search/sort methods and elementary data structures. Four lecture and one laboratory hour per week. Prerequisites: CSC 150, MT 135. (spring)

CSC 180 Intermediate Programming with COBOL 5 credits
Continued development of programming skills through the writing, debugging and testing of a number of intermediate level programs in COBOL. COBOL programming and data processing. Four lecture and one laboratory hour per week. Prerequisites: CSC 150. (spring)

CSC 230 FORTRAN for Engineers 3 credits
FORTRAN language including flowcharting, debugging, input/output, loops, arrays, and sub-programs. Introduction to numerical techniques. Laboratory programming assignments will be drawn primarily from the fields of engineering. Prerequisites: EML 230, MT 232 and MT 233. (fall, spring)

CSC 235 Computer Systems & Assembler Language 5 credits
Topics include elementary computer structure, machine languages, assembly language programming. Programming will be done in assembly language. Additional topics may include addressing techniques, macros, linkers, loaders, and assemblers. Four lecture and one laboratory hour per week. Prerequisites: CSC 170 or 180. (fall)

CSC 240 Introduction to Computer Organization 5 credits
Elementary concepts of computer logical design. Coding of information, number representations, and computer arithmetic. Basic concepts of computer architecture. Four lecture and one laboratory hour per week. Prerequisites: CSC 170, 235; MT 222. (winter)

CSC 250 Introduction to File Processing 5 credits
Topics include file processing environment, sequential accessing, random accessing techniques, related data structure concepts and file I/O. Laboratory projects will be designed to illustrate basic concepts. Four lecture and one laboratory hour per week. Prerequisites: CSC 170 or 180. (spring)

CSC 291 Special Topics 1-5 credits
CSC 292 Special Topics 1-5 credits
CSC 293 Special Topics 1-5 credits

CSC 296 Independent Study 1-5 credits
CSC 297 Independent Study 1-5 credits
CSC 298 Independent Study 1-5 credits

CSC 310 Data Structures and Analysis of Algorithms 5 credits
Concepts of data structures and analysis of their utilization in algorithm design. Graphs and applications of graphs, memory management, algorithm and system design and analysis. Four lecture and one laboratory hour per week. Prerequisites: CSC 170, 250; MT 222. (fall)

CSC 361 Elements of Software Engineering 5 credits
Basis and methods of software engineering. Traditional approaches to software development. Concerns of software engineering, including human factors. Overview of development of current methodologies. Prerequisite: CSC 250. (winter)

CSC 362 Methodologies of Software Engineering 5 credits
Comparative study of selected software methodologies. Current developments and trends in software development. Prerequisite: CSC 361. (spring)

CSC 420 Introduction to Database Systems 5 credits
Introduction to database concepts, the need for database management systems, survey of DBMS systems and their use. Elementary concepts of DBMS architecture and design. Four lecture and one laboratory hour per week. Prerequisite: CSC 310.

CSC 440 Operating Systems and Architecture 5 credits
Topics include basic concepts of machine structures, dynamic processes, system structures, memory management, process management, security, recovery techniques. Prerequisites: CSC 240, 310.

CSC 445 Computer Architecture 5 credits
Classical (von Neumann) architecture, addressing schemes, stack oriented design, array processors, pipeline machines and parallel processing are among the topics which may be covered. Prerequisites: CSC 440; EEL 487.

CSC 450 Theoretical Foundations of Computer Science 5 credits
Formal mathematical basis of computer science. Topics include set theory, recursive functions, sequential machines, regular sets, formal languages, Turing machines and concepts of computability. Prerequisites: CSC 310; MT 233.

CSC 460 Programming Languages 5 credits
Language definition mechanisms, types and structure of languages, data and control structures, implementation issues, parsing and translation considerations. Prerequisite: CSC 310.

CSC 470 Artificial Intelligence 5 credits
Topics include representations of data, knowledge and algorithms, search strategies, processing considerations, classical problems in A.I., and applications. Prerequisite: CSC 310.

CSC 485 Translation of Programming Languages 5 credits
Formal language definitions and descriptions, syntax, semantics, parsing and translating techniques. Prerequisites: CSC 460.

CSC 490 Senior Project 5 credits
This course is to be the capstone project for the CS major. The project should involve application of most of the major concepts taught in previous courses. Prerequisites: Senior standing in Computer Science.

CSC 491 Special Topics 1-5 credits
CSC 492 Special Topics 1-5 credits
CSC 493 Special Topics 1-5 credits

CSC 496 Independent Study 1-5 credits
CSC 497 Independent Study 1-5 credits
CSC 498 Independent Study 1-5 credits

Electrical Engineering

Robert G. Heeren, Ph.D., Chairperson

Objectives

Electrical engineering is concerned with the utilization of electrical energy and electronic signals for the benefit of society. The profession of electrical engineering is scientifically based and design oriented rather than technological in character. As such, its practice draws heavily from the areas of mathematics, physics, and the other natural sciences as well as other branches of engineering.

The Electrical Engineering program strives to provide a broad foundation based upon mathematical and scientific principles that will prepare the graduate for a productive lifelong career in any of the various sub-fields of the engineering profession. The Electrical Engineering Department is teaching-oriented and offers an undergraduate program that focuses on an integrated, traditional perspective of the electrical engineering profession.

The curriculum spans the subspecialities of electrical engineering with courses in communications and control theory, digital systems and microprocessors, electronic circuits, electromagnetic fields and waves, engineering design, networks, power generation and distribution, signal processing, and solid state devices. The student interested in a career in any specialty within the broad confines of electrical engineering is given sufficient preparation in a well balanced program of study. The hallmark of the senior year is the capstone engineering design experience where student design teams propose and implement multi-disciplinary engineering design projects.

The electrical engineering program provides an integrated base for those graduates who choose to enter professional practice in electrical engineering directly upon graduation and a rigorous preparation for those who choose to go on to graduate study in electrical engineer.

Degree Offered

Bachelor of Science in Electrical Engineering

General Program Requirements

Students in Electrical Engineering must satisfy the core curriculum requirements of the University as given on pages 26-28 of this Bulletin, except for the requirement in Fine Arts. Electrical Engineering students take CE 402 to substitute for the requirement in Social Science II.

Departmental Requirements

Bachelor of Science in Electrical Engineering — 78 credits in electrical engineering which must include EE 201, 210, 304, 311, 312, 320, 321, 327, 328, 331, 360, 403, 450, 457, 467, 487, 488, and 489. Also required are CE 402; CH 121 and 131; CSC 230; ME 105, 107, and 215; MT 134, 135, 136, 232, 233, and 234; Ph 200, 201, 202, 205, and 330. Departmental candidacy must be achieved prior to being granted entry into EE 311, 320, and 327. Candidacy is achieved by successfully completing all required 100 and 200 level CSC, EE, ME, MT, and PH courses and EN 110 with a combined grade point average of at least 2.50. Only courses graded 2.0 (C) or better may be transferred into the Department to offset degree requirements; only 100 and 200 level courses will be transferred except for EE 210 which may not be satisfied by a transferred course. Required 300 and 400 level courses have Departmental Candidacy in one of the engineering departments as well as the specific courses as prerequisites. Taking the Washington State Engineer-in-Training (EIT) examination is required for the degree. This degree is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

Bachelor of Science in Electrical Engineering

The Electrical Engineering Student Handbook contains scheduling information.

Freshman Year

English 110/Philosophy 110 sequence	10 credits
History 120	5 credits
Mathematics 134, 135, 135	15 credits
Mechanical Engineering 105, 107	5 credits
Physics 200, 201	10 credits

Sophomore Year

Chemistry 121, 131	5 credits
Computer Science 230	3 credits
Electrical Engineering 201, 210	9 credits
English 120	5 credits
Mathematics 232, 233, 234	10 credits
Mechanical Engineering 215	5 credits
Physics 202, 205	8 credits
Philosophy 220	5 credits

Junior Year

Electrical Engineering 304, 311, 312, 320, 321, 327, 328, 331, 360	33 credits
Physics 330	5 credits
Social Science I	5 credits
Theology and Religious Studies I	5 credits

Senior Year

Civil Engineering 402	3 credits
Electrical Engineering 403, 450, 457, 467, 487, 488, 489	24 credits
Electrical Engineering Electives	12 credits
Ethics	5 credits
Theology and Religious Studies II	5 credits
Engineer-in-Training Examination	0 credits
Total	192 credits

Electrical Engineering Curricular Blocks

Courses taken to fulfill requirements toward the BSEE degree are grouped together into four interrelated curriculum blocks. The Engineering Common Studies Program is essentially standard across the Departments of Civil, Electrical, and Mechanical Engineering; the capstone design sequence is multi-disciplinary in character and thus cuts across interdepartmental lines. The Electrical Engineering Core Curriculum forms the scientific foundation upon which all advanced Electrical Engineering courses are built. The Electrical Engineering Advanced Requirements extend the Electrical Engineering Core in specific technical directions of departmental strength. The Electrical Engineering Advanced Electives make available technical knowledge when sufficient interests exists in the student body to warrant a course offering; topics not listed by course may be offered as Special Topics.

Engineering Common Studies Program — 118 credits. University Core Curriculum; CH 121, 131; CSC 230; EE 487, 488, 489; MT 134, 135, 136, 232, 233, 234; PH 200, 201 202; ME 105, 107, 215.

Electrical Engineering Core Curriculum — 39 credits. EE 201, 210, 311, 312, 320, 321, 327, 328, PH 205, 330. Prerequisite Block: CSC 230; ME 105, 107, 215; MT 134, 135, 136, 232, 233, 234. Offered twice annually.

Electrical Engineering Advanced Requirements — 33 credits. EE 304, 331, 360, 403, 450, 457, 467. Prerequisite Block: EE Core Curriculum plus designed courses. Offered twice annually.

Electrical Engineering Advanced Electives — 12 credits. Three 400 level engineering and/or natural science courses at least two of which must be from the following: EE 414, 432, 440, 451, 462, 470, 491(2)(3), 496(7)(8). Prerequisite Block: EE Core Curriculum plus designed courses.

Electrical Engineering Courses

All courses are numbered under a logical system which relates the technical content of lecture and laboratory courses to sub-fields of the electrical engineering profession. The hundreds digit indicate the nominal year in which the course is scheduled. The tens digit denotes the technical topic area according to the following listing. The units digit specifies the course uniquely and identifies lecture and laboratory courses as well.

Left Digit

1	Freshmen
2	Sophomore
3	Junior
4	Senior

Middle Digit

0	Digital/Computer	5	Power/Energy
1	Circuits	6	Communications
2	Electronics	7	Measurements
3	E/M Fields	8	Design
4	Controls	9	Independent Study/ Special Topics

Right Digit

0 — 6	Lecture and lecture/laboratory
7 — 9	Laboratory

EE 201 (EEL 105) **Digital Operations and Computation** **4 credits**
Digital processing of information and data, number systems, Boolean algebra; design of hardware for registers, counting and arithmetic operations; organization of computers, storage and input/output. Introduction to simple logic circuits. Elementary concepts of programming and assembly language. No prerequisites. (fall, winter, spring)

EE 210 (EEL 301) **Electrical Circuits I** **5 credits**
Fundamental concepts and units, Kirchoff's laws, mesh nodal analysis, equivalent circuits, linearity and superposition; first and second order circuits; natural and forced responses, initial condition; Laplace transformation techniques. Prerequisites: MT 233, PH 201. Corequisite: MT 234. (fall, spring)

EE 296 **Independent Study** **1-5 credits**
EE 297 **Independent Study** **1-5 credits**
EE 298 **Independent Study** **1-5 credits**

EE 302 (EEL 387) **Computer Logic Design** **5 credits**
Basic concepts of design and analysis of digital computer, systems — including binary systems, coding, Boolean algebra, logic gates, combination logic, sequential logic, register and control concepts. Four lecture and one laboratory per week. An introductory course for computer science majors; may not be taken for credit toward the BSEE degree. Prerequisites: CSC 240, MT 233, PH 202. (winter)

EE 304 (EEL 487) **Microprocessor Design** **4 credits**
Design of electrical digital components and systems which employ microprocessors. Assembly language programming, peripheral access memory, interfacing the microprocessor to the external system. Three lectures and one four-hour laboratory. Prerequisites: EE Core Curriculum; or EE 302. (fall, spring)

EE 311 (EEL 303) **Electrical Circuits II** **4 credits**
The sinusoidal steady-state; phasors and impedance; system functions and the s-plane; analytical and graphical techniques of frequency response description, Bode diagrams; two-port analysis; AC power; introduction of the digital computer in circuit analysis and dsign. Prerequisite: EE 210 and departmental candidacy. (fall, winter)

EE 312 (EEL 421) **Linear System Analysis** **4 credits**
Continuous and discrete time signals. Mathematical representation of systems by differential and difference methods. Fourier series and Fourier transforms. Introduction to filtering, sampling and Z-transforms. Prerequisite: EE 311. (winter, spring)

EE 315 (EEL 315) **Elements of Electrical Engineering** **5 credits**
An introductory course to subjects of electrical engineering. Basic circuit theory; linear systems; steady-state solutions; Laplace transform and transient analysis; Boolean algebra, logic gates, combinational and sequential logic; magnetic fields, transformers, and energy conversion. An introductory course for engierneering and natural science students not majoring in electrical engineering. Prerequisites: ;MT 234 and PH 201. (fall, winter)

EE 320 (EEL 341) **Electronics I** **5 credits**
Analysis and design of elementary electronic circuits including linear circuits, operational amplifiers, nonlinear circuits, and digital circuits. Introduction to bipolar and field effect devices and characteristics. Prerequisite: EE 210. Corequisite: EE 311. (fall, winter)

EE 321 (EEL 343) (EEL 349) **Electronics II** **5 credits**
Continuation of EE 320. Field effect and bipolar devices. Transistor amplifiers, frequency response, feedback, analog integrated circuits, introduction to oscillators, logic families, introduction to memory circuits. Prerequisite: EE 320. (winter, spring)

EE 327 (EEL 304) **Electrical Circuits Laboratory** **2 credits**
A laboratory covering the principles of electrical and electronic circuits. Electronic instrumentation and general practice. Principles of technical communication. One hour lecture and one four-hour labortory per week. Prerequisite: EE 210. Corequisites: EE 311 and EE 320. (fall, winter)

EE 328 (EEL 346) (EEL 448) **Electronic Circuits Laboratory** **2 credits**
Continuation of EE 327. Emphasis on solid-state circuits both analog and digital. Prerequisite: EE 327. Corequisite: EE 321. (winter, spring)

EE 331 (EEL 451) **Distributed Systems** **4 credits**
Analysis of distributed systems; steady-state and transient analysis of loss-less lines, lossy lines; waveguides. Prerequisite: EE Core Curriculum. (fall, spring)

EE 360 (EEL 485) **Communication Systems** **3 credits**
Analysis and design of signal transmission systems that include amplitude, phase, frequency and pulse modulation. Sub system synthesis and design with comparative analysis. Communication in the presence of noise. Prerequisites: EE Core Curriculum. (fall, spring)

EE 361 (EEL 486) **Data Communications** **2 credits**
An introduction to computer network concepts and problems of data communication in distributed computer systems. Two lectures per week. For computer science majors; may not be taken for credit toward the BSEE degree. Prerequisite: EE 302. (spring)

EE 391 **Special Topics** **1-5 credits**
EE 392 **Special Topics** **1-5 credits**
EE 393 **Special Topics** **1-5 credits**

EE 396 **Independent Studies** **1-5 credits**
EE 397 **Independent Studies** **1-5 credits**
EE 398 **Independent Studies** **1-5 credits**

EE 403 (EEL 433) **Digital Signal Processing** **4 credits**
Linear, time invariant, discrete systems; finite moving average and recursive digital filters; Z-transform; discrete Fourier transform; fast Fourier transform. Prerequisite: EE Core Curriculum. (fall, winter)

EE 414 (EEL 465) **Active Networks and Filters** **4 credits**
Design of active filters. Operational amplifier circuits. Approximation of frequency response charactertistics. Sensitivity. Frequency transformations. Active two-port networks. Simulations of passive elements. Switched capacitor filters Prerequisite: EE Core Curriculum.

EE 432 (EEL 467) **Microwave Systems** **4 credits**
Propagation of electromagnetic waves and interaction with materials, guided waves, and passive and active devices, microstrip and integrated circuits. Prerequisite: EE Core Curriculum. Corequisite: EE 331.

EE 440 (EEL 461) **Control Systems** **4 credits**
Fundamentals of classical and modern system theory; analysis and design of closed-loop systems with emphasis on stability and transient response using Nyquist, Bode, root-locus, and state-space techniques. Prerequisites: EE Core Curriculum, EE 403 and 450.

EE 450 (EEL 435) **Electromechanical Energy Conversion** **4 credits**
Electromechanical energy conversion principles and design. Application and details of electromechanical devices such as relays, transformers, rotating machinery and special devices. Prerequisites: EE Core Curriculum, EE 331. (fall, winter)

EE 451 (EEL 471) **Power Systems** **4 credits**
Analysis of power systems: symmetrical components, power system parameters, steady-state operation, faults, economic operation. Prerequisites: EE Core Curriculum, EE 450. Corequisite: EE 331.

EE 457 **Electromechanical Energy Conversion Laboratory** **2 credits**
A laboratory covering the principles and practice of electromechanical energy conversion devices. Prerequisite: EE Core Curriculum, EE 450. (winter, spring)

EE 462 (EEL 469) **Modern Optics** **4 credits**
An introduction to modern optics consisting of Huygens principle, diffraction, Fourier optics and image processing, optical cavities, interferometry, planar waveguides, integrated optics and fibers. Prerequisites: EE Core Curriculum; or PH 331. Corequisite: EE 331 or PH 331.

EE 467 **Communications Laboratory** **2 credits**
A laboratory covering basic principles of encoding, modulation, and transmission of electronic signals. Principles of technical communications will be stressed. One hour lecture and one four-hour laboratory per week. Prerequisites: EE Core Curriculum, EE 331. Corequisite: EE 360. (fall, winter)

EE 470 **Automated Testing** **4 credits**
Theory and application of General Purpose Interface Bus (GPIB) systems. Description of the IEEE-488/1980 standard. Emphasis on logical organization of the system and its application to representative test situations. Two lectures and one four-hour laboratory per week. Prerequisites: EE Core Curriculum, or EE 315.

EE 487 **Engineering Design I** **4 credits**
Design process, problem solving and decision making, modeling and simulation, optimization, economics, costing, reliability. Four lectures per week. Prerequisites: Senior standing; EE Core Curriculum. Corequisite: CE 402. (fall, winter)

EE 488 (EEL 478) **Engineering Design II** **4 credits**
Group design project focusing on the integrative aspects of engineering subject matter. The project should focus on: (1) philosophy of design, a creative approach, and a comprehensive design project; planning, organizing and leading an engineering project; exercising judgment and considering economic factors; and (2) integrated aspects of creative design and analysis; case studies; design of a novel device or system. Two lecture and four design hours per week. Prerequisite: EE 487. (winter, spring)

EE 489 **Engineering Design III** **4 credits**
Continuation of ME 488. Two lecture and four design hours per week. Prerequisite: EE 488. (spring, fall)

EE 491 **Special Topics** **1-5 credits**
EE 492 **Special Topics** **1-5 credits**
EE 493 **Special Topics** **1-5 credits**

EE 496 **Independent Studies** **1-5 credits**
EE 497 **Independent Studies** **1-5 credits**
EE 498 **Independent Studies** **1-5 credits**
Independent study by student of mutual interest to student and an instructor. Enrollment is limited and open only to students who have discussed a proposed topic or course of study in considerable depth with both instructor and chairman. May be used as an Advanced Elective with departmental permission.

General Science

Robert J. Smith, B.S., Director

Objectives

The General Science program provides special opportunities to students interested in interdisciplinary fields such as ecology, environmental science, global studies, and premedical or predental studies; or in special programs of study which differ significantly from the established programs in other departments. The program provides a broad background in the basic sciences. Judicious use of electives permits the student to specialize in other technical areas such as computer science or in business. Each student's curriculum is tailor-made in consultation with the Director of the Program.

A prime objective is to provide students with a better understanding of the human ramifications of science and technology and to help them think realistically and creatively about intellectual, moral, and social issues related to science and technology.

Degree Offered

Bachelor of Science in General Science

General Program Requirements

Students in General Science must satisfy the core curriculum requirements of the University as given on pages 26-28 of this bulletin.

Departmental Requirements

Bachelor of Science in General Science — 90 credits chosen from the following fields; allied health technology, biology, chemistry, computer science, health information administration, interdisciplinary science, mathematics, physics, psychology, and engineering. For this purpose all engineering courses are considered as being in one field. (Only Psy 201, 330 and 401 can be counted toward an interdisciplinary science degree.) At least 30 credits must be in one of these fields, 20 credits in a second field, 10 credits each in biology, chemistry, mathematics, and physics (chosen from the following allowed combinations of courses), and 5 credits in computer science.

Biology:	BL 165, 166, 167, 190, 200, 210
Chemistry:	CH 101 and 102; 121, 122, 131 and 132
Mathematics:	MT 111 and 131; 118 and 130; 134 and 135.
Physics:	PH 105 and 106; 200 and 201

At least 10 credits must be from 300 or 400 level courses. A further 15 hours must be from 300, 400, or approved 200 level courses. This may require prerequisites beyond the minimal degree requirements. The approved 200 level courses are CH 219, 241, 242, 243, 251, 252; MT 232, 233, 234; and PH 202, 204 and 205.

Majors interested in high school teaching may elect to complete a sequence of education courses leading to secondary teacher certification. 190 credits are required for certification. Additional details are contained in the School of Education listing in this Bulletin of Information.

Interdisciplinary Science Courses

ISC 110 Science, Technology and Society **5 credits**
The study of the nature and structure of science and technology, the interactions of science and technology and the impact of science and technology on society. Four hours lecture/discussion and two laboratory hours per week.

ISC 201 To Feed the World **5 credits**
The history, production, and distribution of food from the perspectives of paleontology, archaeology, anthropology, ecology, biology and chemistry; modes of scientific examination and interpretation; interrelationships of science, technology and human needs. Team taught. Active participation by students: lectures, discussions, student projects.

ISC 202 To See The Light **5 credits**
A hands-on approach to the nature and uses of light: the many faces of light as seen by philosophers, artists and scientists; theories of color; physiology and psychology of perception, light and color in art; laser optics; camera systems; current optical technology; "light" student projects. Three hours lecture/discussion and one four-hour laboratory/field trip per week.

ISC 205 Biophysical Principles **5 credits**
Inter-relationships between biology, earth science and physical science as applied to the teaching of elementary level science. Credits not applicable for biology major. Three lecture and four laboratory hours per week.

ISC 207 Air and Water **5 credits**
A consideration of the causes and control of air pollution. Water resources, present and future. The pollution of water. Water treatment. Desalting of water. The role of technology in the deterioration of the environment and its restoration. (fall)

ISC 208 Sun, Food and People **5 credits**
Introduction to ecology. The flow of solar energy through the ecosystem and the effect of this on food production. The food chain. The supply and demand of food. Pesticides and fertilizers. Past, present and future trends in human population. (winter)

ISC 209 Energy and Mineral Resources **5 credits**
The supply, demand and resources of energy and minerals. Patterns of energy use. Fossil fuels, water power, atomic energy, their use and abuse. Renewable forms of energy. Conservation. Program for the future. Mineral resource depletion, an embryonic crisis. Solid waste and recycling. (spring)

ISC 296 Independent Study **1-5 credits**
ISC 297 Independent Study **1-5 credits**
ISC 298 Independent Study **1-5 credits**

ISC 310 Evolution: Development of a Theory **5 credits**
Basic statements and ideas of evolutionary theories from an interdisciplinary perspective. This will include both an historical perspective and a consideration of modern debates. Prerequisites: ISC 110 and one laboratory science course; or two science courses, one with laboratory experience.

ISC 320 Geology and Mineralogy of the Pacific Northwest **2 credits**
The general geologic setting and basic mineralogy of the Northwest. Weekend field trips are in conjunction with the Field Biology course. Prerequisites: Two laboratory science courses.

ISC 330 Field Biology of Washington **2 credits**
Life zones, habitats, and plants and animals of special interest in the State. Weekend field trips are in conjunction with the Geology and Mineralogy course. Prerequisites: Two laboratory science courses.

ISC 401 The Human Response to Science and Technology **5 credits**
A comparative-historical approach to the scientization of culture and its contemporary and projected consequences; critical evaluation of competing claims about science and technology as enlightening allies of human progress; a personal search for appropriate intellectual and ethical perspectives on science as a way of knowing and on technology as a way of living. Seminar format; guest lectures; small group paper conferences; student-led seminars. Prerequisites: Junior standing or higher, PL 220; HS 104 or 105.

ISC 496 Independent Study **1-5 credits**
ISC 497 Independent Study **1-5 credits**
ISC 498 Independent Study **1-5 credits**

Health Information Administration

Mary Alice Hanken, M.Ed., Chairperson

Objectives

The Health Information Administration program is designed to prepare the student for a career in an administrative health care profession by providing a comprehensive four-year program of liberal arts and science. In the fourth year emphasis is on professional activities and interaction with the health care industry. Special attention is given to computerization of health information. Students who complete the program are eligible for registration with the American Medical Record Association.

Degree Offered

Bachelor of Science in Health Information Administration

General Program Requirements

Students in health information administration must satisfy the core curriculum requirements of the University as given on pages 26-28 of this bulletin.

Certificate Program

Students who already possess a baccalaureate degree in any field may be eligible for the Certificate in Health Information Administration Program, as fifth year students. Prerequisites for admission to the certificate program are acceptable college credits in human anatomy and physiology (with laboratory), principles of digital computers, statistics, and management practices.

Departmental Requirements

Bachelor of Science in Health Information Administration — 55 credits in health information which must include HI 230, 322, 401, 402, 403, 425, 426, 440, 441, 455, 470, 475, 476, 477, and 480; 20 credits in biology or chemistry, which must include BL 200 and 210; 5 credits of mathematics; SPH 200 or 201; CSC 113 or 114; BUS 380; PSY 201 or SOC 201.

Students who have completed a program for medical record technicians, approved by the American Medical Association, may be placed in appropriate advanced Health Information Administration courses.

Certificate in Health Information Administration — 49 credits in Health Information, equivalent to HI 230, 322, 401, 402, 403, 425, 426, 440, 441, 455, 470, 475, 476, and 480.

Bachelor of Science in Health Information Administration

Freshman year

Biology or Chemistry elective	5 credits
English 110/Philosophy 110 sequence	10 credits
Fine Arts 120	5 credits
History 120/English 120 sequence	10 credits
Mathematics	5 credits
Elective	10 credits

Sophomore year

Biology or Chemistry elective	5 credits
Speech 200 or 201	5 credits
Health Information 230	5 credits
Computer Science 113 or 114 or 103	5 credits
Philosophy 220/Social Science I sequence	10 credits
Psychology 201	5 credits
Theology and Religious Studies I	5 credits
Electives	5 credits

Junior year

Biology 200, 210	10 credits
Business 380	5 credits
Ethics	5 credits
Health Information 475	5 credits
Health Information 401	5 credits
Social Science II	5 credits
Theology and Religious Studies II	5 credits
Electives	5 credits

Senior year

Health Information 322, 402, 403, 425, 426, 440, 441, 455, 470, 476, 477 and 480	36 credits
Health Information electives	4 credits
Elective	5 credits
Total	180 credits

Health Information Courses

HI 230 Health Care Delivery System 5 credits
An overview of the health care system in the United States. Facilities, organization and personnel with emphasis on current issues and trends; marketing of health care, distribution of services, cost containment, rise of the consumer, impact of the wellness movement. (fall)

HI 322 Medical Terminology 3 credits
Basic medical word structure. The role of medical terminology as a language in medicine. Correct spelling, pronounciation, and use of medical terms related to each body system. Medical reports. Prerequisite: BL 200, 210 or permission of instructor. (fall)

HI 401 Introduction to Health Records 5 credits
Development, present scope and future direction of the health record profession. Initial development of skills for record analysis and control, medical statistics, record, retrieval and disease coding. Prerequisite: BL 200, 210 or permission (fall)

HI 402 Management of Health Information Systems I 5 credits
HI 403 Management of Health Information Systems II5 credits
I. Coordination of record systems and information centers in health facilities. II. Use of standards de-

signed by JCAH, AMA, DHHS, and other agencies to raise level of health care quality; effects of standards on health record administration. Prerequisites: HI 401 and BUS 380 for I; and I for II. (I-winter, II-spring)

HI 425 **Medical Science I** **3 credits**
Systems approach introduction to general principles of disease and the disorders that affect the body as a whole. Genetic causes of disease, tissue damage, inflammation, infection, immune response, growth disorders, tumors, nutrition, metabolic disease, blood disorders, circulatory system. (winter)

HI 426 **Medical Science II** **3 credits**
Disorders that affect specific organ systems; heart, respiratory tract, digestive system, reproduction, liver, gall bladder, pancreas, endocrine glands, bones, joints and muscles, skin, special sences, mental illness, central nervous system. (spring)

HI 440 **Practicum** **2 credits**
HI 441 **Practicum** **2 credits**
Practicum is designed to help students develop themselves through utilizing opportunities to participate in current health information activities with professional medical record administrators and other professionals in the health field. Prerequisites: HI 401 for HI 440; HI 440 for 441. (fall, winter, spring, summer)

HI 455 **Professionalism and Leadership** **3 credits**
Professional development, interpersonal skills, negotiation, team building, organizational politics, constructive confrontation, effective communication methods, formal presentations, staff selection and motivation, performance standards, leadership and management assessment. (winter, spring)

HI 470 **Legal Concepts for Health Fields** **3 credits**
Principles of law as applied to the health field, with particular reference to all phases of medical record practice. (fall)

HI 475 **Health Information Computer Systems** **5 credits**
Systems analysis in health information with stress on computer resources in problem solving. Computerized patient information processes in clinical and administrative health care settings. Prerequisite: HI 401 (winter)

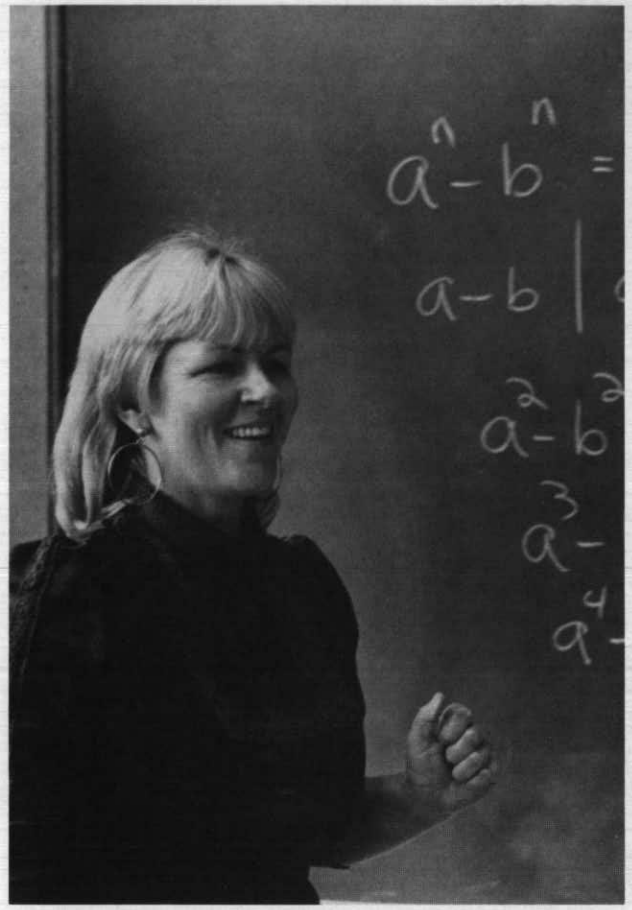
HI 476 **Health Information Computer Applications** **3 credits**
Analysis and evaluation of current computer applications in health information. Hospital computer systems, ambulatory care systems, community health networks and data base management systems including role of minicomputers and microprocessors. Prerequisite: HI 475. (spring)

HI 477 **Health Information Computer Applications Laboratory** **2 credits**
Health information case analysis using computers and microprocessors. Corequisite: HI 476. (spring)

HI 480 **Problem Solving and Decision Making — Seminar** **2 credits**
Prerequisite: HI 440. (winter, spring)

HI 491 **Special Topics** **2-5 credits**
HI 492 **Special Topics** **2-5 credits**
HI 493 **Special Topics** **2-5 credits**

HI 496 **Independent Study** **1-5 credits**
HI 497 **Independent Study** **1-5 credits**
HI 498 **Independent Study** **1-5 credits**



Mathematics

Mary B. Ehlers, Ph.D., Chairperson

Objectives

The Mathematics Department offers training in three distinct programs. The first, leading to the Bachelor of Science in Mathematics, prepares the student for advanced study and professional work in mathematics. The others are more flexible programs which provide for work in a secondary field and lead to either the Bachelor of Arts or the Bachelor of Science degree.

Majors interested in high school teaching may elect to complete a sequence of education courses leading to secondary teacher certification. 190 credits are required for certification. Additional details are contained in the School of Education listing in this Bulletin of Information.

Degrees Offered

Bachelor of Arts
Bachelor of Science
Bachelor of Science in Mathematics

General Program Requirements

Students in Mathematics must satisfy the core curriculum requirements of the University as given on pages 26-28 of this Bulletin.

Advanced Placement in Calculus

Students who have completed a college level course in calculus in high school and have taken the Advanced Placement test in calculus of the College Entrance Examination Board may petition the department for placement on the basis of their test results. Advanced placement and credit may be granted to students whose test scores are 3 or above. Advanced placement may also be obtained through departmental testing.

Departmental Requirements

Bachelor of Arts — 45 credit in mathematics which must include MT 134, 135, 136, 232, 233, 234, 222 or 310, 411 or 431, and 10 additional credits of approved upper division mathematics; CSC 113 or 114; and 15 credits in physical or life science, psychology or economics.

Bachelor of Science — 55 credits in mathematics which must include MT 134, 135, 136, 232, 233, 234, 222 or 310, 351 or 371, 10 credits from MT 411, 412, 431 and 432 and 10 additional credits of upper division mathematics; CSC 113 or 114; and 30 credits of physical or life science, psycology or economics.

Bachelor of Science in Mathematics — 68 credits in mathematics which must include MT 134, 135, 136, 232, 233, 234, 222 or 310, 351 or 371, 411, 412, 413, 431, 432, 433, 481 and five additional credits in mathematics numbered 222 or higher; and 15 credits of sequence electives in physics, economics, or computer science. In certain circumstances, with approval of the chairman, 15 credits of upper division work in a physical science may be substituted for 15 credits in mathematics. Students in this program must maintain a cumulative grade point average and a mathematics grade point average of 2.50.

Teaching Major (School of Education) — 45 credits in mathematics or computer science which must include MT 134, 135, 136, 232, 233, 321 or 322, 351, CSC 113 or 114, one of MT 222, 310, 315, 381, 411, and 4 credits of approved mathematics or computer science electives beyond college algebra. In addition, MT 200 is recommended for those who are considering middle school or junior high school teaching.

Undergraduate Minor — 30 credits in mathematics which must include MT 134, 135, 136 and 15 credits or approved mathematics numbered 222 or higher.

NOTE: For all of the above programs, courses numbered 300 or above require that all prerequisite Mathematics courses be completed with a grade of C or better.

Bachelor of Arts

Freshman year

English 110/Philosophy 110 sequence	10 credits
Fine Arts 120	5 credits
History 120/English 120 sequence	10 credits
Mathematics 134, 135, 136	15 credits
Laboratory Science	5 credits

Sophomore year

Computer Science 113 or 114	5 credits
Mathematics 232, 233, 234	10 credits
Philosophy 220/Psychology 120 sequence	10 credits
Physical or Life Science, Psychology or Economics	15 credits
Social Science II	5 credits

Junior year

Ethics	5 credits
Mathematics 222 or 310 and Electives	10 credits
Theology and Religious Studies I and II	10 credits
Electives	20 credits

Senior year

Interdisciplinary course	3 credits
Mathematics 411 or 431 and elective	10 credits
Senior Synthesis	3 credits
Electives	29 credits
Total	180 credits

Bachelor of Science

Freshman year

English 110/Philosophy 110 sequence	10 credits
History 120/English 120 sequence	10 credits
Mathematics 134, 135, 136	15 credits
Physical Life Science, Psychology or Economics	5 credits
Laboratory Science	5 credits

Sophomore year

Fine Arts 120	5 credits
Mathematics 232, 233, 234 and 322 or 310	15 credits
Philosophy 220/Psychology 120 sequence	10 credits
Physical or Life Science, Psychology or Economics	5 credits
Social Science II	5 credits
Electives	5 credits

Junior year

Mathematics 351 or 371 and electives	15 credits
Physical or Science, Psychology or Economics	20 credits
Theology and Religious Studies I and II	10 credits

Senior year

Computer Science 113 or 114	5 credits
Ethics	5 credits
Interdisciplinary course	3 credits
Mathematics 411, 412, 431 or 432	10 credits
Senior Synthesis	3 credits
Electives	19 credits
Total	180 credits

Bachelor of Science in Mathematics

Freshman year

English 110/Philosophy 110 sequence	10 credits
Fine Arts 120	5 credits
History 120/English 120 sequence	10 credits
Laboratory Science	5 credits
Mathematics 134, 135, 136	15 credits

Sophomore year

Mathematics 232, 233, 234, and 222 or 310	15 credits
Philosophy 220/Psychology 120 sequence	10 credits
Sequence elective	5 credits
Social Science II	5 credits
Electives	10 credits

Junior year

Ethics ..... 5 credits
Mathematics 411, 412, 413 or
431, 432, 433 ..... 13 credits
Sequence electives ..... 10 credits
Theology and Religious Studies I and II ..... 10 credits
Electives ..... 7 credits

Senior year

Interdisciplinary course ..... 3 credits
Mathematics 351 or 371, 431, 432, 433
or 411, 412, 413, 481 and electives ..... 25 credits
Senior Synthesis ..... 3 credits
Electives ..... 14 credits
Total ..... 180 credits

Proper Sequence for Taking Courses

The normal sequence of elementary mathematics courses is MT 101; MT 111 or MT 118; MT 130, MT 131 or MT 134; MT 135; and MT 136. A student, who has received a C or better in any course of this sequence or its equivalent, cannot subsequently receive credit for a course which appears before it in the sequence. A student may not receive credit for more than two courses among MT 101, MT 107, and MT 200. A student may not receive credit for more than one course from each of the following groups: MT 111 and 118; MT 130, MT 131 and MT 134. A student who has taken MT 130 or MT 131 and is required due to a change of major to take MT 134 as preparation for MT 135 will receive credit for both MT 130 (or MT 131) and MT 134. Credit for MT 134 will be contingent on successful completion of MT 135.

Mathematics Courses

MT 101 Intermediate Algebra 5 credits
Sets and numbers, polynomials, fractions, linear equations and inequalities, exponents, quadratic equations and inequalities; systems of equations; functions and graphing. Prerequisite: One year each of high school algebra and geometry. (fall, winter, spring)

MT 107 Mathematics: A Practical Art 5 credits
General introduction to logic, sets, probability, statistics, algorithmic processes and other selected topics. Hands-on experience with microcomputers. Emphasis on development of quantitative skills. Prerequisite: One year each of high school algebra and geometry. (fall, winter)

MT 111 College Algebra 5 credits
Inequalities, algebra of functions, graphs, exponential and logarithmic functions, theory of equations, mathematical induction. Prerequisite: MT 101 or qualifying examination. Credit not granted for both MT 111 and MT 118. (fall, winter)

MT 115 Trigonometry 2 credits
Radian measure, trigonometric functions and their graphs, identities, trigonometric equations, inverse trigonometric functions, complex numbers. Prerequisite: MT 111 or 118 or qualifying examination. (fall, winter, spring)

MT 118 College Algebra for Business 5 credits
Sets; relations and functions, graphing; linear, quadratic, exponential, logarithmic functions; systems of linear equations; inequalities; linear programming; applications to business. Prerequisite: MT 101 or equivalent. Credit not granted for both MT 111 and MT 118. (fall, winter, spring)

MT 130 Elements of Calculus for Business 5 credits
Rate of change; derivative, basic differentiation formulas, extrema; area under a curve; limits of sequences; the definite integral and applications. Prerequisite: MT 111 or 118. (fall, winter, spring)

MT 131 Calculus for Life Sciences 5 credits
Limits; rate of change; derivatives, basic differentiation formulas, extrema; the definite integral. Applications to the Life and Social Sciences. Prerequisite: MT 115 or equivalent. (spring)

MT 134 Calculus and Analytic Geometry I 5 credits
MT 135 Calculus and Analytic Geometry II 5 credits
MT 136 Calculus and Analytic Geometry III 5 credits
I. Review of precalculus subjects; limits and derivatives; applications of limits and derivatives. II. Theory, technique, and applications of integration; differentiation and integration of trigonometric, exponential and logarithmic functions. III. Indeterminate forms; improper integrals; infinite series; Taylor's theorem; vectors, polar coordinates; solid analytic geometry. Prerequisites: MT 111 or qualifying examination for 134; 115 and 134 for 135; 135 for 136. (All three offered fall, winter, spring)

MT 200 Theory of Arithmetic 5 credits
Systems of numeration; elementary logic; sets; relations, equivalence classes; number systems and the integration of these concepts. Prerequisite: Mt 101 or 107, or equivalent. (fall, winter)

MT 222 Discrete Structures 5 credits
Logic, set theory, Boolean algebra, algebraic structures, graph theory and combinatorics; introduction to abstract machines and formal languages; computability concepts. Emphasis on applications to computer science. Prerequisites: MT 135, CSC 113 or 114. (fall)

MT 232 Multivariable Calculus 3 credits
Partial derivatives, multiple integration, and applications. Prerequisite: MT 136. (fall, winter, spring)

MT 233 Linear Algebra 3 credits
Matrices, determinants, vector spaces, linear transformations, eigenvalues. Prerequisite: MT 136. (fall, winter, spring)

MT 234 Differential Equations 4 credits
First and second order differential equations; linear differential equations; systems of differential equations; power series solutions. Prerequisites: MT 232 and 233. (fall, winter, spring)

MT 291 Special Topics 1-5 credits
MT 292 Special Topics 1-5 credits
MT 293 Special Topics 1-5 credits

MT 296 Independent Study 1-5 credits
MT 297 Independent Study 1-5 credits
MT 298 Independent Study 1-5 credits

MT 310 Introduction to Advanced Mathematics 5 credits
Logic and proofs; quantifiers; basic notions of set theory; induction, cartesian products and relations; equivalence relations; functions; cardinality. Prerequisite: MT 136. (spring of alternate years)

MT 315 Number Theory 5 credits
Divisibility and the Euclidean algorithm; congruences;

quadratic reciprocity law; numerical functions; the Mobius inversion formula. Prerequisite: MT 135.

MT 321 **Foundations of Euclidean Geometry** **5 credits**
Axiomatic foundations of Euclidean geometry; ruler and compass constructions; problems of antiquity; the 5th postulate and non-Euclidean geometries. Prerequisite: MT 135.

MT 322 **Topics in Geometry** **5 credits**
Selected topics in Advanced Geometry. May be repeated for credit with permission. Prerequisite: MT 233 or permission.

MT 351 **Probability** **5 credits**
Basic concepts and theorems in probability theory; the binomial, Poisson, normal and other fundamental probability distributions; moments; limit theorems. Prerequisite: MT 232.

MT 371 **Introduction to Numerical Methods** **5 credits**
Approximation and errors; solution of equations and systems of linear equations; numerical integration. Four lecture hours and one computer laboratory hour per week. Prerequisites: MT 233, CSC 113 or 114.

MT 381 **Elementary Topology** **5 credits**
Set theory; topology of the real line; topological spaces; compactness; connectedness; product spaces; metric spaces. Prerequisite: Mt 233. (spring of alternate years)

MT 411 **Introduction to Abstract Algebra I** **5 credits**
MT 412 **Introduction to Abstract Algebra II** **5 credits**
MT 413 **Introduction to Abstract Algebra III** **3 credits**
Theory of groups, rings, fields and field extensions; vector spaces and linear transformations; special topics. Prerequisites: Permission for 411; 411 for 412; 412 for 413. (offered in sequence: fall, winter, spring of alternate years)

MT 431 **Introduction to Real Analysis I** **5 credits**
MT 432 **Introduction to Real Analysis II** **5 credits**
MT 433 **Introduction to Real Analysis III** **3 credits**
The real number system; continuity; point set theory; partial differentiation; vector fields; linear transformations; Riemann-Stieltjes integrals; implicit function theorem; infinite series; power series; uniform convergence. Prerequisites: Permission for 431; 431 for 432; 432 for 433. (offered in sequence: fall, winter, spring of alternate years)

MT 437 **Introduction to Complex Variables** **5 credits**
The complex number system, analytic functions, integration, series, residues, conformal mapping. Prerequisite: MT 234.

MT 481 **Senior Seminar** **2 credits**
Problems in modern mathematics. Each student will make an oral presentation to the class. Prerequisite: Permission. (spring)

MT 491 **Special Topics** **2-5 credits**
MT 492 **Special Topics** **2-5 credits**
MT 493 **Special Topics** **2-5 credits**

MT 497 **Independent Study** **1-5 credits**
MT 498 **Independent Study** **1-5 credits**
MT 499 **Independent Study** **1-5 credits**

Mechanical Engineering

Lewis Filler, D. Eng. Sci., Chairperson

Objectives

The goal of the mechanical engineering program is to prepare students for a career in the mechanical engineering profession in design, development, research or other areas such as engineering sales and management.

The program offers a coherent series of courses in each of three broad categories; energy conversion, machine design, and dynamic systems. Creative engineering design, based on a firm theoretical and experimental foundation, is emphasized throughout the program.

Degree Offered

Bachelor of Science in Mechanical Engineering

General Program Requirements

Students in mechanical engineering must satisfy core curriculum requirements of the University as given on pages 26-28 of this Bulletin, except for the requirement in Fine Arts. Students take CE 402 to substitute for the requirement in Social Science II.

Departmental Requirements

Bachelor of Science in Mechanical Engineering — 74 credits in mechanical engineering which must include ME 105, 107, 210, 230, 304, 321, 323, 350, 370, 372, 425, 434, 436, 487, 488, and 489. Also required are MT 134, 135, 136, 232, 233, and 234; CE 221, 222, 331, 337, and 402; EE 315; CH 121, 131; CSC 230; PH 200, 201, 202; and 5 credit approved science elective. Departmental Candidacy must be achieved prior to being granted entry into ME 350. Candidacy is achieved by successfully completing all required 100 and 200 level CE, CH, CSC, ME, MT, and PH courses with a combined grade point average of at least 2.50, as well as EN 110. Only courses graded C (2.0) or better may be transferred into the department to offset degree requirements. 300 and 400 level courses have

Departmental Candidacy in one of the engineering departments as well as the specified courses as prerequisites. Taking the Washington State Engineers-in-Training examination is required for the degree. This degree is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

Bachelor of Science in Mechanical Engineering

Freshman year

Chemistry 121, 131 ..... 5 credits
English 110/Philosophy 110 sequence ..... 10 credits
History 120 ..... 5 credits
Mathematics 134, 135, 136 ..... 15 credits
Mechanical Engineering 105, 107 ..... 5 credits
Physics 200 ..... 5 credits

Sophomore year

Civil Engineering 221 ..... 4 credits
Computer Science 230 ..... 3 credits
English 120 ..... 5 credits
Mathematics 232, 233, 234 ..... 10 credits
Mechanical Enginering 210, 230 ..... 10 credits
Philosophy 220 ..... 5 credits
Physics 201, 202 ..... 10 credits
Science elective ..... 5 credits

Junior year

Civil Engineering 222, 331, 337 ..... 8 credits
Electrical Engineering 315 ..... 5 credits
Mechanical Engineering 304, 321,
323, 350, 370, 372 ..... 26 credits
Social Science I ..... 5 credits
Theology and Religious Studies I ..... 5 credits

Senior year

Civil Engineering 402 ..... 3 credits
Ethics ..... 5 credits
Mechanical Engineering 434, 436, 487, 488,
489 and electives ..... 33 credits
Theology and Religious Studies II ..... 5 credits
Engineer-in-Training Examination ..... 0 credits

Total ..... 192 credits

Mechanical Engineering Courses

ME 105 **Engineering Graphics and Design** **3 credits**
Orthographics, isometrics, technical sketching, auxiliary and sectional views, dimensioning and tolerancing. True length of lines, true size of planes, intersections, development of surfaces. Introduction to engineering design. Design project requiring graphics skills. Three two-hour sessions per week. (fall, winter)

ME 107 **Introduction to Microcomputer Applications 2 credits**
Introduction to the use of microcomputers for engineering. Microcomputer hardware and useful software packages in mathematics and text processing, introduction to computer controlled data acquisition and measurement. Laboratory programming assignments. Laboratory programming assignments;. Two lecture hours per week. Corequisite: ME 105. (fall, winter)

ME 210 **Statics** **5 credits**
(EML 210) Vector algebra. Equilibrium of forces and moments, distributed forces, hydrostatics, friction, virtual work; all applied to simple bodies. Five lectures per week. Prerequisites: MT 135, PH 200. (fall, winter, spring)

ME 215 **Statics/Dynamics** **5 credits**
Vector algebra. Forces, resultants. Equilibrium. Free body diagrams. Equailibrium of rigid bodies. Centroids. Forces in cables. Method of virtual work. Rectilinear and curvilinear motions. Newton's second law. Energy and momentum methods. Systems of particles. Rigid bodies. Plane motion. Vibrations. Five lecture hours per week. Prerequisite: PH 200 and MT 136. Students must pass a qualifying examination before proceeding to dynamics. Not open to ME and CE students.

ME 230 **Dynamics** **5 credits**
(EML 230) Vectors applied to kinematics and kinetics. Particle, system of particles, and rigid bodies related to translation, rotation, plane motion, relative motion, forces, impulse-momentum, work-energy. Five lectures per week. Prerequisites: ME 210, MT 136. (fall, winter, spring)

ME 291 **Special Topics** **1-5 credits**
(EML 291)
ME 292 **Special Topics** **1-5 credits**
(EML 292)
ME 293 **Special Topics** **1-5 credits**
(EML 293)

ME 296 **Independent Study** **1-5 credits**
(EML 296)
ME 297 **Independent Study** **1-5 credits**
(EML 297)
ME 298 **Independent Study** **1-5 credits**
(EML 298)

ME 304 **Basics of Computer Aided Engineering** **4 credits**
(EML 304) Introduction to microcomputer structure. Basics of interfacing microprocessors with the real world. Applications; graphics, control, robotics. Two lectures and one four-hour laboratory per week. Prerequisites: CSC 230. MT 315. (fall, spring)

ME 321 **Thermodynamics** **4 credits**
(EML 321) Thermal properties of ideal and real gases, liquids, vapors, and mixtures. Conservation of energy. Conversion of thermal energy to work. Power, efficiency, cycles, compressible gas flow. Prerequisite: CE 331. (winter)

ME 323 **Heat Transfer** **5 credits**
(EML 323) Heat transfer - conduction, convection, and radiation. Conduction in one and two dimensions, steady state and transient. Forced and natural convection with phase change. Applications. Four lecture hours, one three-hour laboratory per week. Prerequisite: ME 321. (spring)

ME 350 **Materials Science** **5 credits**
(EML 350) Atomic structure. Metallic bond. Structure of metals and non-metals. Equilibrium diagrams. Time-dependent transformations. Relation of structure to properties. Elastic and plastic deformation. Four lectures, one three-hour laboratory per week. Prerequisite: CE 221, 222. (spring)

ME 370 (EML 370) Machine Elements I — **4 credits**
Study of beams and columns. Failure theories. Impact, fatigue, corrosion, and wear. Four lecture hours per week. Prerequisite: CE 222. (winter)

ME 372 (EML 372) Machine Elements II — **4 credits**
Continuation of ME 370. Fasteners, welds, springs, bearings, gears, clutches, and brakes. Four lectures per week. Prerequisite: ME 370. (spring)

ME 391 (EML 391) Special Topics — **1-5 credits**

ME 392 (EML 392) Special Topics — **1-5 credits**

ME 393 (EML 393) Special Topics — **1-5 credits**

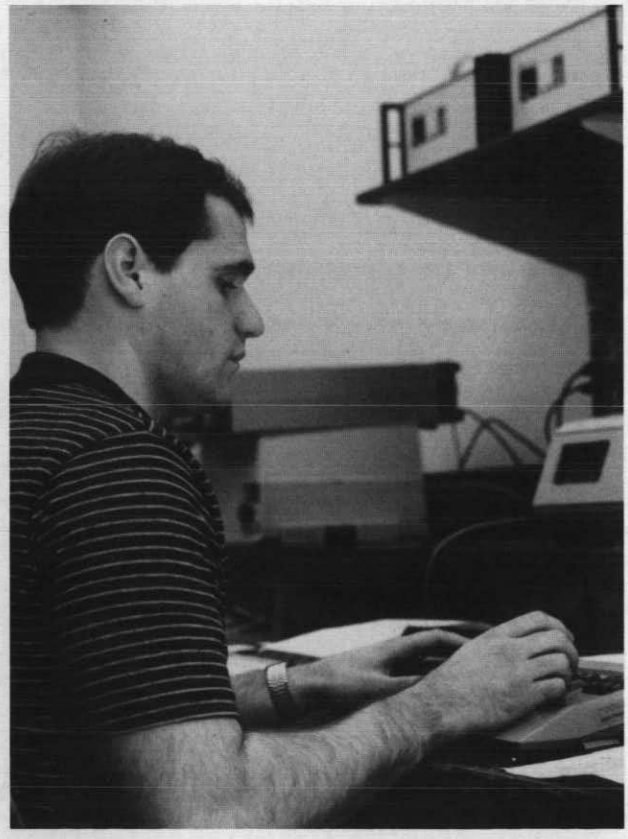
ME 396 (EML 396) Independent Study — **1-5 credits**

ME 397 (EML 397) Independent Study — **1-5 credits**

ME 398 (EML 398) Independent Study — **1-5 credits**

ME 401 (EML 401) Principles of Instrumentation — **2 credits**
Review of the elements of instrumentation systems: sensors; cables; penditimers; filters; and display devices. Further study of each system element to find sources of unwanted signals and/or noise. Study of methods to eliminate or minimize unwanted signals and noise. One lecture and one three-hour laboratory per week. Prerequisite: ME 436.

ME 425 (EML 425) Applied Thermodynamics — **5 credits**
Thermodynamics applied to ideal and real cycles, internal and external combustion engines, fans, blowers, compressors, nozzles, refrigeration, air conditioning, liquefaction of gases. Four lectures, one three-hour laboratory per week. Prerequisite: ME 321. (fall)



ME 427 (EML 427) Steam Power Plants — **4 credits**
Thermodynamics, heat transfer, fluid mechanics applied to design of modern thermal power stations and auxiliaries with economic and ecologic integration into regional power systems. Four lectures per week. Prerequisite: ME 323, 425.

ME 429 (EML 429) Internal Combustion Engines — **4 credits**
Thermodynamic cycle review. Actual otto and diesel engines. Fuels and combustion, carburetion, efficiency, alternate engines. Four lectures per week. Prerequisite: ME 425.

ME 434 (EML 434) Dynamic Systems — **4 credits**
System modeling. System analysis based on transform calculus methods. Introduction to digital computer methods of analysis for non-linear systems. Topics include: Laplace transform, transfer functions, block diagram manipulation. Bode diagrams, root locus, system stability analysis, algorithms for computer system analysis. Four lectures per week. Prerequisites: EE 315; MT 234. (fall)

ME 436 (EML 436) Dynamic Systems Laboratory — **2 credits**
Laboratory experiments which augment the lecture material in ME 434. Characteristics and relevant constraints for a variety of system elements and assemblies. Design, construction, and testing of a servosystem. One lecture and one three-hour laboratory per week. Prerequisite: ME 434. (winter)

ME 438 (EML 438) Control Systems — **4 credits**
Feedback control system analysis. Proportional, integral and derivative control. Control system design, compensation. Root locus, Nyquist and Bode plots. Analog and digital simulation. Four lectures per week. Prerequisite: EE 434.

ME 441 (EML 441) Heat/Ventilation/Refrigeration — **4 credits**
Psychrometry; space heating and cooling loads; air conditioning; fans and ducts; heat exchangers; solar systems; refrigeration. Four lectures per week. Prerequisites: ME 323 and 425.

ME 452 (EML 452) Heat Treatment of Ferrous and Non-Ferrous Materials — **2 credits**
Heat treatment of various metallic alloys, particularly steel. Two lectures per week. Prerequisite: ME 350.

ME 454 (EML 454) Fracture Mechanics — **2 credits**
Modern fracture theory — stress intensity functions, crack driving forces. Fast fracture. Impact fracture. Two lectures per week. Prerequisites: CE 221, 222; ME 350, 370.

ME 461 (EML 461) Compressible Flow — **4 credits**
One-dimensional gas dynamics. Flow in nozzles and diffusers, normal shocks, frictional flows and flows with heat transfer and energy release. Four lectures per week. Prerequisites: CE 331; ME 321.

ME 463 (EML 463) Gas Turbines — **4 credits**
Basic gas dynamics, Brayton cycle, design principles of compressors, turbines, and compressors. Four lectures per week. Prerequisites: CE 337; ME 425.

ME 465 (EML 465) Turbomachinery — **4 credits**
Design operation of turbines and compressors, principles of turbine/compressor types, off-design operation, pumps, cavitation, two-phase flow. Four lectures per week. Prerequisites: CE 337; ME 425.

ME 487 (EML 411) Engineering Design I — **4 credits**
Design process, problem solving and decision making, modeling and simulation, optimization, economics, costing, reliability. Four lecture hours per week. Prerequisites: ME 304, 372. Corequisite: CE 402. (fall)

ME 488 (EML 412) Engineering Design II — **4 credits**
Group design project focusing on the integrative aspects of engineering subject matter. The project should focus on: (1) philosophy of design, a creative approach, and a comprehensive design project; planning, organizing and leading an engineering project; exercising judgment and considering economic factors; and (2) integrated aspects of creative design and analysis; case studies; design of a novel device or system. Two lecture and four design hours per week. Prerequisite: ME 487. (winter)

ME 489 (EML 413) Engineering Design III — **4 credits**
Continuation of ME 488. Two lecture and four design hours per week. Prerequisite: ME 488. (spring)

ME 491 (EML 491) Special Topics — **2-5 credits**

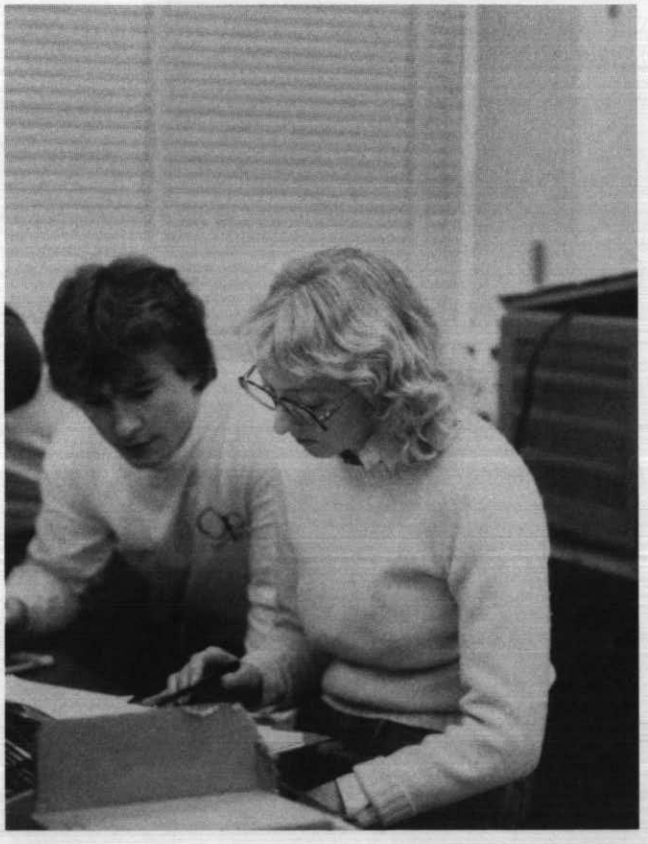
ME 492 (EML 492) Special Topics — **2-5 credits**

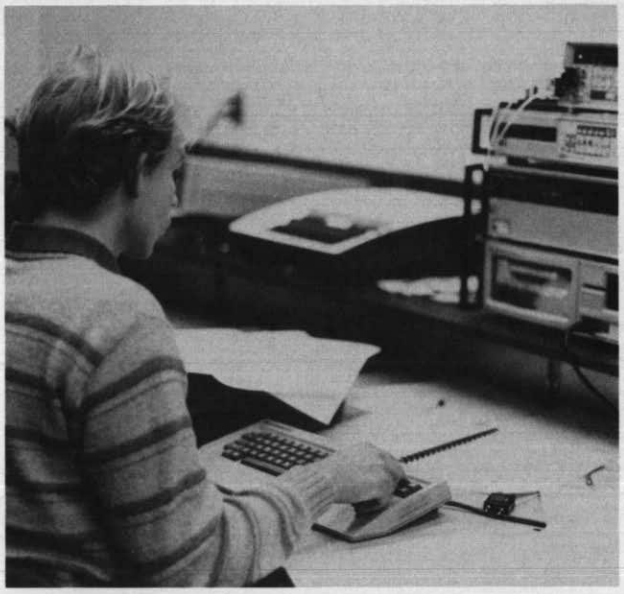
ME 493 (EML 493) Special Topics — **2-5 credits**

ME 496 (EML 496) Independent Study — **1-5 credits**

ME 497 (EML 497) Independent Study — **1-5 credits**

ME 498 (EML 498) Independent Study — **1-5 credits**





Physics

Reed A. Guy, Ph.D., Chairperson

Objectives

The Physics department offers two degree programs. For those who wish a career in physics, the Bachelor of Science in Physics program takes the student from classical mechanics through quantum mechanics, including advanced laboratory courses emphasizing nuclear and nuclear reactor physics. The curriculum is designed to prepare students for advanced work in pure and applied physics or for graduate study. The Bachelor of Arts program is ideal for those who desire a solid background in physics but who also want the flexibility to specialize in another area, such as computer science.

Majors interested in high school teaching may elect to complete a sequence of education courses leading to secondary teacher certification. 190 credits are required for certification. Additional details are contained in the School of Education listing in this Bulletin of Information.

Degrees Offered

Bachelor of Arts
Bachelor of Science in Physics

General Program Requirements

Students majoring in physics must satisfy the core curriculum requirements of the University as given on pages 26-28 of this Bulletin.

Departmental Requirements

Bachelor of Arts — 45 credits in physics which must include PH 200, 201, 202, 204, 205, 310, 330 and 375. A minimum of 15 additional credits in a related science, such as computer science, is required.

Bachelor of Science in Physics — 60 credits in physics, which must include PH 200, 201, 202, 204, 205, 310, 311, 330, 331, 481, and 485. Ten credits, approved by the

student's adviser, in related science are required. Mathematics 134, 135, 136, 232, 233, and 234 are required. PH 110 and 111 may not be counted toward the 60 credits.

Teaching Major (School of Education) — 45 credits in physics and mathematics; 30 credits in physics which must include PH 105, 106, 107, 110 and 10 elective credits. PH 200, 201, 202 may be taken in place of 105, 106, 107 for those students who desire a more rigorous background in general physics. The required 15 credits in mathematics must include 10 credits in calculus and computers. (MT 134, 135, CSC 114).

Undergraduate Minor — 30 credits in physics which must include PH 200, 201, 202, and 205. 100 level courses may not be counted toward the minor.

Bachelor of Science in Physics

Freshman year

English 110/Philosophy 110 sequence ..... 10 credits
History 120/English 120 sequence ..... 10 credits
Mathematics 134, 135, 136 ..... 15 credits
Physics 200 ..... 5 credits
Electives ..... 5 credits

Sophomore year

Fine Arts 120 ..... 5 credits
Mathematics 232, 233, 234 ..... 10 credits
Physics 201, 202, 204, 205 ..... 15 credits
Philosophy 220/Social Science I sequence ... 10 credits
Electives ..... 5 credits

Junior year

Physics 310, 330; 311 or 331; 481 or 485 ..... 18 credits
Physics elective ..... 5 credits
Related Science Elective ..... 5 credits
Social Science II ..... 5 credits
Theology and Religious Studies I ..... 5 credits
Electives ..... 7 credits

Senior year

Ethics ..... 5 credits
Interdisciplinary course ..... 3-5 credits
Physics 311 or 331; 481 or 485 ..... 8 credits
Physics Electives ..... 9 credits
Related Science Elective ..... 5 credits
Senior Synthesis ..... 3 credits
Theology and Religious Studies II ..... 5 credits
Electives ..... 5-7 credits
Total ..... 180 credits

Physics Courses

Note: PH 105, 106, 107, 200, 201, 202, 375, and 475 have four lectures and one laboratory per week.

PH 105 Mechanics and Sound **5 credits**
Non-calculus survey of classical mechanics. Statics, kinematics, and dynamics of particles and systems; fluids; harmonic motion, waves, and sound. Prerequisite: MT 111, 115 or equivalent. (fall)

PH 106 Electricity, Magnetism and Thermodynamics **5 credits**
Survey of electromagnetism. Electrostatics, magnetostatics, electromagnetic fields, dc and ac circuits, introduction to thermodynamics. Prerequisite: PH 105. (winter)

PH 107 Survey of Modern Physics **5 credits**
Optics, including reflection, refraction, interference, diffraction and polarization. Introduction to atomic and nuclear physics. Prerequisite: PH 106 (spring)

PH 110 Introduction to Astronomy of the Solar System **5 credits**
Apparent motions of heavenly bodies. Real motions and physical properties of the sun, moon, planets, and minor bodies of the solar system; telescopic observation available. Core science option. (fall, winter)

PH 111 Introductory Stellar Astronomy **5 credits**
Survey of the nature and evolution of the stars; neutron stars, pulsars, black holes; nebulae, galaxies, quasars; the origin and evolution of the universe; telescopic observation available. Core science option. (spring)

PH 200 Mechanics **5 credits**
Vector mathematics; kinematics; conservation of momentum and collisions; relative motion and reference frames; force and Newton's laws; work, energy, and power; rotational dynamics; rigid body motion, gravitation. Prerequisite: MT 115, 134. (winter, spring)

PH 201 Electricity and Magnetism **5 credits**
Electric charge, forces, field, flux; Gauss' law; electric potential; conductors, dielectrics, capacitance; current and resistance; DC circuits; magnetic forces, fields; inductance. Prerequisites: PH 200, MT 135. (fall, spring)

PH 202 Waves, Optics and Thermodynamics **5 credits**
Harmonic motion; mechanical and electromagnetic waves; reflection, refraction, dispersion, interference, diffraction and polarization. Temperature, ideal gases, kinetic theory, second law of thermodynamics. Prerequisite: PH 201, MT 136 (fall, winter)

PH 204 Relativity **2 credits**
An introduction to special relativity. The Lorentz transformation; relativistic kinematics and dynamics. Prerequisites: PH 202. (spring)

PH 205 Introduction to Quantum Physics **3 credits**
Evidence for the quantization of light, matter, and energy; the nuclear atom; wave-particle duality; the uncertainty principle; the Schrodinger equation and its applications. Prerequisites: PH 202; MT 232. (fall, spring)

PH 291 Special Topics **1-5 credits**
PH 291 Special Topics **1-5 credits**
PH 291 Special Topics **1-5 credits**

PH 296 Independent Study **1-5 credits**
PH 296 Independent Study **1-5 credits**
PH 296 Independent Study **1-5 credits**

PH 310 Intermediate Mechanics I **5 credits**
Victor calculus; kinematics of a particle; one-dimensional motion of a particle; two and three dimensional dynamics of a particle; moving reference systems; central forces and celestial mechanics. Prerequisites: PH 200, MT 232. (winter)

PH 311 Intermediate Mechanics II **3 credits**
General motion of a rigid body; Lagrange's equations; small vibrations. Prerequisite: PH 310, MT 234. (spring)

PH 330 Electromagnetic Field Theory **5 credits**
Static electric fields in vacuum and material media; solutions of Laplace's and Poisson's equations in curvilinear coordinates; static magnetic fields; timevarying fields and Maxwell's equations. Prerequisites: Ph 201, MT 234. (winter, spring)

PH 331 Electromagnetic Waves **3 credits**
Derivations and solutions of wave equations; plane waves in vacuum and material media; reflection, refraction, polarization; radiation of electromagnetic waves. Prerequisite: Ph 330. (spring)

PH 350 Physics of Diagnostic Ultrasound **3 credits**
The physics of pulsed ultrasound, including its production and detection by transducers, characteristics of pulses and sound beams, interaction of ultrasound with tissue including attenuation, impedence, reflection, refraction, scattering, ranging, and Doppler effect; introduction to ultrasonic instrumentation. Prerequisites: PH 106 or equivalent; MT 131 or 134; enrollment in Allied Health Technology or permission. (fall)

PH 361 Solid State Physics and Devices **5 credits**
Crystal structure and defects; interatomic binding; thermal and electrical properties; energy bands, carrier statistics and carrier transport phenomena. Semiconductor devices. Prerequisites: PH 205. (fall, winter)

PH 375 Nuclear Instrumentation **5 credits**
Ionizing radiation. Nuclear decay processes, interaction of radiation with matter, instrumentation for the detection of photons, charged particles, and neutrons. Prerequisite: PH 205. (spring)

PH 396 Independent Study **1-5 credits**
PH 397 Independent Study **1-5 credits**
PH 398 Independent Study **1-5 credits**

PH 470 Nuclear Physics **5 credits**
Structure and properties of nuclei and elementary particles; symmetries and conservation laws; electromagnetic, weak, and hadronic interactions; nuclear models. Prerequisite: PH 205, MT 234. (winter)

PH 475 Basic Physics of Nuclear Fission Reactors **5 credits**
Brief historical sketch, discussion of pentinent nuclear reactions, cross-sections, moderation, equation of continuity, diffusion area, Fermi age, criticality and Fermi criticality equation, simple spherical reactor. Kinetic aspects are considered such as the role of delayed neutrons and reactor period. The laboratory experiments deal with diffusion area, Fermi age, multiplication factor, buckling, and control rod action. Prerequisites: PH 205; MT 234.

PH 481 Theoretical Physics **5 credits**
Topics in theoretical physics selected from statistical thermal, and modern physics. Prerequisites: PH 205, MT 234. (fall)

PH 485 Quantum Mechanics **5 credits**
Wave-particle duality, the state function, the Schrodinger equation, one-dimensional problems, the operator formalism, matrices, central forces, angular momentum, spin, identical particles. Prerequisites: PH 205, MT 234. (fall)

PH 491 Special Topics **1-5 credits**
PH 492 Special Topics **1-5 credits**
PH 492 Special Topics **1-5 credits**

PH 496 Independent Study **1-5 credits**
PH 497 Independent Study **1-5 credits**
PH 498 Independent Study **1-5 credits**

Premedical and Predental

Thomas W. Cunningham, Ph.D., Adviser

Students wishing to enter professional schools of medicine, dentistry, or veterinary medicine, or graduate schools in biomedical studies, should matriculate in a program of studies leading to a bachelor's degree in any academic field which will give a broad training in the liberal arts and fulfill the proper requirements in the physical and biological sciences. Students may choose any academic major; most elect biology, chemistry, physics, general science or psychology. With the framework of any one of the degree programs, students obtain strong backgrounds in the liberal arts through the core curriculum. For further clarification of degree requirements and the core curriculum, see pages 26-28 of this bulletin.

Most medical, dental or veterinary schools require the following undergraduate science sequences: Chemistry 121, 122, 123, 131, 132, 133, 241, 242, 243, 251, 252; Biology 165, 166, 167, 270, 271 or 310, 326; and Physics 105, 106, 107. Professional schools also recommend calculus, biochemistry, or physical chemistry. Students are advised to consult the bulletins of the professional schools to which they wish to apply to acquaint themselves with specific requirements other than those listed. Students should plan to complete preprofessional requirements by the end of their junior year, at which time they should take the MCAT, DAT, VAT tests. Application for admittance to professional schools should be made during the summer or fall of the senior year.

Because of the necessity for required science courses to be completed by the end of the junior year, students in these programs will complete the Core Curriculum in a different sequence than that shown on pages 26-28 of this bulletin. The courses to be taken and the sequence for taking them will be developed by the student's academic adviser.

Graduate School

Graduate School

Marylou Wyse, Ph.D., Dean

Graduate studies directed toward the master's degree were first offered at Seattle University in 1910 in a division of its College of Arts and Sciences. In 1935, graduate courses became an integral part of the University's teacher education program. As the demand for specialization increased, additional graduate programs were developed. In 1976, the first doctoral program was implemented, in 1980 the educational specialist degree was approved, and the Institute for Theological Studies was launched in 1985.

Objectives

Graduate programs endeavor to offer advanced in-depth education to individuals seeking specialized knowledge and skills in a particular field. Graduate students are encouraged to develop high level thinking abilities including application and synthesis which, in turn, can be translated into effective speaking and writing. Expertise in the examination of the ethical and value-laden issues in various fields is an important component of graduate education at Seattle University.

Efforts are made to stimulate participants' curiosity while at the same time providing the investigative skills needed to seek answers to challenging questions. It is hoped that individuals who complete graduate programs will have developed personal and professional competencies that will contribute to the improvement of their field and to the betterment of those whom they serve.

Organization

The Dean of the Graduate School and the Graduate Council are responsible for administration of the Graduate School and supervision of all programs leading to the master's, educational specialist and doctoral degrees. The Dean of the Graduate School and the Council establish and maintain requirements for degrees according to the recommendations of the graduate committee of each school of the University.

The component schools and various departments provide courses of instruction for graduate schools, direct their studies, conduct examinations, maintain requirements and make recommendations. Academic transactions involving admission, registration and awarding of degrees are supervised by the University's Registrar. Actual admission to graduate study is granted through the Dean of the Graduate School in consultation with the appropriate graduate program director.

Most programs offer courses in the late afternoon and evening for working professionals.

Degrees Offered

For admission and program requirements see the Seattle University Graduate Bulletin.

Graduate Degrees offered by the University are:

ARTS AND SCIENCES
Master of Arts—Psychology
Master of Arts—Rehabilitation

BUSINESS
Master of Business Administration

EDUCATION
Master of Arts in Education
Master of Education

These two degrees may be earned with specialization in the following areas: administration, counseling, curriculum and instruction.

Master of Counseling
Educational Specialist

This degree may be earned in Administration or Educational Diagnostics/School Psychology.

Doctor of Education

INSTITUTE FOR THEOLOGICAL STUDIES
Master of Ministry (summer only)
Master of Religious Education (summer only)
Master of Pastoral Ministry
Master of Theological Studies
Master of Divinity

PUBLIC SERVICE
Master of Public Administration

SCIENCE AND ENGINEERING
Master of Software Engineering

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Senior Vice President & Chairman of Senior Credit Committee, Seattle-First National Bank

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Executive Director, Port of Seattle

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Publisher, The Seattle Post-Intelligencer

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Seattle, Washington

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President, Seattle University

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Partner, Price Waterhouse

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President, Northwest Building Corporation

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Bellevue, Washington

William P. Woods (Emeritus)
Bellevue, Washington

Carol Wright
Seattle, Washington

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Vice President for Academic Affairs

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Dean, School of Nursing

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Dean, School of Science and Engineering

Marylou Wyse, Ph.D., Dean, Graduate School

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Director, Institute for Theological Studies

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Director, Enrollment Research

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Director, Continuing Education and Summer School

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Director, General Studies

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Jerome C. Pederson, M.B.A., Director, General Services

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Director, Child Development Center

Curt DeVere, B.A.
Director, International Student Center

Lyle Geels, B.A.
Director, Saga Food Service

Sally B. Hull, Ph.D., Director, McGoldrick Center and Career Development Center

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Director, Office for Student Leadership

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Director, Campus Ministry

Mary A. Odem, M.A.
Director, Minority Student Affairs

Judith Lee Sharpe, M.A.
Director, Resident Student Services

Frederick B. Smith, M.D.
Director, Health Center

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Assistant Vice President for Student Life

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Assistant to the Vice President for University Relations

Mark Burnett, M.P.A.
Director of Alumni Relations and Communications

M. Katherine Hyde, M.B.A.
Director of Development

Jean Merlino, B.A.
Director of University Publications

FACULTY

The year following faculty names indicates initial full-time appointment to the University faculty. Asterisks preceding names denote faculty members on leave of absence.

Clarence L. Abello, B.Econ. (1953)
Professor Emeritus
B.Econ., 1933, University of London; Contrador Publico Nacional, 1937, Universidad Nacional de Buenos Aires, Facultad de Ciencias Economicas.

Josef C. Afanador, Ed.D. (1975)
Associate Professor of Rehabilitation
B.A., 1963, Butler University; M.S., 1967, Purdue University; Ed.D., 1971, University of Arizona.

Richard H. Ahler, S.J., S.T.D. (1977)
Chair, Theology and Religious Studies Department
Associate Professor of Theology and Religious Studies
A.B., 1954, Ph.L., 1956, St. Louis University; M.A., 1957, Marquette University; S.T.L., 1963, St. Louis University; S.T.D., 1975, Gregorian University.

Mary A. Alberg, Ph.D. (1979)
Associate Professor of Physics
B.A., 1963, Wellesley College; M.S., 1970, Ph.D., 1974, University of Washington.

Kathryn L. Anderson, M.N. (1986)
Instructor in Nursing
B.S.N., 1976, University of Virginia, Charlottesville; M.N., 1981, University of Washington.

Richard B. Anderson, CPT, B.S. (1985)
Assistant Professor of Military Science
B.S., 1975, United States Military Academy.

Abdolhossein Ansari, Ph.D. (1985)
Assistant Professor of Business
B.S., 1976, Tehran College of Insurance; M.B.A., 1979, University of Detroit; M.A., 1981, Ph.D., 1984,University of Nebraska, Lincoln.

Richard E. Arvey, Ph.D. (1984)
Assistant Professor of Business
A.B., 1968, Washington University; M.A.T., 1970, University of Chicago; M.B.A., 1981, Ph.D., 1983, University of Washington.

Gary L. Atkins, M.A. (1978)
Chairperson, Journalism Department
Associate Professor of Journalism
A.B., 1971, Loyola University; M.A., 1972, Stanford University.

Engelbert M. Axer, S.J., Ph.D. (1941)
Professor Emeritus
A.B., 1930, Valkenburg, Holland; S.T.L., 1940, St. Louis University; M.A., 1941, Gonzaga University; Ph.D., 1949, Georgetown University.

James E. Backus, MAJ, B.A. (1986)
Assistant Professor of Military Science
B.A., 1964, University of Washington

Sandra L. Barker, Ph.D. (1985)
Assistant Professor of Education
B.A., 1963, University of Oregon; M.A.T., 1968, University of Portland; Ph.D., 1983, University of Oregon.

Karen A. Barta, Ph.D. (1983)
Assistant Professor of Theology and Religious Studies
B.S., 1964, Marian College of Fond du Lac; M.A., 1972, Ph.D., 1979, Marquette University.

Mary C. Bartholet, M.S. (1958)
Associate Professor of Nursing
B.S., 1949, College of St. Teresa; M.S., 1958, St. Louis University.

John C. Bean, Ph.D. (1986)
Associate Professor of English/Director of Writing
B.A., 1965, Stanford University; Ph.D., 1972, University of Washington.

Ernest P. Bertin, S.J., Ph.D. (1957)
Professor Emeritus
A.B., 1944, M.A., 1945, Gonzaga University; S.T.L., 1947, St. Louis University; M.A., 1952, Fordham University.

Francis X. Bisciglia, S.J., M.A. (1963)
Professor Emeritus
A.B., 1938, M.A., 1939, Gonzaga University; S.T.L., 1947, St. Louis University; M.A., 1952, Fordham University.

Andrew G. Bjelland, Ph.D. (1982)
Chairperson, Philosophy Department
Associate Professor of Philosophy
A.B., 1961, Immaculate Conception Seminary; Ph.D., 1970, St. Louis University.

Hamida H. Bosmajian, Ph.D. (1966)
Professor of English
B.A., 1961, University of Idaho; M.A., 1962, Ph.D., 1968, University of Connecticut.

Vicky M. Brautigan, Ph.D. (1980)
Chairperson, Allied Health Technology Department
Assistant Professor of Chemistry/Allied Health
B.S., 1972, Kalamazoo College; M.S., 1975, Ph.D., 1977, Northwestern University.

Karen A. Brown, Ph.D. (1983)
Assistant Professor of Business
B.S., 1971, M.B.A., 1979, Ph.D., 1983, University of Washington.

David Brubaker, Ph.D. (1980)
Chairperson, Biology Department
Assistant Professor of Biology
B.S., 1966, University of Redlands; M.S. and Ph.D., 1972, University of Michigan.

Chauncey A. Burke, M.B.A. (1978)
Assistant Professor of Business
B.S.B.A., 1970, Mt. St. Mary's College; M.B.A., 1978, University of Washington.

J. Patrick Burke, Ph.D. (1967)
Associate Professor of Philosophy
B.A., 1965, Gonzaga University; M.A., 1967, St. Louis University; Ph.D., 1978, University of Louvain.

Norma Jean Bushman, M.N. (1960)
Associate Professor of Nursing
B.S.N., 1959, M.N., 1960, University of Washington.

Robert E. Callahan, Ph.D. (1977)
Associate Professor of Business
B.S., 1967, M.B.A., 1969, Drexel University; Ph.D., 1977, Case Western Reserve University.

Dale A. Carlson, Ph.D. (1983)
Chairperson, Civil Engineering Department
Professor of Civil Engineering
B.S.C.E., 1950, M.S.C.E., 1951, University of Washington; Ph.D., 1960, University of Wisconsin.

Emmett H. Carroll, S.J., D.A. (1973)
Chairperson, English Department
Assistant Professor of English
B.A., 1955, Gonzaga University; S.T.L., 1963, Gregorian University; M.A., 1966, Rutgers University; D.A., 1980, Carnegie-Mellon University.

Gary L. Chamberlain, Ph.D. (1979)
Director, SUMORE
Associate Professor of Theology and Religious Studies
B.A., 1962, Ph.L., 1963, St. Louis University; M.A., 1967, University of Chicago; Ph.D., 1973, Graduate Theological Union.

Chu Chiu Chang, M.A. (1956)
Associate Professor of Mathematics
A.B., 1942, Central Political Institute, Chungking, China; M.A., 1956, University of Washington.

John P. Chattin-McNichols, Ph.D. (1979)
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Seattle University/Seattle, Washington 98122
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ALUMNI
Alumni Association
626-5656

BULLETINS AND CATALOGS
Dean of Admissions
626-5720

CAMPUS MINISTRY
Director of Campus Ministry
626-5900

CAREER PLANNING AND JOB FINDING ASSISTANCE
Director of Career Development Center
626-6235

CORRESPONDENCE RELATING TO THE GENERAL INTEREST OF THE UNIVERSITY
President
626-6575

COUNSELING
Director of Counseling
626-5846

CURRICULUM, SCHOLASTIC PROBLEMS, DEGREE PROGRAMS
The Dean of the particular school or Vice President for Academic Affairs
626-6860

DEGREES AND GRADUATION
Registrar
626-5700

FINANCIAL AID, SCHOLARSHIPS, GRANTS, LOANS, WORK-STUDY ELIGIBILITY
Financial Aid Director
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626-5388

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TUITION, PAYMENT OF BILLS, REFUNDS
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