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## 1986-87 Bulletin of Information - Undergraduate

Seattle University

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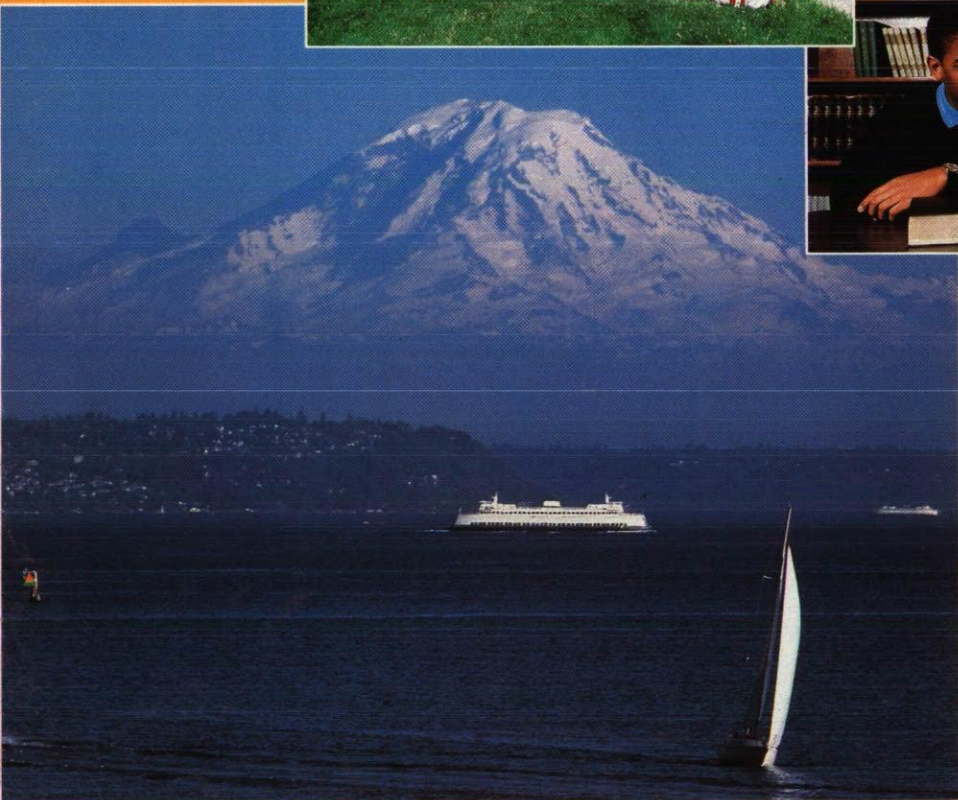
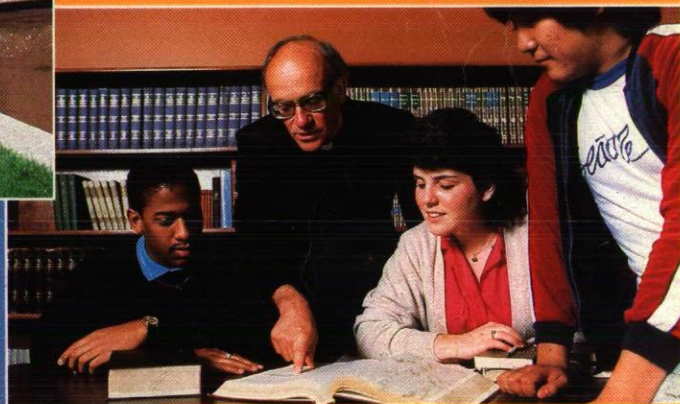
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# Seattle University

BULLETIN OF INFORMATION

1986/1987







**Seattle University  
Bulletin of Information  
Editor / Jean Merlino**

**Photography by Jean Merlino  
Cheri Ostman  
Todd Fletcher  
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  
(206) 626-6200**

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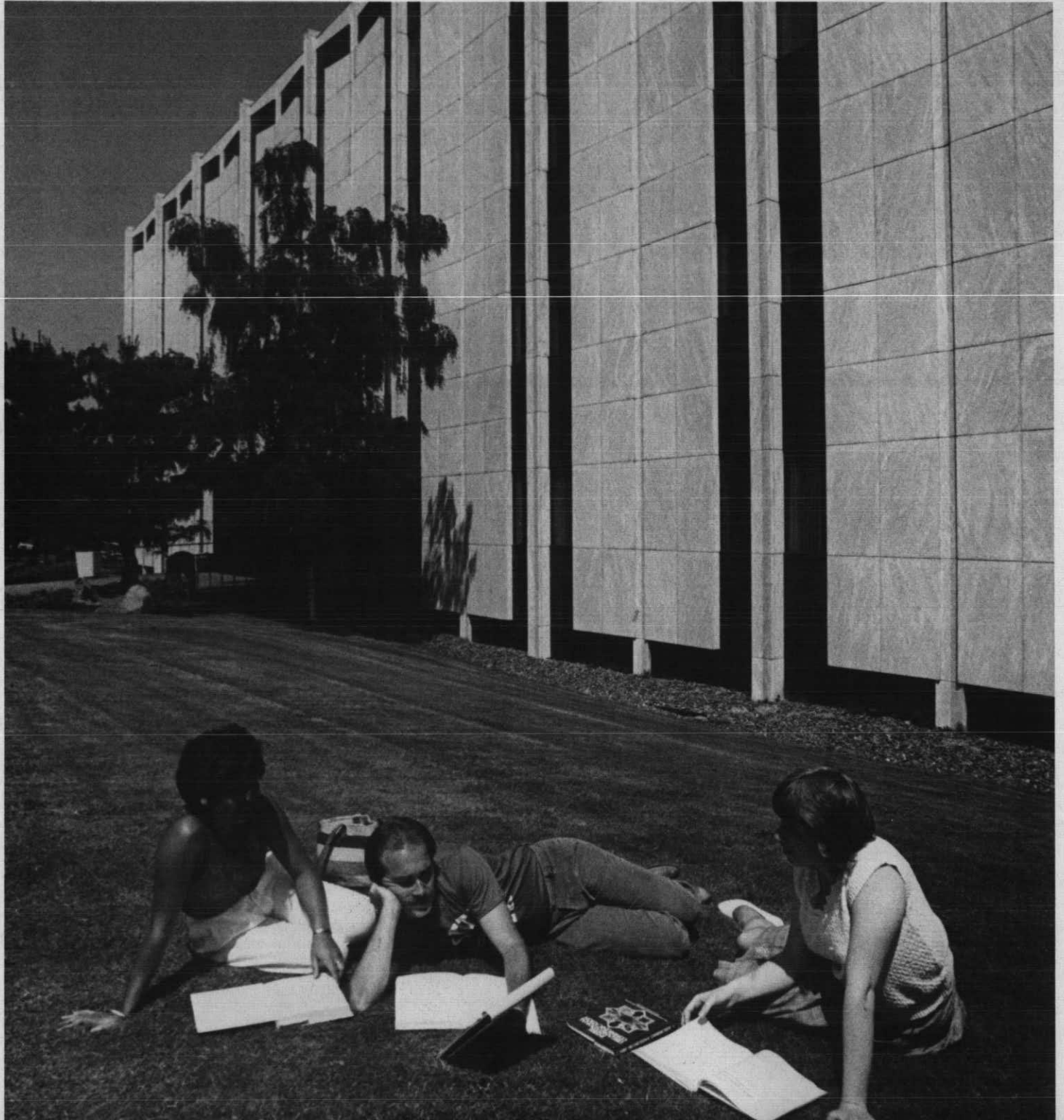
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# *Table of Contents*





**Winter Quarter 1986**

January 2	Registration
January 2	Classes Begin
January 3	Late Registration Fees Apply
January 8	Last Day to Register or Drop/Add
January 20	Martin Luther King's Birthday — No Classes
February 3	Closing Day for Degree Applications
February 13	Last Day to Remove I Grades from Fall, 84
February 17	President's Day — No Day Classes; All Classes after 1600 will meet as scheduled
February 10-19	Advance Registration — Spring, 86
February 26	Last Day to Withdraw with W Grade
March 3	Closing Date to Remove N Grade Previous Year
March 7	Last Class Day
March 10-12	Final Examinations
March 17	Grades Due

**Spring Quarter 1986**

March 21	Registration
March 24	Classes Begin
March 25	Late Registration Fees Apply
March 28	Good Friday — No Classes
March 31	Last Day to Register or Drop/Add
April 21-25	Advance Registration Fall, 86
April 21-25	Advance Registration — Summer, 86
May 1	Closing Date to Remove N Grade Previous Year
May 5	Last Day to Remove I Grades from Winter, 86
May 14	Last Day to Withdraw with W Grade
May 26	Memorial Day — No Classes
May 30	Last Class Day
June 2, 3, 5	Final Examinations
June 4	Grades Due — Seniors
June 7	Baccalaureate Mass
June 8	Commencement
June 9	Grades Due — Others

**Summer Quarter 1986**

April 21-25	Advance Registration
June 13	Registration
June 16	Classes Begin
June 17	Late Fees Apply
June 20	Last Day to Add/Drop — 1st and Full Term
July 4	Independence Day — No Classes
July 7	Last Day to Withdraw — 1st Term
July 14	Registration and Classes Begin — 2nd Term
July 18	Last Day to Add/Drop — 2nd Term
July 25	Last Day to Withdraw — 2nd and Full Term
July 30	Last Class Day — 7 Week Session
August 1	Last Day to Remove N Grade — Summer 85
July 31-August 1	Final Examinations — 7 Week Session
August 6	Last Class Day — 8 Week Session
August 7-8	Final Examinations — 8 Week Session
August 12	Grades Due

**Fall Quarter 1986**

April 21-25	Advance Registration
September 22-23	Registration and Drop/Add
September 24	Classes Begin
September 25	Late Registration Fees Apply
September 30	Last Day to Register or Drop/Add
November 4	Last Day to Remove I Grades from Spring/Summer, 1986
November 10	Veterans' Day Observed — No Classes
November 17-21	Advance Registration — Winter, 87

November 26-28  
November 25  
December 1

December 5  
December 8-10  
December 15

January 5  
January 5

January 6  
January 7  
January 12  
January 19

February 2  
February 16

February 17  
February 17-23  
February 25  
March 2

March 10  
March 11-13  
March 17

March 23  
March 23

March 24  
March 25  
March 30  
April 17  
April 20-24  
April 20-24  
May 1

May 4

May 19  
May 25  
May 29  
June 1, 2, 4  
June 3  
June 6  
June 7  
June 9

April 20-24  
June 19  
June 22  
June 23  
June 26

July 3  
July 13  
July 20

July 24  
July 31

August 7  
August 7

August 6-7  
August 14  
August 13-14  
August 18

Thanksgiving — No Classes  
Last Day to Withdraw with W Grade  
Closing Date to Remove N Grade  
Previous Year  
Last Class Day  
Final Examinations  
Grades Due

**Winter Quarter 1987**

Registration	Registration
Evening Classes Begin	Evening Classes Begin
(classes beginning after 1600)	(classes beginning after 1600)
Day Classes Begin	Day Classes Begin
Late Registration Fees Apply	Late Registration Fees Apply
Last Day to Register or Drop/Add	Last Day to Register or Drop/Add
Martin Luther King's Birthday — No Classes	Martin Luther King's Birthday — No Classes
Closing Day for Degree Applications	Closing Day for Degree Applications
President's Day — No Day Classes; All Classes After 1600 Will Meet as Scheduled	President's Day — No Day Classes; All Classes After 1600 Will Meet as Scheduled
Last Day to Remove I Grades from Fall, 86	Last Day to Remove I Grades from Fall, 86
Advance Registration — Spring, 87	Advance Registration — Spring, 87
Last Day to Withdraw with W Grade	Last Day to Withdraw with W Grade
Closing Date to Remove N Grade	Closing Date to Remove N Grade
Previous Year	Previous Year
Last Class Day	Last Class Day
Final Examinations	Final Examinations
Grades Due	Grades Due

**Spring Quarter 1987**

Registration	Registration
Evening Classes Begin (classes beginning after 1600)	Evening Classes Begin (classes beginning after 1600)
Day Classes Begin	Day Classes Begin
Late Registration Fees Apply	Late Registration Fees Apply
Last Day to Register or Drop/Add	Last Day to Register or Drop/Add
Good Friday — No Classes	Good Friday — No Classes
Advance Registration — Fall, 87	Advance Registration — Fall, 87
Advance Registration — Summer, 87	Advance Registration — Summer, 87
Closing Date to Remove N Grade	Closing Date to Remove N Grade
Previous Year	Previous Year
Last Day to Remove I Grades from Winter, 87	Last Day to Remove I Grades from Winter, 87
Last Day to Withdraw with W Grade	Last Day to Withdraw with W Grade
Memorial Day — No Classes	Memorial Day — No Classes
Last Class Day	Last Class Day
Final Examinations	Final Examinations
Grades Due — Seniors	Grades Due — Seniors
Baccalaureate Mass	Baccalaureate Mass
Commencement	Commencement
Grades Due — Others	Grades Due — Others

**Summer Quarter 1987**

Advance Registration	Advance Registration
Registration	Registration
Classes Begin	Classes Begin
Late Fees Apply	Late Fees Apply
Last Day to Add/Drop — First and Full Term	Last Day to Add/Drop — First and Full Term
Independence Day — No Classes	Independence Day — No Classes
Last Day to Withdraw — First Term	Last Day to Withdraw — First Term
Registration and Classes Begin — Second Term	Registration and Classes Begin — Second Term
Last Day to Add/Drop — Second Term	Last Day to Add/Drop — Second Term
Last Day to Withdraw — Second and Full Term	Last Day to Withdraw — Second and Full Term
Last Class Day — 7 Week Session	Last Class Day — 7 Week Session
Last Day to Remove N Grade — Summer, 86	Last Day to Remove N Grade — Summer, 86
Final Examinations — 7 Week Session	Final Examinations — 7 Week Session
Last Class Day — 8 Week Session	Last Class Day — 8 Week Session
Final Examinations — 8 Week Session	Final Examinations — 8 Week Session
Grades Due	Grades Due



## CONTENTS

### SEATTLE UNIVERSITY

Academic Calendars .....	2
Purpose and Scope .....	4
History .....	4
Organization .....	5
Campus and the City .....	6

### STUDENT LIFE

Career Planning/Placement .....	8
Counseling Center .....	8
Disabled Student Resources .....	8
Minority Student Affairs Program .....	8
Spiritual .....	8
University Sports .....	9
Organizations .....	9
Housing .....	9
Financial Aid .....	12-15
Scholarships .....	13
Grants/Loans .....	14-15
Costs .....	16

### ADMISSION

Application .....	10
International Students .....	12
Transfer Students .....	12

### ACADEMICS

Terms .....	18-24
Credit .....	18, 21
Grades .....	22-23
Degrees .....	23
Core Curriculum .....	26

### COLLEGE OF ARTS AND SCIENCES

Alcohol Studies .....	29-30
Criminal Justice .....	31-32
English/Speech .....	33-36
Fine Arts .....	36-40
Foreign Languages .....	41-43
General Studies .....	44
Global Studies .....	44
History .....	45-47
Honors .....	47-48
Journalism .....	49-50
Military Science .....	51-53
Philosophy .....	53-56
Political Science .....	57-58
Prelaw .....	59
Psychology .....	59-61
Rehabilitation .....	62-63
Sociology .....	64-67
Theology and Religious Studies .....	67-70

### ALBERS SCHOOL OF BUSINESS

Accounting .....	73-77
Finance .....	73-77
General Business .....	73-77
Information Systems Management .....	74-77
Management .....	73-77
Marketing .....	73-77
Economics .....	77-78

### SCHOOL OF EDUCATION

Education .....	80-86
-----------------	-------

### INSTITUTE OF PUBLIC SERVICE

Public Administration .....	88-90
Public Service .....	88-90

### MATTEO RICCI COLLEGE-II

Matteo Ricci College-II .....	92-94
-------------------------------	-------

### SCHOOL OF NURSING

Nursing .....	96-98
---------------	-------

### SCHOOL OF SCIENCE AND ENGINEERING

Allied Health Technology .....	101-104
Biology .....	105-108
Chemistry .....	109-112
Civil Engineering .....	113-115
Computer Science .....	116-118
Cytotechnology .....	101-104
Diagnostic Ultrasound .....	101-104
Electrical Engineering .....	119-120
General Science .....	121-122
Health Information Administration .....	122-123
Mathematics .....	123-126
Mechanical Engineering .....	126-128
Medical Technology .....	101-104
Nuclear Medicine Technology .....	101-104
Physics .....	129-131
Premedical and Predental .....	132

### GRADUATE SCHOOL

Graduate Programs .....	134
-------------------------	-----

### ADMINISTRATION AND FACULTY

Trustees and Regents .....	135-136
Administrative Officers .....	136
Faculty .....	137-143
Index .....	144



## 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 the story of a continuing 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. It all started in 1890 when Bishop Aegidius Junger of the then Nesqually Diocese, concerned over the lack of educational opportunity for Catholic youth in the Seattle area, urged the Jesuits of the Rocky Mountain Mission territory to establish both a parish and a school in the young city. In response to repeated appeals, the mission superior sent Fathers Victor Garrand and Adrian Sweere from the Yakima station to make the establishment.

The two Jesuits arrived in Seattle in the spring of 1891 and immediately set about their task. They initially leased St. Francis Hall for their needs. This building, located at Sixth and Spring in downtown Seattle, had been constructed in the previous year by Fr. Francis X. Prefontaine, the area's first resident priest. In these quarters, rededicated as the parish and school of the Immaculate Conception, the Jesuit co-founders began their modest educational effort. They were aided in this effort by two Holy Names sisters who served as full-time teachers.

In 1893, the cornerstone of the first building on the Broadway campus was laid. Property for this building and a playground area had been purchased in 1890 by the mission procurator with the advice and assistance of Father Prefontaine. The new building, which again housed both parish church and school, was opened for classes for the "older boys" in September, 1894, and was formally dedicated in the following December.

Further progress was made in 1895 with the introduction of the first "Academic" or high school level class. In 1898, articles of incorporation were filed and duly approved by the state of Washington changing the parish school for boys into Seattle College.

The years that followed the founding of the College were mostly a time of struggle and disappointment. The frontier mentality that in many respects still prevailed in Seattle was unreceptive to either the need or the value of higher education other than in the professions. For this reason, as well as for others, it was not until 1900 that the college department was actually instituted with the class of "Humanities." In 1909, the first small but very proud class of three graduates were awarded the bachelor of arts degree.

A combination of adverse circumstances during World War I led to the suspension of college classes from 1918 to 1922. In 1919, the successful high school department moved from Broadway to a new seven acre campus on Interlaken Boulevard. This site, including two buildings suitable for school purposes, was the gift of Mr. Thomas C. McHugh. When the college department was reinstated in 1922, it, too, was housed at the new campus.

In 1931, the college and high school departments were physically separated and the College returned to the Broadway campus to a partially renovated building. Although the fall enrollment was less than fifty students, the separation of the two academic levels was to prove beneficial for both units. Within two years the first women were enrolled in credit courses at the College. The first women graduates received their degrees in 1936. In the year previous, the first professional degree program was established with the introduction of the School of Education. 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 was added in 1941.

In anticipation of the academic needs of the returning veterans of World War II, the School of Commerce and Finance was established in 1945 as the fifth major academic unit of the college. By 1948, the enrollment in all programs was nearing 3,000 students. To give expression to the growth and academic development of the previous fifteen years, the board of trustees in that year approved a further amendment to the articles of incorporation changing the institutional name to Seattle University.

The decades of the 1950's and 1960's were marked by rapid expansion of both the physical boundaries and the educational facilities of the University. In 1950, the campus comprised three permanent buildings and three World War II surplus structures. Over the next twenty years a total of twelve major buildings were added either by construction or conversion. This development took place for the most part under the direction of Fr. A.A. Lemieux, S.J., who served as University president from 1948 to 1965.

The decade of the 1970's was primarily a period of curriculum expansion achieved through the introduction of 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). In 1976, the University instituted its first doctoral degree program, the Doctorate in Educational Leadership. The list of recent academic innovations also includes master level programs in software and transportation 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.

Recent facility development of major significance includes the addition of the Gene E. Lynn Building, home of the School of Nursing, and the outdoor intramural and recreational center.

## Organization

Seattle University is an independent, coeducational institution of higher learning incorporated under the laws of the State of Washington. It is operated by its own Board of Trustees and administration under the auspices of the Society of Jesus. Its faculty and students are drawn from all races and denominations. One of 28 Jesuit institutions of higher education in the United States, it 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, 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, software engineering and transportation 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 and the City

Seattle University is located on a 52-acre campus on Seattle's historic First Hill. Within short walking distance are the city's major education, cultural and recreational facilities, business and shopping centers and the Elliott Bay waterfront.

The University's physical facilities serve a current student enrollment of 4,406. Presently, the campus contains 24 buildings, including modern classrooms, student and faculty residences and service units.

The housing facilities available on campus are Bellarmine Hall, Xavier Hall and Campion Tower. Residence halls are coed.

On campus facilities include the A.A. Lemieux Library (1967), the major study and resource center, with seating for 1,100 students. A variety of study areas, including individual carrels, study lounges and conference rooms, are available for the student's comfort and convenience.

The Connolly Center (1969) is the indoor sports and recreational facility. In addition to classroom areas, recreational facilities include two swimming areas, basketball, badminton, tennis and handball courts and a weight room and dance area.

The Student Union Building (1953), the Chieftain, houses the office of the Vice President for Student Life, student offices, dining, lounge and meeting areas. A selection of auditoriums are available in A.A. Lemieux Library, the William Pigott (1957), Thomas J. Bannan (1961) and Gene E. Lynn (1979) Buildings for films, lectures, meetings and musical presentations.



The McGoldrick Student Development Center, opened in 1976, includes the Career Planning and Placement Center, the Counseling Center, the Minority Student Affairs office, and the Campus Ministry office.

Other major campus structures include the Liberal Arts Building (1941), Bookstore Building (1964), Loyola Hall (1955), and the Jesuit faculty residence.

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 for 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 Division 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 Planning and Placement** 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 Resource 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 two eating establishments, the Chieftain Dining Room and the Tabard Inn; weekly entertainment in the Tabard Inn; a ticket booth and information center; a commuter ride board; and student lounges. Student Life administrative offices, the Student Government (ASSU), the Spectator, student newspaper, and various club and organization offices are also located in the Student Union.

**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.  
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, baseball and tennis for men, and volleyball, basketball, soccer, and tennis for 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 Dining Room, Tabard Inn and Campion Cave.

Resident students 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.

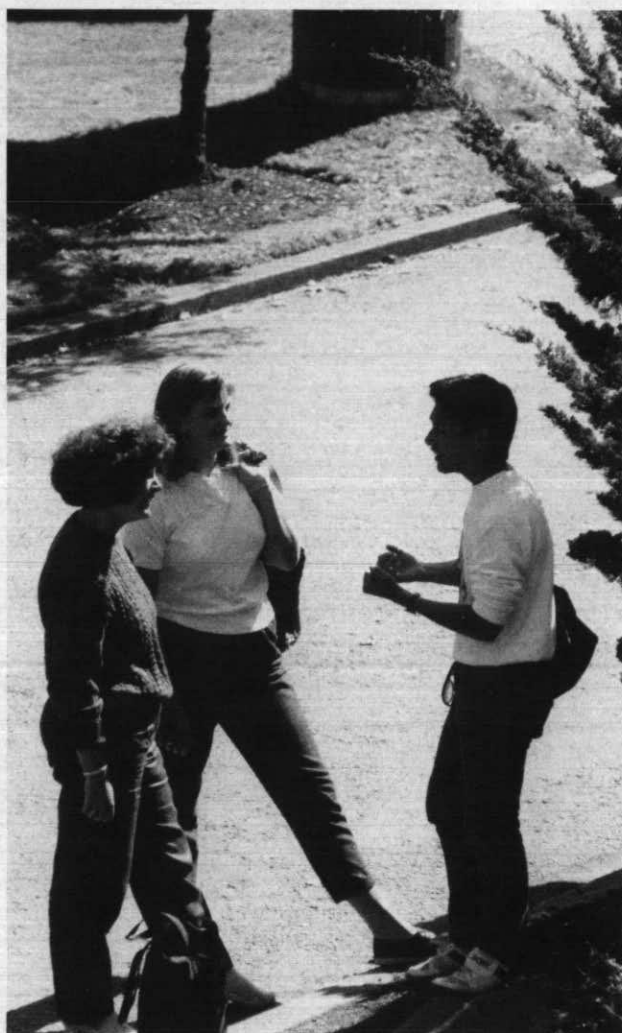
#### **Residence Halls**

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 six 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 Director 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 DIRECTOR OF ADMISSIONS, SEATTLE UNIVERSITY, SEATTLE, WASHINGTON 98122.

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, an applicant 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 blanks for those wishing to enter as freshmen may be obtained by writing Director 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 Director of Admissions.

In making application for admission you must follow these procedures after completion of at least the sixth semester:

1. Complete Section I of the Application for Undergraduate Admission and leave the entire form with your high school 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. Make remittances payable to Seattle University.
3. Have your high school transcript and transcripts of any post-secondary course work attempted 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 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 interested in receiving advanced placement in subject matter other than as set forth above should plan to take the Advanced Placement (AP) Tests of the College Board. Information concerning these tests may be obtained from high school guidance personnel 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, students must submit their test results one month prior to the quarter they plan to enroll.

#### **Early Admission**

High school students with a grade point average of 3.3 or above on the 4.0 scale and 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 gain regular status by the end of the freshman year or be subject to dismissal from the University.

#### **Special Consideration**

Mature students who give 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 admission decisions in these cases are reserved to the Vice President for Academic Affairs and the University's Board of Admissions.

### **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 Director 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 prior to 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 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 after the completion of 15 credits in residence. This credit is granted according to conditions set down under 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 status is that of permanent residence must submit TOEFL scores.

## Special Students

### (Policy 75-25)

A special student may take such undergraduate courses as the Dean of his/her school may approve. A special student is not eligible for a degree until all requirements for admission to that school have been met and regular status has been granted.

## Transient Students

Admission as a transient 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 transient student status.

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

## FINANCIAL AID

### Meeting College Costs

The financial aid program at Seattle University assists many students in meeting the expenses of their college education. This assistance, offered to both new and continuing students, may be used for normal educational expenses as well as living expenses, and is available to students without racial or religious discrimination. Students must demonstrate financial need and be academically qualified to receive financial assistance.

Seattle University expects its students and their families to make a reasonable contribution toward the expense of a college education. This expected contribution is determined by the financial need analysis of the College Scholarship Service (CSS). Financial need is the difference between the cost of attending college and the amount the student and family is expected to contribute toward that cost. Once the expected student and family contribution is determined, the University will attempt to supplement that contribution with a financial aid award which usually consists of a combination of grants, loans, and/or part-time employment. The Financial Aid Office routinely considers the student's eligibility for all types of aid with the hope, the total cost of attending Seattle University can be met from three sources — student, family, and financial aid.

Students are expected to arrive on registration day with sufficient funds to pay any portion of tuition, room and board and all fees not covered by financial aid. Those students who because of late application for a guaranteed student loan or for other reasons foresee that they will not have the required funds at the time of registration should make arrangements to secure a short-term loan from a relative, employer, credit union, bank 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 — Loan programs allow liberal repayment periods and low interest rates. Repayment normally begins after graduation.
3. EMPLOYMENT — An opportunity to work at a campus job or in a Seattle area business.

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 and John Brenner Grant Fund** A grant to a deserving Catholic student from the Yakima diocese

### **Alumni Merit 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 Cleveland 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. Thibau 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 \$6000 for undergraduate education or \$12,000 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.

Students applying for Guaranteed Student Loans must qualify on the basis of financial need and must be enrolled at least half-time. If the family's adjusted gross income, in the case of a dependent student, or the student's adjusted gross income, in the case of a self-sufficient student, is \$30,000 or less, the student is assumed to have financial need for the loan. This entitles the student to borrow up to the annual loan limit, assuming this does not exceed the student's budgeted educational costs when combined with other financial aid. If the family or student's adjusted gross income is greater than \$30,000, 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 affirmed on the student's Guaranteed Student Loan Application form.

Annual loan limits are \$2500 for undergraduate students and \$5000 for graduate students. Students may borrow up to \$12,500 during their undergraduate years. Graduate and professional students may borrow \$25,000 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 they are 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 career 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 \$200 to \$2,000 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 (formerly the Basic Educational Opportunity Grant Program)

Students considering Seattle University are encouraged to apply using either the Pell Grant application form or 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 three 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 \$2,100 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

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.

## 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 98105.

## 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 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 Planning and Placement Office 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 1986-87

Regular Courses (Fall, Winter, Spring) ..... \$148 per credit hour

Full Time Student — Annual Tuition..... \$6660 45 credit hours per year (15 credit hours per quarter)
--

#### Certificate Programs

Alcohol/Drug Studies .....	\$109 per credit hour
Applied Social Research/ Corrections .....	\$148 per credit hour
Health Information .....	\$148 per credit hour
Human Resources (I.P.S.) .....	\$148 per credit hour
Rehabilitation .....	\$148 per credit hour
Military Science 311, 312, 313, 411, 412, 413 .....	\$ 38 per credit hour
Auditors Tuition .....	\$ 47 per credit hour

A tuition prepayment of \$100 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 1986-87 (Usually per course)

Private Music Lessons .....	\$ 35
Computer Laboratory Courses .....	\$ 32
Science and Engineering Laboratory Courses .....	\$ 32
Psychology 385, 401, 402 .....	\$ 32
Education 330 .....	\$ 24
Nursing 205, 312 .....	\$ 24
Psychology 382 .....	\$ 24
Physical Education and Recreation 120, 124, 131, 135, 146, 155 .....	\$ 15
Nursing 206, 335, 337, 341, 409, 433 (per credit hour) .....	\$ 14

#### Fees — Other (Non-Refundable) 1986-87

Application — undergraduate and graduate .....	\$ 15
Application — transient students .....	\$ 15
Late Registration — per day \$9; maximum .....	\$ 90
Matriculation — undergraduate and graduate .....	\$ 45
Credit by Examination — per credit hour .....	\$ 40
Validation of Field Experience — per credit hour ...	\$ 40
Removal of Incomplete — per course .....	\$ 15
Graduation — undergraduate per degree .....	\$ 45
Certificate fee .....	\$ 30
International Student Fee — per quarter .....	\$ 12
Parking — per quarter .....	\$ 21

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

#### RESIDENCE CHARGES 1986-87

Double Occupancy .....	\$2133 for academic year \$ 711 per quarter
Single Occupancy .....	\$2883 for academic year \$ 961 per quarter
Deposit .....	\$ 85

## 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 \$9 per day to a maximum of \$90 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

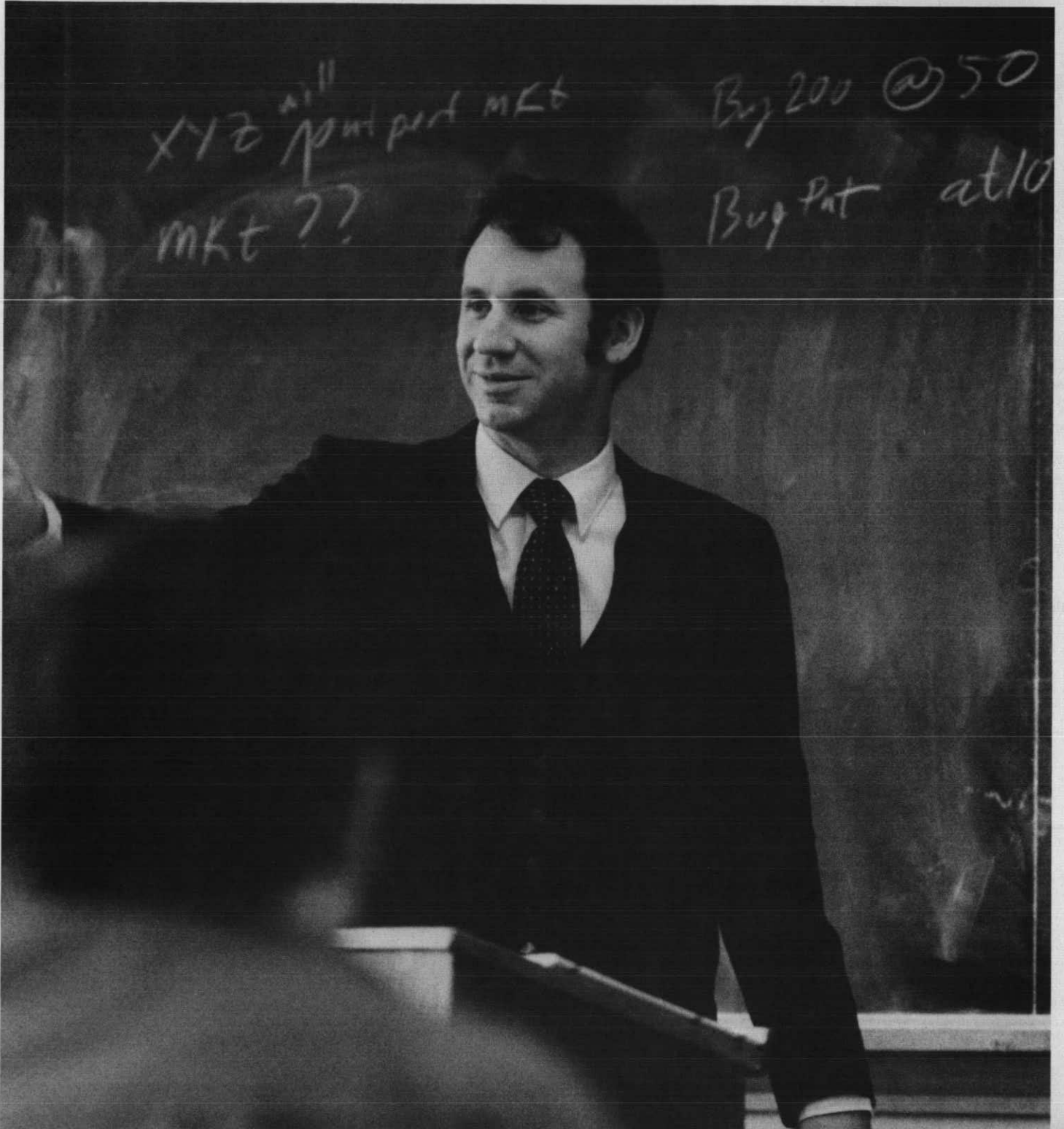
Withdrawals (full or partial)

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

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 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 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.

**TRANSIENT STUDENT** — A non-matriculated student admitted for one quarter only to take undergraduate course work. Transient student 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:

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

Other students are classified as follows:

<b>5th year—</b>	post baccalaureate students not seeking an advanced degree but seeking a second bachelor's or a certificate
<b>Graduate—</b>	post baccalaureate students admitted to Graduate School for a master's or doctorate degree program
<b>Special—</b>	an undergraduate student awaiting approval for regular status
<b>Transients—</b>	non-matriculated students registering for one or two quarters only
<b>Auditors—</b>	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 ents, with all minimum grade point average requirements satisfied.
2. Students must have been enrolled full-time (12 credits per quarter) during the previous three quarters, excluding Summer quarter.
3. Students commencing with deficiencies are not eligible for honors until they complete all degree requirements.
4. All degree requirements must be met within 12 months after commencing with deficiencies.
5. 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 simul-





taneously 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 receive 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 be 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.

### 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, re-registration 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.

## 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.

### **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. The Bulletin under which the student receives an undergraduate degree will stipulate course work for a minor.
3. Minors must include at least 30 quarter credits, including a minimum of 6 courses.
4. 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.
5. Normally, courses from the major discipline itself cannot be counted toward fulfilling minor requirements. However, if a major discipline mandates at least 75 credits in the discipline as part of its requirements for a major, then 5 credits may be counted for both major and minor requirements. See policy 84-1 regarding the counting of cognate courses toward a minor.
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 admission 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; in the event that the grade earned the second time is higher than a C, quality points equal only to a grade of C will be computed into the cumulative grade point average. 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 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 in academic subject 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 theology.

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 acquired schools and non-traditional programs are subject to additional review prior to being transferred. See Policy 79-1 for additional information.
11. 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)**

As a general rule, students are required to meet degree program requirements in effect at the time of matriculation. However, readmitted students who have been away from Seattle University for more than one calendar year may be required to follow the program as outlined in the current Bulletin.



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. Completion of all degree requirements within 10 years of the date on which the college work was begun.
6. Satisfaction of financial obligations toward the University.
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 completing 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 will be considered as having fulfilled this requirement.



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

Revised for students graduating August 1986 or later.

Graduation with honors requires completion of at least 90 credits in residence at Seattle University; this 90 minimum credits must be earned in courses grade 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.

Cum Laude	3.50 and at least 90 S.U. graded credits
Magna Cum Laude	3.70 and at least 115 S.U. graded credits
Summa Cum Laude	3.90 and at least 135 S.U. graded credits

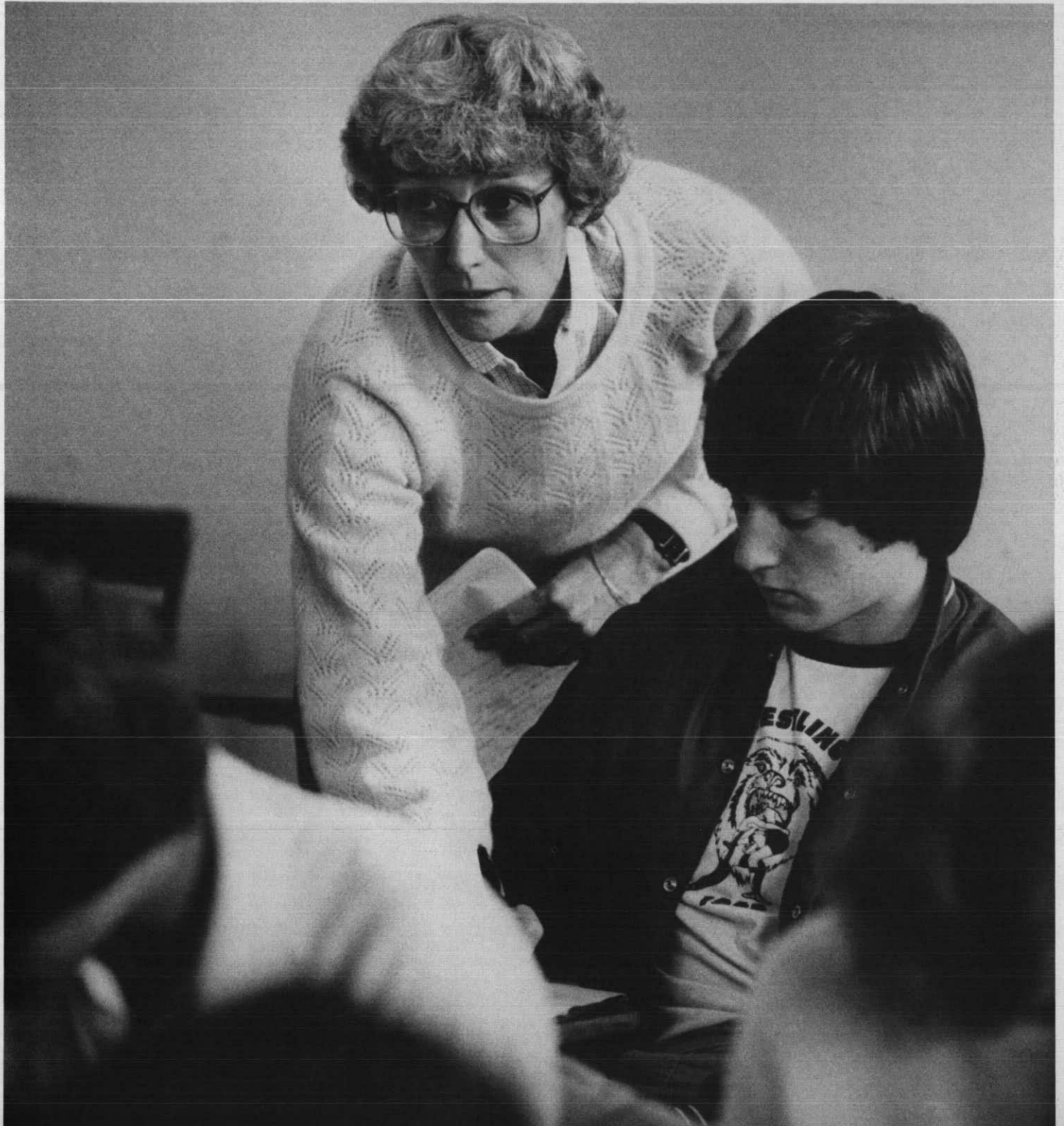
## Special Awards

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
CS	COMMUNITY SERVICES (SEE SOCIOLOGY)
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*





## The 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.

### 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
ISC 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

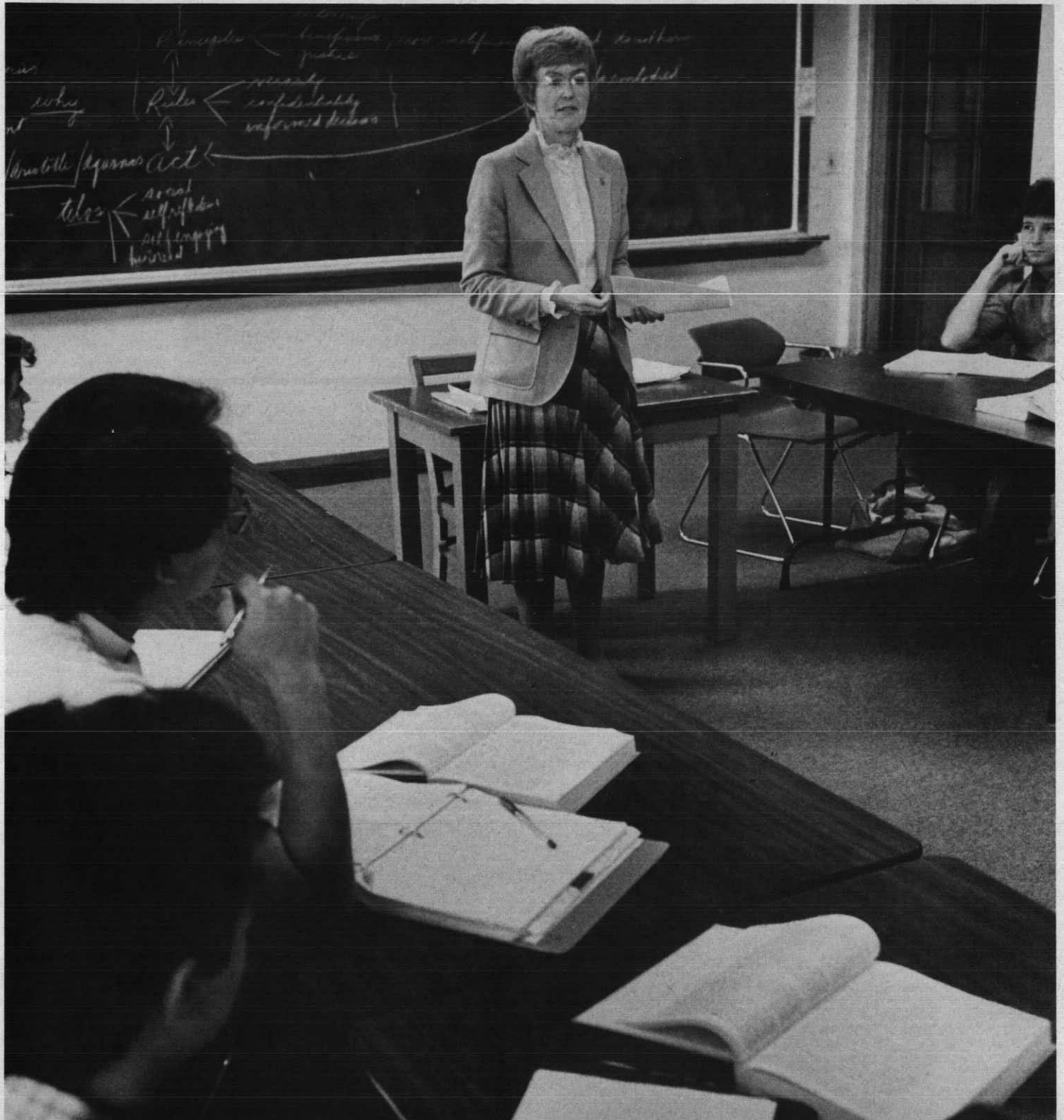
#### THEOLOGY AND RELIGIOUS STUDIES SEQUENCE ..... 10 credits

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 page 26 of this bulletin.

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 Survey of Alcoholism (Symposium) 3 credits (PSY 490)** 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** Personnel 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 Alcohol Problems in Business and Industry** **2 credits**  
Scope and cost of alcohol-related problems in American business and industry. Company policy, implementation of occupational alcoholism programs, training of supervisors. Prerequisite: Alc 402.
- 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

Herbert M. Kagi, Ph.D., 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, probation and parole, 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 page 26 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 and core option .....	10 credits
History core option .....	10 credits
Mathematics-Science core option .....	10 credits
Philosophy core option .....	15 credits
Political Science .....	5 credits
Psychology .....	5 credits
Sociology .....	5 credits
Theology core option .....	10 credits
Elective .....	5 credits

#### Junior year

Criminal Justice .....	10 credits
Economics .....	5 credits
Political Science .....	10 credits
Psychology .....	10 credits
Sociology .....	10 credits

#### Senior year

Criminal Justice .....	35 credits
Electives .....	10 credits
Total .....	180 credits

### Criminal Justice Courses

<b>CJP 291 Special Topics</b>	<b>1-5 credits</b>
<b>CJP 292 Special Topics</b>	<b>1-5 credits</b>
<b>CJP 293 Special Topics</b>	<b>1-5 credits</b>

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

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

<b>CJP 350 Police and the Community</b>	<b>5 credits</b>
<b>(SC 351)</b>	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.

<b>CJP 352 Comparative Police Systems</b>	<b>5 credits</b>
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.	

<b>CJP 355 Crime Prevention</b>	<b>5 credits</b>
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.	

<b>CJP 360 Society and Justice</b>	<b>5 credits</b>
<b>(SC 352)</b>	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.

<b>CJP 362 Deviant Behavior</b>	<b>5 credits</b>
<b>(SC 362)</b>	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.

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



**CJP 366 Corrections** **5 credits**  
**(SC 366)** 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 Juvenile Justice Systems** **5 credits**  
**(SC 412)** 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 Victimology** **5 credits**  
**(SC 415)** 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 main areas: English language, writing/rhetoric, and literature. The language courses provide the student with greater control over the lexicon, the morphology, the syntax, and the development of the English language. From the writing/rhetoric courses the student learns 1) to use and analyze the language of persuasion, argumentation, and exposition; 2) to write and speak with assurance and effectiveness; 3) to develop skills in imaginative writing (e.g., poetry and fiction). The literature courses increase in the student not only self-awareness and an understanding of human nature by the vicarious experience communicated through literary works, but also a knowledge and an appreciation of our cultural heritage and those of other parts of the world.

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 in English must satisfy the core curriculum requirements of the University as given on page 26 of this bulletin. A Fine Arts sequence, FA 101, 102, 103, is recommended. For English majors the second core course requirement is met by EN 250, 264, 265 or 266. Those students who plan to go to graduate school, unless they have already achieved reading proficiency in French or German, are strongly advised to take 10 credits of one of those languages.

### Departmental Requirements

**Bachelor of Arts (English concentration)** — 60 credits of English which must include the following courses: En 110, 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, 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, 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 as well as twenty credits of electives which may include En 265, 266, 315. 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 and Sph 100 or Sph 200. Students may select one of the following courses: Dr 404; Jr 350 or Jr 370. Electives in Written and Oral Communication: En 203, En 204, En 250, En 305, En 306, En 401, En 407, and special topics courses in Written communication; Sph 201, Sph 202, Sph 204, and special topics courses in Oral communication.

### Bachelor of Arts

#### Freshman year

English 110, 250 .....	10 credits
Fine Arts 101, 102, 103 .....	15 credits
or	
Foreign Language (Comparative Literature concentration recommended) .....	15 credits
History core option .....	10 credits
Philosophy core option .....	10 credits

#### Sophomore year

English 264, 265, 266 .....	15 credits
Mathematics/Science core option .....	5 credits
Philosophy core option .....	5 credits
Social Science core options .....	10 credits
Theology core options .....	10 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 105, 106 .....	10 credits
Mathematics/Science core options .....	5 credits
Electives .....	10 credits

### Senior year

English 300 and 400 series courses .....	15 credits
Electives .....	30 credits
Total .....	180 credits

### English Courses

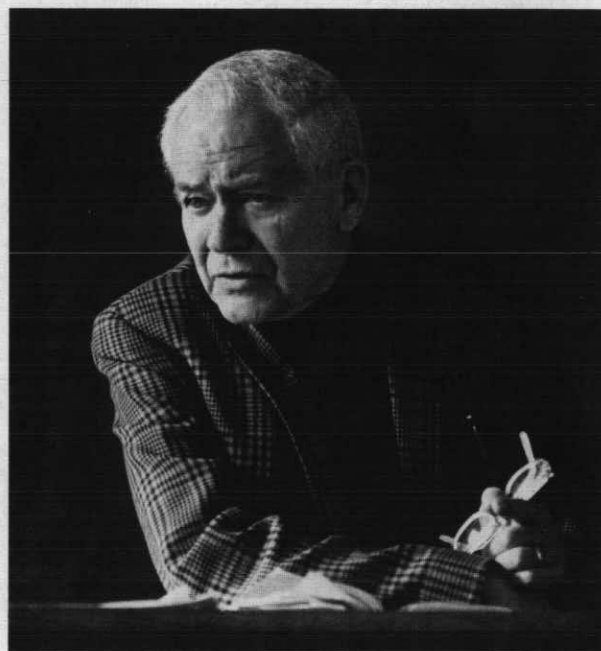
EN 103	Composition Skills I	3 credits
EN 104	Composition Skills II	2 credits
A two quarter sequence of freshman composition designed in terms of student development and enabling student to concentrate on reading and writing skills. En 103 focuses on grammar, En 104 on rhetoric. This sequence fulfills 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 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.		



<b>EN 291</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>EN 292</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>EN 293</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>EN 301</b>	<b>Rhetoric and Literary Concepts in Teaching</b>	<b>5 credits</b>
A course designed primarily for teachers. A study of writing techniques and literary terms, themes, and concepts, with application to the strategies of teaching.		
<b>EN 305</b>	<b>Writing Fiction</b>	<b>5 credits</b>
Study and practice in the forms and methods of short story writing, with subsidiary attention to other types of narrative writing.		
<b>EN 306</b>	<b>Writing Poetry</b>	<b>5 credits</b>
Study of and practice in the modes and techniques of poetic composition.		
<b>EN 307</b>	<b>Advanced Writing Skills</b>	<b>5 credits</b>
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.		
<b>EN 310</b>	<b>Introduction to Chaucer</b>	<b>5 credits</b>
Study of Chaucer's "Canterbury Tales." Required of English majors.		
<b>EN 311</b>	<b>Introduction to Medieval Literature</b>	<b>5 credits</b>
Literary selections, in modern English, representative of the life and thought of the European Middle Ages.		
<b>EN 312</b>	<b>Classics in Children's Literature</b>	<b>5 credits</b>
In-depth humanistic and interdisciplinary analysis of basic texts in children's literature: folk tales, L. Carroll, C.S. Lewis, outstanding 20th century works.		
<b>EN 313</b>	<b>Mythology</b>	<b>5 credits</b>
A comparative study of the structure and symbols, the cultural and psychological meanings of selected mythologies, including Greek mythology.		
<b>EN 314</b>	<b>Backgrounds of Western Literature I</b>	<b>5 credits</b>
<b>EN 315</b>	<b>Backgrounds of Western Literature II</b>	<b>5 credits</b>
I. From the beginnings through the Renaissance. II. From 17th Century to the Moderns. Required of English majors.		
<b>EN 330</b>	<b>Introduction to Shakespeare</b>	<b>5 credits</b>
Readings in the comedies, tragedies and histories. Required of English majors.		
<b>EN 382</b>	<b>Major American Novelists</b>	<b>5 credits</b>
American fiction from its beginning to modern times: Cooper, Melville, Twain, James, Hemingway, Faulkner and others.		
<b>EN 391</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>EN 392</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>EN 393</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>EN 394</b>	<b>Modern Tradition: Fiction</b>	<b>5 credits</b>
<b>EN 395</b>	<b>Modern Tradition: Poetry</b>	<b>5 credits</b>
<b>EN 398</b>	<b>Modern Tradition: Drama</b>	<b>5 credits</b>

<b>EN 401</b>	<b>Rhetoric, Argument and Persuasion</b>	<b>5 credits</b>
The principles of persuasive writing as found in models both classical and contemporary, with attention to the techniques of argumentation and propaganda.		
<b>EN 407</b>	<b>History of the English Language</b>	<b>5 credits</b>
Study of the historical development of English.		
<b>EN 415</b>	<b>Russian Literature</b>	<b>5 credits</b>
<b>EN 416</b>	<b>Eastern Literature</b>	<b>5 credits</b>
<b>EN 420</b>	<b>Renaissance Literature</b>	<b>5 credits</b>
<b>EN 430</b>	<b>Shakespeare</b>	<b>5 credits</b>
<b>EN 445</b>	<b>Seventeenth Century Literature</b>	<b>5 credits</b>
<b>EN 450</b>	<b>Restoration and Eighteenth Century Literature</b>	<b>5 credits</b>
<b>EN 460</b>	<b>Romantic Literature</b>	<b>5 credits</b>
<b>EN 475</b>	<b>Victorian Literature</b>	<b>5 credits</b>
<b>EN 477</b>	<b>Nineteenth Century English Novel</b>	<b>5 credits</b>
<b>EN 482</b>	<b>American Literature to 1900</b>	<b>5 credits</b>
<b>EN 484</b>	<b>Twentieth Century American Literature</b>	<b>5 credits</b>
<b>EN 487</b>	<b>Contemporary Literature</b>	<b>5 credits</b>
<b>EN 488</b>	<b>Film and Literature</b>	<b>5 credits</b>
<b>EN 490</b>	<b>Literary Criticism</b>	<b>5 credits</b>
<b>EN 491</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>EN 492</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>EN 493</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>EN 496</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>EN 497</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>EN 498</b>	<b>Independent Study</b>	<b>1-5 credits</b>





## 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

<b>SPH 200 Public Speaking</b>	<b>5 credits</b>
Theory and practice of inventing, organizing, presenting, and analyzing speeches. Emphasis on audience adaptation and the development of critical listening skills.	
<b>SPH 201 Interpersonal Speech Communication</b>	<b>5 credits</b>
Theory and practice of skills in interpersonal situations. Emphasizes self-awareness, sensitivity to others, and a humanistic approach to communication.	
<b>SPH 202 Oral Interpretation</b>	<b>5 credits</b>
Analysis and interpretation of literature. Practice in interpreting prose, poetry and drama.	
<b>SPH 204 Persuasion and Argumentation</b>	<b>5 credits</b>
The principles of effective argumentation and persuasion and their relation to responsible discussion and decision-making processes.	
<b>SPH 291 Special Topics</b>	<b>1-5 credits</b>
<b>SPH 292 Special Topics</b>	<b>1-5 credits</b>
<b>SPH 293 Special Topics</b>	<b>1-5 credits</b>
<b>SPH 310 The American Speaker</b>	<b>5 credits</b>
Study and criticism of American public speaking. Practice in contemporary methods of public speaking.	
<b>SPH 320 Speech for the Classroom Teacher</b>	<b>5 credits</b>
Emphasis on the teacher as a communicator and leader in learning communication skills. Discussion, story telling, oral interpretation and drama.	
<b>SPH 391 Special Topics</b>	<b>1-5 credits</b>
<b>SPH 491 Special Topics</b>	<b>1-5 credits</b>



## 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 DR 100, 210, 221, 222, 264, 265, 267, 320, 420, 455, 480 and FA 101, 102, and 103. In addition, fifteen credits of cross-field study must be taken in Art and Music.

**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, 370.

**Teaching Subject, Elementary, Drama (School of Education)** — 25 credits which must include Dr 100, 210, 221, 264, 420, 421, plus 7 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. Music 114 is required by the School of Education.

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

**Undergraduate Minor in Drama:** 30 credits which include FA 102 and DR 210, and 20 credits in consultation with a Drama adviser.

**Undergraduate Minor in Music:** 30 credits which include Music 115, 116, 117; 3 credits of applied music; 3 credits of ensemble; and 9 credits in consultation with a Music adviser.

## **Bachelor of Arts — Major in Art**

### **Freshman year**

Art 221 .....	6 credits
English 110 and core option .....	10 credits
Fine Arts 101 .....	5 credits
Philosophy 110, 220 .....	10 credits
Social Science core options .....	10 credits
Electives .....	4 credits

### **Sophomore year**

Art 231 .....	6 credits
Fine Arts 102 .....	5 credits
History core options .....	10 credits
Mathematics/Science core option .....	10 credits
Philosophy core option .....	5 credits
Theology core option .....	5 credits
Art Electives .....	4 credits

### **Junior year**

Art 311, 312 .....	10 credits
Art 334, 346, 351 .....	6 credits
Art 321 .....	3 credits
Drama/Music electives .....	15 credits
Fine Arts 103 .....	5 credits
Theology core option .....	5 credits

### **Senior year**

Art 446, 451 .....	4 credits
Art electives .....	10 credits
Electives .....	32 credits

Total ..... 180 credits

## **Bachelor of Arts — Major in Drama**

### **Freshman year**

Drama 100, 210 .....	8 credits
English 110 and core .....	10 credits
Fine Arts 102 .....	5 credits
History core .....	10 credits
Philosophy 110 .....	5 credits
Electives .....	7 credits

### **Sophomore year**

Drama 221, 222, 264, 265 .....	11 credits
Philosophy 220 and core .....	10 credits
Social Science core .....	10 credits
Art/Music Electives .....	5 credits
Electives .....	9 credits

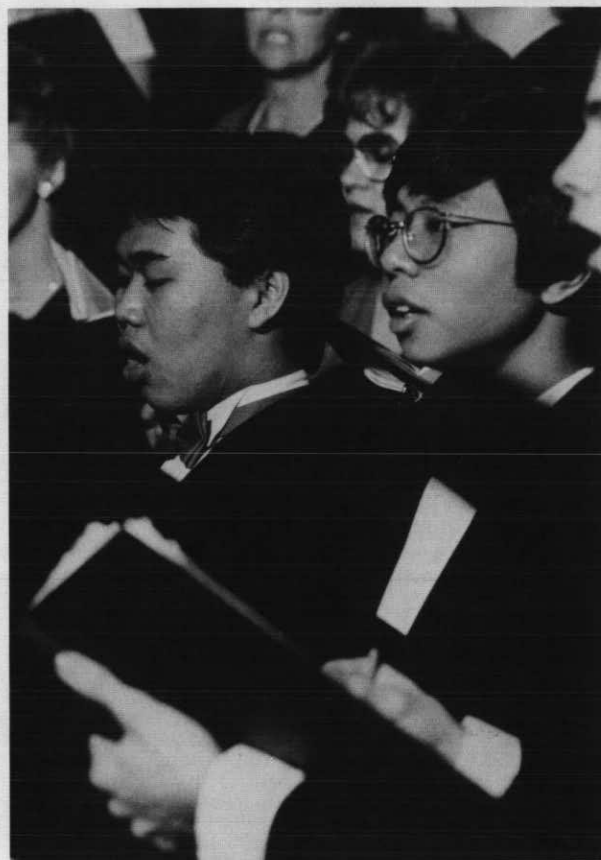
### **Junior year**

Drama 267, 320, 455 .....	12 credits
Fine Arts 101, 103 .....	10 credits
Theology core .....	5 credits
Art/Music Electives .....	10 credits
Electives .....	8 credits

### **Senior year**

Drama 420, 480 .....	4 credits
Math/Science core .....	10 credits
Theology core .....	5 credits
Drama electives .....	15 credits
Electives .....	11 credits

Total ..... 180 credits







## Bachelor of Arts — Major in Music

### Freshman year

English 110 and core option .....	10 credits
History core option .....	10 credits
Music 115, 116, 117 .....	15 credits
Music 130 or 131 or 135 .....	3 credits
Music 110 .....	2 credits
Social Science core option .....	5 credits

### Sophomore year

Fine Arts 101 .....	5 credits
Fine Arts electives .....	3 credits
Mathematics/Science core option .....	10 credits
Music 215, 216, 217, 371, 372, 373 .....	24 credits
Music 130 or 131 or 135 .....	3 credits

### Junior year

Fine Arts 102 .....	5 credits
Fine Arts electives .....	7 credits
Music 315, 370, 415 .....	9 credits
Music 110 or 111 .....	2 credits
Philosophy 110, 220 .....	10 credits
Social Science core option .....	5 credits
Theology core option .....	5 credits
Electives .....	2 credits

### Senior year

Fine Arts electives .....	3 credits
Music 110 or 111 .....	2 credits
Music 416, 417, 418 .....	15 credits
Philosophy core option .....	5 credits
Theology core option .....	5 credits
Electives .....	15 credits
<b>Total .....</b>	<b>180 credits</b>

## Fine Arts Sequence

<b>FA 101</b>	<b>Fine Arts — Art</b>	<b>5 credits</b>
	A humanistic approach to the creative arts: painting, sculpture, architecture. An examination of the great leaps of imagination.	
<b>FA 102</b>	<b>Fine Arts — Drama</b>	<b>5 credits</b>
	Introduction to drama as an art form. An historical approach with emphasis on major periods, plays and philosophies.	
<b>FA 103</b>	<b>Fine Arts — Music</b>	<b>5 credits</b>
	Introduction to music as an art and as a literature, with emphasis upon historical and cultural correlations.	
<b>FA 291</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>FA 391</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>FA 491</b>	<b>Special Topics</b>	<b>1-5 credits</b>

## 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.

<b>ART 221</b>	<b>Drawing</b>	<b>*2 credits</b>
	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.	
<b>ART 231</b>	<b>Design</b>	<b>*2 credits</b>
	Primary concepts and analysis of structure; problems of contemporary design; form in three-dimensional design. Maximum: 6 credits.	
<b>ART 291</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>ART 292</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>ART 293</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>ART 311</b>	<b>History of Art</b>	<b>5 credits</b>
<b>ART 312</b>	<b>History of Art</b>	<b>5 credits</b>
	Survey of the arts of the Western world from the earliest times to the Renaissance and from the Renaissance to the present.	
<b>ART 313</b>	<b>History of Art: Non-Western</b>	<b>5 credits</b>
	Survey of arts of the world, from their genesis to the present, concentrating on those arts outside the influence of the West.	
<b>ART 321</b>	<b>Advanced Drawing</b>	<b>*3 credits</b>
	Study of the human form; special problems in group composition. Maximum: 9 credits.	
<b>ART 334</b>	<b>Printmaking</b>	<b>*2 credits</b>
	Principles and techniques of printmaking: lithography and woodcut. Maximum: 6 credits.	
<b>ART 346</b>	<b>Painting</b>	<b>*2 credits</b>
	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 Vocal Communication** 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.

**DR 210 Pantomime** 5 credits  
Instruction in mime to express inner and outer worlds through the body. Dance movement and period style. Exercises for development of imagination, coordination, body awareness.

**DR 221 Improvisation** 3 credits  
Living in free form under imaginary circumstances. Group exercises 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 264 Scene Sculpture and Painting** 3 credits  
Exposure to contemporary materials and techniques in the design, construction and painting of scene art. Lab and Lecture.

**DR 265 Light, Color, Sound** 2 credits  
Exposure to contemporary materials, equipment and practices in the design and execution of lighting and creation of sound for theatre. Lab and Lecture.

**DR 266 Fashion and Dress** 3 credits  
Exposure to contemporary materials, procedures and techniques in design and construction of costumes for theatre; with emphasis on the history of fashion and dress. Lab and Lecture.

**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.

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

**DR 320 Theatre: Form and Content I** 5 credits

**DR 321 Theatre: Form and Content II** 5 credits

**DR 322 Theatre: Form and Content III** 5 credits

A study of historical events and ideas which formed the theatre in all its aspects. I: Greeks to Elizabethans; II: 17th to 19th Century; III: 19th and 20th Century.

**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 415 Theatre Perspectives** 5 credits

Study of the nature of theatrical genre: Tragedy, Comedy and mixture of these and other forms of theatre.

**DR 420 Directing** 2 credits

Theory and practice in principles of directing various styles of drama.

**DR 421 Directing Experience** 2 credits

Practical application of directing principles. Work done on campus or in the community. Prerequisite: DR 420 or permission.

**DR 425 Drama Internship** 1-12 credits

Apprenticeship in specific area of study in the community or on campus under the supervision of the drama faculty. Prerequisite: Drama majors only. Permission.

**DR 455 Theatre: Spatial and Visual** 5 credits

Development of the stage in Western Culture from Greeks to the present; emphasis on evolution of theatre building and physical elements of theatre production. Seminar.

**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.

**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. All courses which may be taken more than once are indicated with an asterisk (\*) next to the credits.

<b>MU 110</b>	<b>Piano Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits	
<b>MU 111</b>	<b>Voice Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits	
<b>MU 114</b>	<b>Music Fundamentals and Methods</b>	<b>5 credits</b>
	Rudiments of music and methods that will lead to a successful music program in the elementary school. Required of all majors in elementary school education.	
<b>MU 115</b>	<b>Theory I</b>	<b>5 credits</b>
<b>MU 116</b>	<b>Theory II</b>	<b>5 credits</b>
<b>MU 117</b>	<b>Theory III</b>	<b>5 credits</b>
	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.	
<b>MU 120</b>	<b>Violin Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits	
<b>MU 121</b>	<b>Viola Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits	
<b>MU 122</b>	<b>Cello Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits	
<b>MU 123</b>	<b>Classical Guitar Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits	
<b>MU 125</b>	<b>Organ Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits	
<b>MU 126</b>	<b>Flute Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits	
<b>MU 127</b>	<b>Clarinet/Saxophone Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits	
<b>MU 128</b>	<b>Trumpet Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits	
<b>MU 129</b>	<b>Percussion Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits	
<b>MU 130</b>	<b>University Chorale</b>	<b>*1 credit</b>
	Maximum 12 credits	
<b>MU 131</b>	<b>Chamber singers</b>	<b>*1 credit</b>
	Maximum 12 credits	
<b>MU 135</b>	<b>Fine Arts Ensemble</b>	<b>*1 credit</b>
	Instruments, singers, dancers and actors in ensemble performance. Maximum 12 credits.	
<b>MU 136</b>	<b>Orchestra</b>	<b>*1 credit</b>
	Prerequisite: Audition. Maximum 12 credits.	
<b>MU 207</b>	<b>History of Jazz</b>	<b>2 credits</b>
	Explorations of origins in Afro-American culture, its evolution as a result of merging cultures and the accomplishment of a distinctly new musical language.	
<b>MU 215</b>	<b>Theory IV</b>	<b>5 credits</b>
<b>MU 216</b>	<b>Theory V</b>	<b>5 credits</b>
	Advanced musicianship, beginning part writing and analysis.	
<b>MU 217</b>	<b>Theory VI</b>	<b>5 credits</b>
	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.	
<b>MU 291</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>MU 292</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>MU 293</b>	<b>Special Topics</b>	<b>1-5 credits</b>

<b>MU 310</b>	<b>Piano Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits.	
<b>MU 311</b>	<b>Voice Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits	
<b>MU 315</b>	<b>Form and Analysis</b>	<b>3 credits</b>
	Analytic study of the larger forms of music, including two- and three-part song forms, theme and variation, and the evolution of sonata forms.	
<b>MU 320</b>	<b>Violin Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits	
<b>MU 321</b>	<b>Viola Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits	
<b>MU 322</b>	<b>Cello Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits	
<b>MU 323</b>	<b>Classical Guitar Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits	
<b>MU 325</b>	<b>Organ Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits	
<b>MU 326</b>	<b>Flute Lessons</b>	<b>*1-2 credits</b>
	Mandatory CR/NC; maximum 12 credits.	
<b>MU 370</b>	<b>History and Literature of Music in the Middle Ages and Renaissance</b>	<b>3 credits</b>
	Historical survey of principal forms of medieval and Renaissance music, including Gregorian chant, motet, mass and madrigal.	
<b>MU 371</b>	<b>History and Literature of Music in the Baroque period</b>	<b>3 credits</b>
	Historical survey of the principal forms of baroque music, the opera, concerto and sonata.	
<b>MU 372</b>	<b>History and Literature of Music Classical Period</b>	<b>3 credits</b>
	History survey of the principal forms of Classical Period music, including the symphony, the solo concerto, the opera and chamber music. Corequisite: Mu 216	
<b>MU 373</b>	<b>History and Literature of Music Romantic Period</b>	<b>3 credits</b>
	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	
<b>MU 374</b>	<b>World Music Cultures</b>	<b>5 credits</b>
	A socio-cultural survey and analysis of the music of Africa, the Middle East, Asia, Oceania and Latin America.	
<b>MU 391</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>MU 392</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>MU 393</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>MU 415</b>	<b>Modal Counterpoint</b>	<b>3 credits</b>
	Sixteenth-Century contrapuntal style as found in the music of Palestrina and his contemporaries. For music majors. Corequisite: Mu 370.	
<b>MU 416</b>	<b>Tonal Counterpoint</b>	<b>5 credits</b>
	Eighteenth-Century contrapuntal style as found in the music of Bach and his contemporaries. For music majors.	
<b>MU 417</b>	<b>20th Century Techniques</b>	<b>5 credits</b>
	Contrapuntal techniques as used by composers in the Twentieth Century. For music majors.	
<b>MU 418</b>	<b>Orchestration</b>	<b>5 credits</b>
	Practical application of study of the instruments and their creative use. Prerequisite: Permission of adviser.	
<b>MU 491</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>MU 492</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>MU 493</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>MU 496</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>MU 497</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>MU 498</b>	<b>Independent Study</b>	<b>1-5 credits</b>



## 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 page 26 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, 133, or 200 .....	10 credits
History core .....	10 credits
Major Language 115, 125, 135 .....	15 credits
Electives .....	10 credits

#### Sophomore Year

Major Language 215, 225, 235 .....	15 credits
Mathematics/Science core options .....	10 credits
Philosophy 110 .....	5 credits
Social Science core .....	10 credits
Theology core .....	5 credits

#### Junior Year

Major Language 315, 325, one 400 level .....	15 credits
Philosophy 220 and Philosophy core option ...	10 credits
Minor Language (optional) 115, 125, 135 .....	15 credits
Theology core .....	5 credits

#### Senior Year

Major Language, two 400 level .....	10 credits
Minor Language (optional) 215, 225, 235, 315 .....	20 credits
Electives .....	15 credits
<b>Total .....</b>	<b>180 credits</b>

## Modern Language Courses

### French Courses

<b>FR 105</b>	<b>Reading French</b>	<b>5 credits</b>
<b>FR 106</b>	<b>Reading French</b>	<b>5 credits</b>
An intensive two-course program of study of written French for reading and translation with accuracy and comprehension.		
<b>FR 115</b>	<b>French Language I</b>	<b>5 credits</b>
<b>FR 125</b>	<b>French Language II</b>	<b>5 credits</b>
<b>FR 135</b>	<b>French Language III</b>	<b>5 credits</b>
<b>FR 215</b>	<b>French Language IV</b>	<b>5 credits</b>
<b>FR 225</b>	<b>French Language V</b>	<b>5 credits</b>
<b>FR 235</b>	<b>French Language VI</b>	<b>5 credits</b>
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.		
<b>FR 315</b>	<b>French Culture and Civilization</b>	<b>5 credits</b>
An introduction to French culture and civilization with emphasis on the basic traditions and structures of French society.		
<b>FR 325</b>	<b>Introduction to French Literature</b>	<b>5 credits</b>
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.		
<b>FR 415</b>	<b>French Literature and Culture, 19th Century</b>	<b>5 credits</b>
A study of the literary movements in 19th century French literature based on an historical approach to representative authors and works.		
<b>FR 425</b>	<b>French Literature and Culture, 17th Century</b>	<b>5 credits</b>
A study of the development of 17th century French Classicism as it is reflected in the major works of the period.		

<b>FR 435</b>	<b>French Literature and Culture, 18th Century</b>	<b>5 credits</b>
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.		
<b>FR 445</b>	<b>French Literature and Culture, 20th Century</b>	<b>5 credits</b>
A survey of 20th century French literature and culture which reflects the social and intellectual trends in modern France.		
<b>FR 450</b>	<b>Methodology of Teaching French</b>	<b>5 credits</b>
An overview of the various methods and approaches currently being used to teach French.		
<b>FR 452</b>	<b>Language Development/Modern French</b>	<b>5 credits</b>
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.		
<b>FR 463</b>	<b>Contemporary France</b>	<b>5 credits</b>
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

<b>GR 115</b>	<b>German Language I</b>	<b>5 credits</b>
<b>GR 125</b>	<b>German Language II</b>	<b>5 credits</b>
<b>GR 135</b>	<b>German Language III</b>	<b>5 credits</b>
<b>GR 215</b>	<b>German Language IV</b>	<b>5 credits</b>
<b>GR 225</b>	<b>German Language V</b>	<b>5 credits</b>
<b>GR 235</b>	<b>German Language VI</b>	<b>5 credits</b>
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.		
<b>GR 315</b>	<b>German Culture and Civilization</b>	<b>5 credits</b>
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.		
<b>GR 325</b>	<b>Introduction to German Literature</b>	<b>5 credits</b>
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.		
<b>GR 416</b>	<b>German Literature and Culture, Beginnings to the 18th Century</b>	<b>5 credits</b>
A study of the German tradition from the earliest writings up to the 18th century.		
<b>GR 426</b>	<b>German Literature and Culture, 18th Century</b>	<b>5 credits</b>
An analysis of the major works of German literature integrated with the historical trends and philosophical currents of 18th century Germany.		
<b>GR 431</b>	<b>German Literature and Culture, 19th Century</b>	<b>5 credits</b>
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.		
<b>GR 436</b>	<b>German Literature and Culture, 20th Century</b>	<b>5 credits</b>
A survey of 20th century German literature and culture which reflects the social, political, and intellectual trends of modern Germany.		
<b>GR 440</b>	<b>German Classicism and Romanticism</b>	<b>5 credits</b>
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.

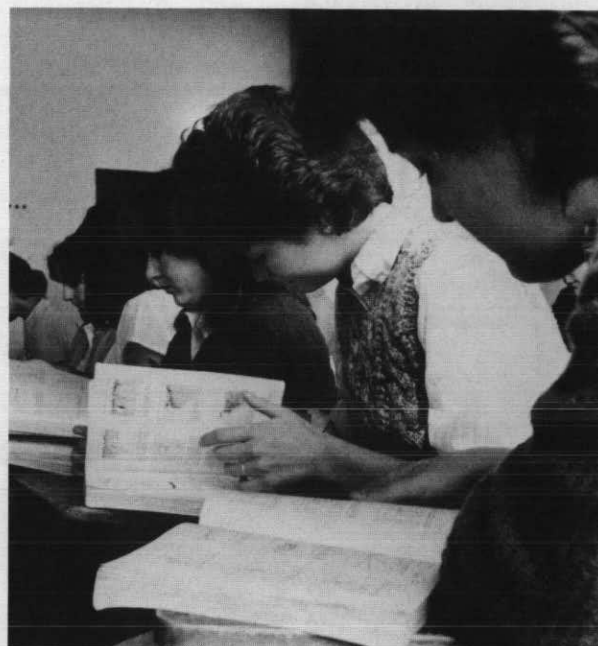
### Spanish Courses

- 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

- |               |                          |                    |
|---------------|--------------------------|--------------------|
| <b>FL 191</b> | <b>Special Topics</b>    | <b>1-5 credits</b> |
| <b>FL 192</b> | <b>Special Topics</b>    | <b>1-5 credits</b> |
| <b>FL 193</b> | <b>Special Topics</b>    | <b>1-5 credits</b> |
| <b>FL 196</b> | <b>Independent Study</b> | <b>1-5 credits</b> |
| <b>FL 197</b> | <b>Independent Study</b> | <b>1-5 credits</b> |
| <b>FL 198</b> | <b>Independent Study</b> | <b>1-5 credits</b> |
| <b>FL 291</b> | <b>Special Topics</b>    | <b>1-5 credits</b> |
| <b>FL 292</b> | <b>Special Topics</b>    | <b>1-5 credits</b> |
| <b>FL 293</b> | <b>Special Topics</b>    | <b>1-5 credits</b> |
| <b>FL 296</b> | <b>Independent Study</b> | <b>1-5 credits</b> |
| <b>FL 297</b> | <b>Independent Study</b> | <b>1-5 credits</b> |
| <b>FL 298</b> | <b>Independent Study</b> | <b>1-5 credits</b> |
| <b>FL 391</b> | <b>Special Topics</b>    | <b>1-5 credits</b> |
| <b>FL 392</b> | <b>Special Topics</b>    | <b>1-5 credits</b> |
| <b>FL 393</b> | <b>Special Topics</b>    | <b>1-5 credits</b> |
| <b>FL 396</b> | <b>Independent Study</b> | <b>1-5 credits</b> |
| <b>FL 397</b> | <b>Independent Study</b> | <b>1-5 credits</b> |
| <b>FL 398</b> | <b>Independent Study</b> | <b>1-5 credits</b> |
| <b>FL 491</b> | <b>Special Topics</b>    | <b>1-5 credits</b> |
| <b>FL 492</b> | <b>Special Topics</b>    | <b>1-5 credits</b> |
| <b>FL 493</b> | <b>Special Topics</b>    | <b>1-5 credits</b> |
| <b>FL 496</b> | <b>Independent Study</b> | <b>1-5 credits</b> |
| <b>FL 497</b> | <b>Independent Study</b> | <b>1-5 credits</b> |
| <b>FL 498</b> | <b>Independent Study</b> | <b>1-5 credits</b> |





## 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 atypical 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.

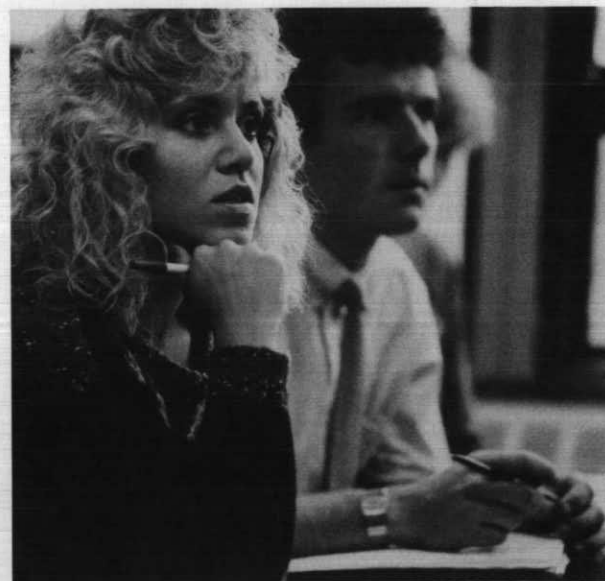
### General Program Requirements

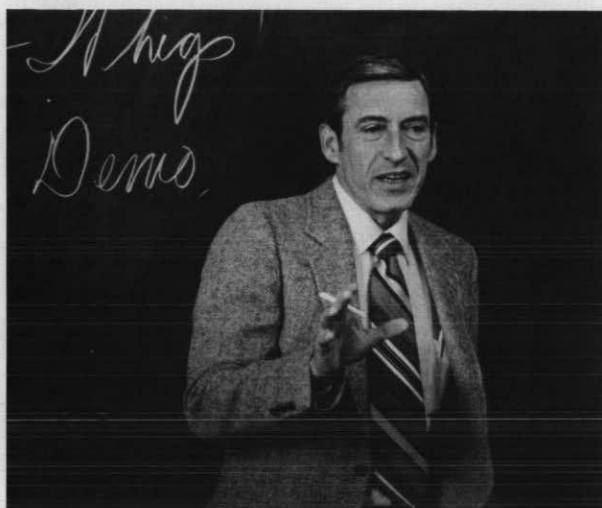
The Minor requires completion of 30 credits of coursework, including a five credit course from each of the following areas: Global Politics, Global Political Economy, Cultural Encounters, Global Issues, Non-West Studies, and Elective in Global Studies. In consultation with a Global Studies Adviser, the 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, but may not 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 page 26 of this bulletin. Required sequences are 15 credits of philosophy and 10 credits each of English, theology, social science and mathematics/science.

### Departmental Requirements

**Bachelor of Arts** — 60 credits including Hs 104 and 105, 200, 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.

## Bachelor of Arts

### Freshman year

English 110 and core option .....	10 credits
Hs 104, 105 and history elective .....	15 credits
Philosophy 110 .....	5 credits
Electives .....	15 credits

### Sophomore year

Hs 200 and history electives .....	15 credits
Philosophy 220 and core option .....	10 credits
Theology core option .....	5 credits
Electives .....	15 credits

### Junior year

History electives .....	15 credits
Mathematics/Science core options .....	10 credits
Social science core option .....	5 credits
Theology core option .....	5 credits
Electives .....	10 credits

### Senior year

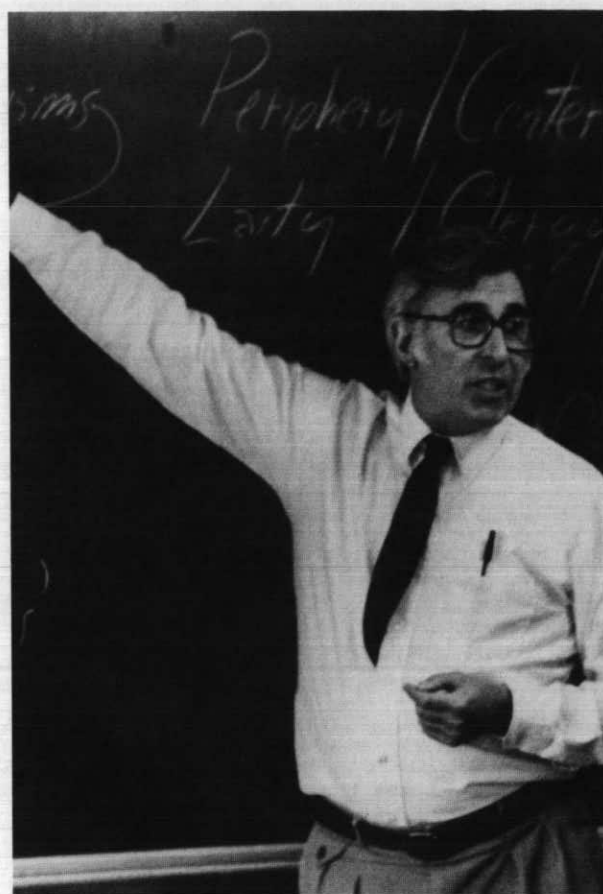
Modern language or electives .....	10 credits
Hs 400, and history electives .....	15 credits
Social Science core option .....	5 credits
Electives .....	15 credits
<b>Total .....</b>	<b>180 credits</b>

## History Courses

<b>HS 104</b>	<b>Western Civilization I</b>	<b>5 credits</b>
	A study of the ideas, values and institutions that comprised Western Civilization, through the 17th century.	
<b>HS 105</b>	<b>Western Civilization II</b>	<b>5 credits</b>
	The development of Western civilization from the 18th through the 20th centuries and its impact on the non-Western World.	
<b>HS 200</b>	<b>Methodology</b>	<b>5 credits</b>
	Techniques of historical research, criticism and writing.	
<b>HS 231</b>	<b>Survey of the United States</b>	<b>5 credits</b>
	Events, movements, ideas and institutions of American history from the era of discovery to the present.	
<b>HS 241</b>	<b>Afro-American History</b>	<b>5 credits</b>
	African origins, the slave trade, the Afro-American experience; the contributions of Afro-Americans to American culture.	
<b>HS 271</b>	<b>Survey of Russian History</b>	<b>5 credits</b>
	An introduction to the history and culture of Russia and the Soviet Union.	
<b>HS 281</b>	<b>Survey of the Far East since 1900</b>	<b>5 credits</b>
	Domestic and international development of China, Japan and the states of Southeast Asia.	
<b>HS 291</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>HS 292</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>HS 293</b>	<b>Special Topics</b>	<b>1-5 credits</b>



- 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, science, English, history and theology/religious studies. 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, journalism 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.

The journalism program is specifically directed toward editorial competence, the basis for careers in all areas of mass communications. It seeks to produce graduates who can become responsible professional journalists or who can undertake graduate study in specialized areas.

### Degree Offered

Bachelor of Arts

### General Program Requirements

Students in journalism must satisfy the core curriculum requirements of the University as given on page 26 of this bulletin. Journalism students must receive a minimum grade of C in any journalism course to be applied toward major requirements.

During the junior year the journalism student will be asked to specify an area of interest such as print or broadcast journalism, or public relations, or general study. With an adviser he/she will then plan a sequence of courses to meet individual requirements.

Practical experience is an essential complement to the communications student's course work. This experience should be gained through work as a staff member of a student publication and in internships.

### 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; 10 credits of English beyond core requirements numbered 200 or above; 5 additional credits of social science; 10 credits of upper division history courses (or approved substitutes); 10 credits of language or fine arts and/or speech and drama courses.

**Bachelor of Arts, Public Relations/Communications Sequence** — 50 credits including Jr 100, 200, 210, 250, 330 and 490; 10 credits of English beyond core requirements; 5 additional credits of social science; 10 credits of upper division history courses (or approved substitutes); 10 credits of fine arts and/or speech and drama courses.

**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 upper division courses.

### Typical Four-Year Degree Sequence

#### Bachelor of Arts

##### Freshman year

English 110 and core option.....	10 credits
History core options.....	10 credits
Journalism 100, 200, 210, 250 .....	20 credits
Social Science core options.....	5 credits

##### Sophomore year

English 200/300 options.....	5 credits
Journalism 380, 381, 382.....	3 credits
Modern Language, Fine Arts or Speech/Drama options.....	10 credits
Philosophy 110, 220.....	10 credits
Social science option .....	5 credits
Theology core options.....	10 credits





### Junior year

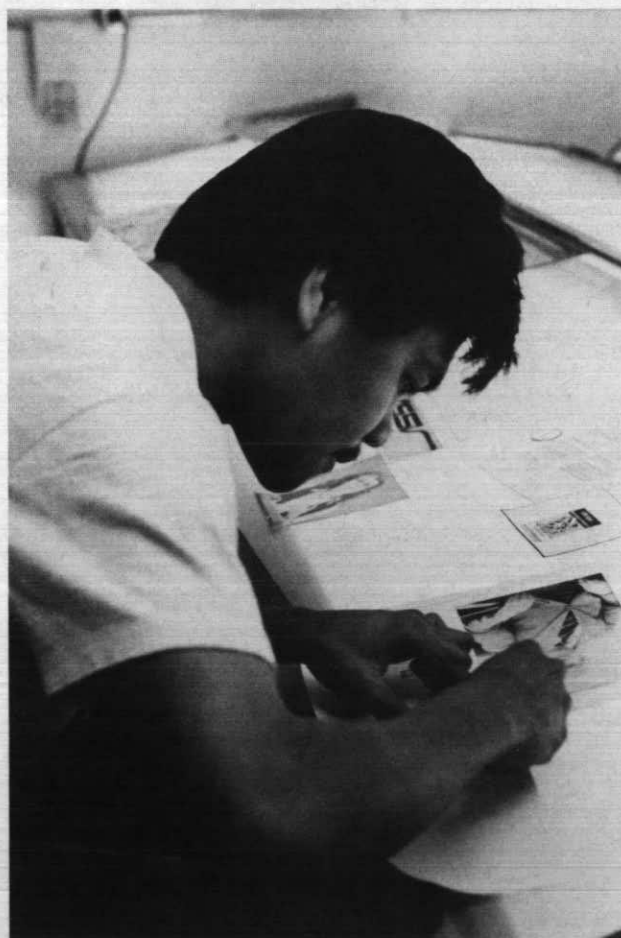
English 200/300 options .....	5 credits
History 300/400 options .....	10 credits
Journalism 300/400 requirements, options .....	17 credits
Philosophy core option .....	5 credits
Mathematics/Science core options .....	10 credits

### Senior year

Journalism 300/400 requirements, options .....	15 credits
Electives .....	30 credits
<b>Total .....</b>	<b>180 credits</b>

### Journalism Courses

<b>JR 100</b>	<b>Introduction to Journalism</b>	<b>5 credits</b>
	Review of grammar for journalists. Introduction to journalistic style and terminology; writing news leads and basic news stories. (fall)	
<b>JR 200</b>	<b>Mass Communication and Society</b>	<b>5 credits</b>
	Historical press concepts; nature and functions of the mass media; social, political and economic roles; principles governing journalistic communication; role of the news consumer. (fall)	
<b>JR 210</b>	<b>News writing</b>	<b>5 credits</b>
	Elements of the news story; practice in gathering data for and writing news stories. Prerequisite: Jr 100. (spring)	



<b>JR 250</b>	<b>News editing</b>	<b>5 credits</b>
	Copy and proof editing procedures; headline writing, layout and makeup of the newspaper; photographic editing techniques. (winter)	
<b>JR 291</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>JR 292</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>JR 293</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>JR 310</b>	<b>Reporting Public Affairs</b>	<b>5 credits</b>
	Study of and practice in gathering and writing complex news stories based upon activities of government, judicial and community agencies. Prerequisite: Jr 210. (fall)	
<b>JR 320</b>	<b>Photojournalism I</b>	<b>2 credits</b>
<b>JR 321</b>	<b>Photojournalism II</b>	<b>2 credits</b>
<b>JR 322</b>	<b>Photojournalism III</b>	<b>2 credits</b>
	Elementary principles of news photography, processing and picture editing. Photography for student publications. Prerequisite: Permission of department chairman. (Biennially, I-fall, II-winter, III-spring)	
<b>JR 330</b>	<b>History of Journalism</b>	<b>5 credits</b>
	Study of the origins and growth of the American press from colonial to modern times. (Biennially)	
<b>JR 350</b>	<b>Magazine and Feature Writing</b>	<b>5 credits</b>
	Elements of non-fiction articles for newspapers and magazines; study of markets; writing for sale. (Biennially)	
<b>JR 355</b>	<b>Communications Graphics</b>	<b>5 credits</b>
	Basic typographic, layout and design concepts. Editing techniques for organizational publications. Planning and purchasing printing. (Biennially, winter)	
<b>JR 370</b>	<b>Editorial and Opinion Writing</b>	<b>5 credits</b>
	Nature, function and structure of persuasive writing; analysis of media editorials; practice in editorial writing. (Biennially)	
<b>JR 380</b>	<b>Publications I</b>	<b>1 credit</b>
<b>JR 381</b>	<b>Publications II</b>	<b>1 credit</b>
<b>JR 382</b>	<b>Publications III</b>	<b>1 credit</b>
	Supervised editorial work on student publications. Prerequisite: Permission of department chairman. Mandatory CR/NC. (I-fall, II-winter, III-spring)	
<b>JR 460</b>	<b>Public Relations</b>	<b>5 credits</b>
	Public relations as a management function; policies, procedures and problems; program analysis and case study. (Biennially)	
<b>JR 480</b>	<b>Publications IV</b>	<b>1 credit</b>
<b>JR 481</b>	<b>Publications V</b>	<b>1 credit</b>
<b>JR 482</b>	<b>Publications VI</b>	<b>1 credit</b>
	Advanced, supervised editorial work on student publications. Prerequisite: Permission of department chairman. Mandatory CR/NC. (IV-fall, V-winter, VI-spring)	
<b>JR 490</b>	<b>Law and Ethics of Journalism</b>	<b>5 credits</b>
	Seminar in contemporary legal and ethical problems for journalists. (Biennially)	
<b>JR 491</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>JR 492</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>JR 493</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>JR 496</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>JR 497</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>JR 498</b>	<b>Independent Study</b>	<b>1-5 credits</b>
	Supervised research in communications; special projects; internships on media and affiliated agencies. Prerequisite: Permission of department chairman.	



## 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 select 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 subsistence of \$100. The second type of assistance provides a \$100 per month subsistence 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 113 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, 213, 214 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 411, 412 and 413 or Independent Study .... 9 credits  
PME: Military History ..... 5 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

- |                     |  |                    |
|---------------------|--|--------------------|
| <b>MS 111 (101)</b> | <b>Basic Officership I</b><br>An introduction to the officership environment, military science, key legislation, roles of active and reserve component units, and special programs associated with ROTC. (fall)  | <b>2 credits</b>   |
| <b>MS 112 (102)</b> | <b>Military Communication Skills</b><br>Development of written and oral communication skills for the military leader. Practical application through student participation, presentations and writing projects. (winter)  | <b>2 credits</b>   |
| <b>MS 113 (103)</b> | <b>Contemporary Social Issues</b><br>Explores contemporary social and political issues impacting on the Army of the eighties as they relate to the junior officer leader. (spring)   | <b>2 credits</b>   |
| <b>MS 211 (201)</b> | <b>Basic Officership II</b><br>An in-depth look at the characteristics of officership, roles of the officer interaction with specific command and staff elements, and an introduction to specific competencies required of an officer. (fall)  | <b>2 credits</b>   |
| <b>MS 213 (203)</b> | <b>Leadership Assessment</b><br>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). (spring) | <b>2 credits</b>   |
| <b>MS 214</b>       | <b>Military Ethics and Values</b><br>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. (biennial)  | <b>2 credits</b>   |
| <b>MS 217 (208)</b> | <b>Army Conditioning</b><br>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)  | <b>1 credit</b>    |
| <b>MS 291</b>       | <b>Special Topics</b>  | <b>1-5 credits</b> |
| <b>MS 292</b>       | <b>Special Topics</b>  | <b>1-5 credits</b> |
| <b>MS 293</b>       | <b>Special Topics</b>  | <b>1-5 credits</b> |
| <b>MS 296</b>       | <b>Independent Study</b>   | <b>1-5 credits</b> |

### Military Science Advanced Courses

- |                     |  |                  |
|---------------------|--|------------------|
| <b>MS 311 (302)</b> | <b>Advanced Officership III</b><br>An orientation on the competencies required of the small unit leader, manager. Includes lower-echelon organizations, tactics, deployment and communications. Permission of instructor. (fall) | <b>3 credits</b> |
| <b>MS 312 (301)</b> | <b>Land Navigation Competencies</b><br>Principles of land navigation using terrain analysis, map reading, aerial photograph interpretation, and the basics of orienteering. Permission of instructor. (winter)                   | <b>3 credits</b> |
| <b>MS 313 (303)</b> | <b>Officership/Leadership/Management</b><br>A survey course of leadership/management and motivational theories required of the small unit leader. In-  | <b>3 credits</b> |

cludes ethics and professionalism, human behavior and the decisionmaking process. Permission of instructor. (spring)

- |                     |   |                    |
|---------------------|---|--------------------|
| <b>MS 314 (304)</b> | <b>Advanced Camp</b><br>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)                         | <b>4 credits</b>   |
| <b>MS 315</b>       | <b>Advanced Camp - Nursing</b><br>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)    | <b>4 credits</b>   |
| <b>MS 411 (402)</b> | <b>Special Relationships/Activities</b><br>An introduction to the precommissioning year. Synthesizes organizations, components and services. Highlights logistic and justice systems and interaction of special staff and command functions. Permission of instructor. (fall)   | <b>3 credits</b>   |
| <b>MS 412 (401)</b> | <b>Professionalism and Responsibility</b><br>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. (winter) | <b>3 credits</b>   |
| <b>MS 413 (403)</b> | <b>Contemporary Political and Social Issues</b><br>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 Army. Permission of instructor. (spring)                             | <b>3 credits</b>   |
| <b>MS 496</b>       | <b>Independent Study</b>  | <b>1-5 credits</b> |

## 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 subsistence 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

- |               |  |                  |
|---------------|--|------------------|
| <b>AS 101</b> | <b>Aerospace Studies 100</b>   | <b>1 credits</b> |
| <b>102</b>    | 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.  |                  |
| <b>103</b>    |  |                  |
| <b>AS 211</b> | <b>Aerospace Studies 200</b>   | <b>2 credits</b> |
| <b>212</b>    | 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. |                  |
| <b>213</b>    |  |                  |

### Professional Officer Courses

- |               |   |                  |
|---------------|---|------------------|
| <b>AS 331</b> | <b>Aerospace Studies 300</b>  | <b>3 credits</b> |
| <b>332</b>    | 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.   |                  |
| <b>333</b>    |   |                  |
| <b>AS 431</b> | <b>Aerospace Studies 400</b>  | <b>3 credits</b> |
| <b>432</b>    | 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. |                  |
| <b>433</b>    |   |                  |



### Philosophy

Andrew G. Bjeiland, 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 the student to the language of universal communication whereby he/she 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 page 26 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: PI 110, 220, 260 or 261
- II Ethics: PI 250
- III History and Traditions: PI 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 PI 220. They are credited with the following equivalents: Hu 101=PI 110; Hu 102/3=PI 442; Hu 201=PI 233; Hu 202=PI 355; Hu 203=PI 365.

**Undergraduate Minor** — 35 credits of philosophy which must include PI 110, 220, 250, 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

English 110 and core option .....	10 credits
History core options .....	10 credits
Philosophy 110, 220 .....	10 credits
Social Science core options .....	10 credits
Elective .....	5 credits

### Sophomore year

Mathematics/Science core options .....	10 credits
Philosophy 233, 250, 260 or 261 .....	15 credits
Philosophy course in fulfillment of "Topics and Controversies" requirement .....	5 credits
Electives .....	15 credits

### Junior year

Modern language 105, 106 .....	10 credits
Philosophy seminars and upper division courses .....	15 credits
Electives .....	20 credits

### Senior year

Philosophy seminars and upper division courses .....	10 credits
Theology core option .....	10 credits
Electives .....	25 credits
<b>Total .....</b>	<b>180 credits</b>

## Philosophy Courses

- PL 110 Philosophical Problems: World 5 credits**  
A combined historical and problematic approach to the nature of philosophical inquiry. An introduction to fundamental philosophical problems of being, language, logic, knowledge, reality, human existence and God.
- 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: PI 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: PI 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: PI 220.

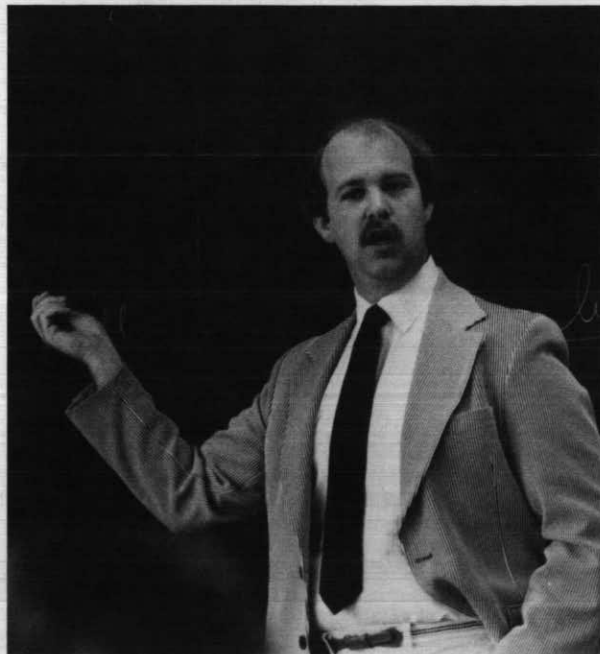
- PL 233 Introduction to Modern Philosophy 5 credits**  
Investigation of topics, problems and doctrines of selected authors from the 17th and 18th centuries. Prerequisite: PI 220.

- PL 240 Critical Thinking 5 credits**  
An introduction to the basic tools of critical interpretation, practical argumentation, problem solving and cognitive communication. Special emphasis upon application of these tools within the context of various test-taking situations, disciplines and careers.

- 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: PI 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. Prerequisite: PI 220.

- 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: PI 220.



**PL 256 Engineering Ethics** 5 credits  
Application of ethical theories of 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.

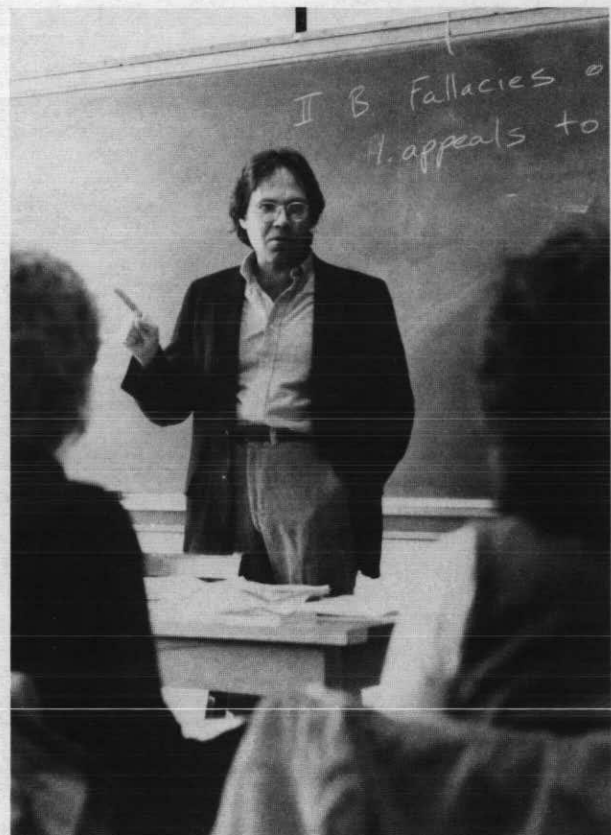
**PL 302 Approaches to Knowledge and Reality** 5 credits  
Examination of the interrelations between theories of knowledge and metaphysics, with emphasis on: the nature and scope of human knowledge; the relations of perception to understanding; change and causality; the possible and the real. Prerequisite: PI 220.

**PL 303 Philosophy of Natural Sciences** 5 credits  
Philosophical reflections on the historical of the 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, Heiler, 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.
- 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 from 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 Existentialism 5 credits (489)**  
The themes of anxiety, despair, guilt, and freedom in the writings of Kierkegaard, Nietzsche, Sartre, Camus, Jaspers and others.
- 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 Process Philosophy 5 credits (478)**  
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 468 Marx 5 credits**  
A study of the historical background, philosophic origins and nature of the dialectical materialism of Karl Marx. 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 page 26 of this bulletin. Ec 271 is 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 PIs 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 — PIs 202, 208, 210, 301, 304, 310, 365, 406, 407, 488, 490.

International Relations — PIs 260, 361, 362, 365, 460, 462.

Comparative and Foreign Governments — PIs 230, 330, 335, 337, 434, 435, 436.

Political Thought and Theory — PIs 253, 353, 354, 355, 358, 390, 451.

**Undergraduate Minor** — 30 credits which must include PIs 100 and 190 and one course from each of the four major subdivisions of the department.

### Bachelor of Arts

#### Freshman year

English 110 and core option ..... 10 credits  
History core options ..... 10 credits  
Mathematics/Science Core Option:  
Recommended Mt 101, 118 or 175 ..... 5 credits  
Philosophy 110, 220 ..... 10 credits  
Political Science 100, 190 ..... 10 credits

#### Sophomore year

Mathematics/Science core option ..... 5 credits  
Other social science ..... 5 credits  
Philosophy core option ..... 5 credits  
Political Science ..... 10 credits  
Economics 271 ..... 5 credits  
Theology core options ..... 10 credits  
Electives ..... 5 credits

#### Junior and Senior year

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  
(160) 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  
(150) 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  
(214) 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  
(280) 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  
(289) 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  
(249) 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  
(374) 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  
(324) 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  
(372) Problems of large American cities with special emphasis on transportation, housing, public safety and planning problems. 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  
(350) 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  
(385) 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  
(381) 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  
(490) 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  
(418) 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  
(419) 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  
(438) 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  
(437) 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** 2-5 credits  
**PLS 498 Independent Study** 2-5 credits  
**PLS 499 Independent Study** 2-5 credits

## Prelaw

David Arnesen, J.D., Adviser

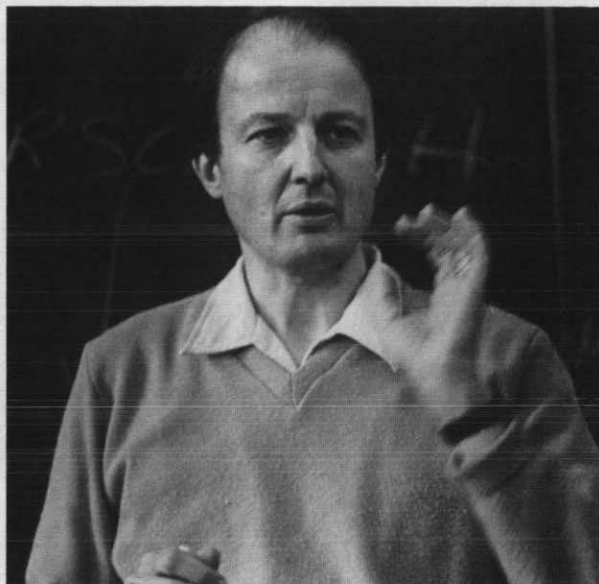
Sr. Christopher Querin, SP, Ph.D., Adviser

### 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 human 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 themselves 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 page 26 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 489.

**Bachelor of Science** — 50 credits of psychology which must include Psy 100, 201, 202, 301, 330, 401, 402, 489 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 page 26 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.

## Bachelor of Arts Typical Program

### Freshman year

English 110 .....	5 credits
History core option .....	10 credits
Mathematics/Science core option .....	5 credits
Philosophy 110 .....	5 credits
Psychology 100 .....	5 credits
Electives .....	15 credits

### Sophomore year

Mathematics/Science core option .....	5 credits
Philosophy 220 .....	5 credits
Psychology 201 and elective .....	10 credits
Social Science core option .....	5 credits
Electives .....	20 credits

### Junior year

English core option .....	5 credits
Psychology electives .....	10 credits
Social Science core option .....	5 credits
Theology core options .....	10 credits
Electives .....	15 credits

### Senior year

Philosophy core option .....	5 credits
Psychology 301, 401, 489 and electives .....	25 credits
Electives .....	15 credits
Total .....	180 credits

## Bachelor of Science Typical Program

### Freshman year

English 110 .....	5 credits
History core option .....	10 credits
Mathematics/Science electives .....	15 credits
Philosophy 110 .....	5 credits
Psychology 100 .....	5 credits
Electives .....	5 credits

### Sophomore year

Mathematics/Science electives .....	10 credits
Philosophy 220 .....	5 credits
Psychology 201, 202 and elective .....	10 credits
Social Science core option .....	5 credits
Electives .....	15 credits

### Junior year

English core option .....	5 credits
Mathematics/Science electives .....	10 credits
Psychology electives .....	10 credits
Social Science core option .....	5 credits
Theology core options .....	10 credits
Elective .....	5 credits

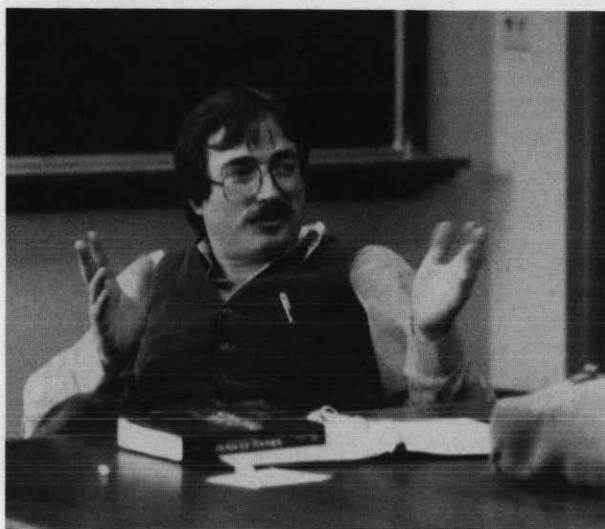
### Senior year

Mathematics/Science elective .....	5 credits
Philosophy core option .....	5 credits
Psychology 301, 330, 401, 402, 489 .....	25 credits
Electives .....	10 credits
Total .....	180 credits

## Psychology Courses

<b>PSY 100</b>	<b>Introductory Psychology</b>	<b>5 credits</b>
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)		
<b>PSY 201</b>	<b>Statistics I</b>	<b>5 credits</b>
<b>PSY 202</b>	<b>Statistics II</b>	<b>5 credits</b>
I. Basic descriptive and inferential statistics; central tendency, variability, correlation and regression, probability, z and t tests, one way analysis of 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)		
<b>PSY 210</b>	<b>Personality Adjustment</b>	<b>5 credits</b>
The normal personality; self-knowledge and self-actualization; personality adjustment problems; various inadequate reactions, escape and defense mechanisms; positive mental health. (fall, 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.
- 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)
- 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.
- 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.
- 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 489 Senior Seminar** 5 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. (spring)
- 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 move individuals 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 rehabilitative readiness, some of the disability groups rehabilitation professionals 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 page 26 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** — 65 credits in rehabilitation including Rhb 100, 201, 203, 210, 301, 305, 310, 402, 405, 410; 15 credits in Psychology (Psy 100, 201, 315), Bl 182, Soc 101, and 10 credits of Social Science or Rehabilitative elective.

### Bachelor of Arts

#### Freshman year

English 110 and core option	10 credits
History core option	10 credits
Philosophy 110	5 credits
Psychology 100	5 credits
Rehabilitation 100	5 credits
Sociology 101	5 credits
Social Science or Rehabilitation elective	5 credits

#### Sophomore year

Biology 182	5 credits
Mathematics/Science core options	5 credits
Philosophy 220	5 credits
Psychology 201	5 credits
Rehabilitation 201, 203, 210, 301	20 credits
Theology core option	5 credits

#### Junior year

Philosophy core option	5 credits
Psychology 315	5 credits
Rehabilitation 305, 310, 402	15 credits
Rehabilitation elective	5 credits
Theology core option	5 credits
Elective	10 credits

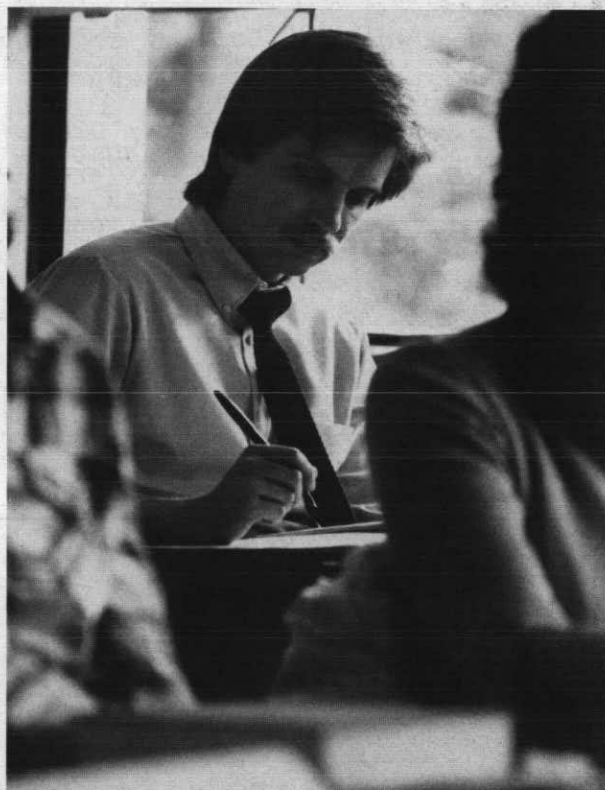
#### Senior year

Rehabilitation 405	5 credits
Rehabilitation 410	15 credits
Electives	25 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 practical 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 418 Independent Living** 3 credits  
Review of Independent Living legislation for persons with disabilities; study of the vital areas of Independent Living including housing, transportation, attendant care, activities of daily living, social and recreation activities. Exposure to detailed training with selected disability groups.
- RHB 420 Law and the Disabled** 3 credits  
A survey of laws and litigation affecting persons with disabilities.
- RHB 425 Loss and Grief** 3 credits  
Loss and the grieving process as they relate to illness, disability and dying.
- 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 two applied tracks: Applied Social Research and Corrections. 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

Students in sociology must satisfy the core curriculum requirements of the University as given on page 26 of this bulletin. Transfer students who are sociology majors must complete at least 20 hours in sociology at Seattle University.

### 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 two tracks in Applied Sociology: (A) Applied Social Research or (B) Corrections. 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. 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 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. 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 and core option .....	10 credits
History core options .....	10 credits
Psychology 100 .....	5 credits
Sociology 101, 201 .....	10 credits
Electives .....	10 credits

#### Sophomore year

Philosophy 110, 220 .....	10 credits
Political Science, Psychology or Economics core option .....	5 credits
Sociology 200, 380 .....	10 credits
Theology core options .....	10 credits
Electives .....	10 credits

#### Junior year

Mathematics/Science core options .....	10 credits
Philosophy .....	5 credits
Sociology Track and/or electives .....	20 credits
Electives .....	10 credits

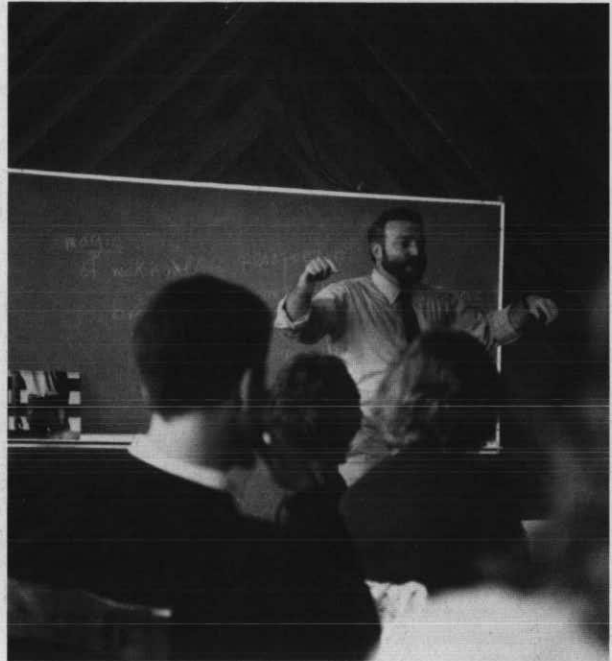
#### Senior year

Fine Arts option .....	5 credits
Sociology 495 .....	5 credits
Sociology Track and/or electives .....	15 credits
Electives .....	25 credits

Total ..... 180 credits

## Sociology Courses

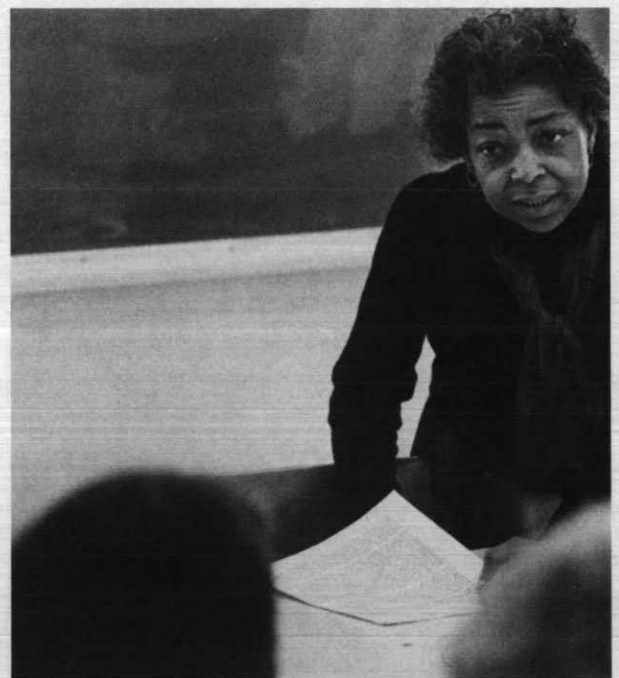
- SC 101 Fundamentals of Sociology 5 credits**  
A description of the science of sociology; an analysis of interpersonal relations, of associations and social institutions, and of the way these affect one another and are affected by culture.
- SC 200 Perspectives in Social Psychology 5 credits**  
Consideration 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 Social Statistics 5 credits (Psy 201)**  
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 (Cs 300)**  
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 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 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 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 Police and the Community 5 credits (CJP 350)**  
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 Society and Justice 5 credits (CJP 360)**  
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 Deviant Behavior 5 credits**  
(CJP 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.
- 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 Probation and Parole 5 credits**  
(CJP 365) 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 Corrections 5 credits**  
(CJP 366) Analysis of post-arrest treatment methods applied to offenders, the correctional institution and community-based corrections. Prerequisite: Upper division standing or permission.
- SC 376 Factors of Interviewing 5 credits**  
(CS 376) 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 Juvenile Justice Systems 5 credits**  
(CJP 410) 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 Victimology 5 credits**  
(CJP 415) 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 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 457 Institute or Workshop 5 credits**  
Special topics of current relevance in the nation or local community treated from a sociological perspective as a community service. Prerequisite: Upper division standing.
- 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.



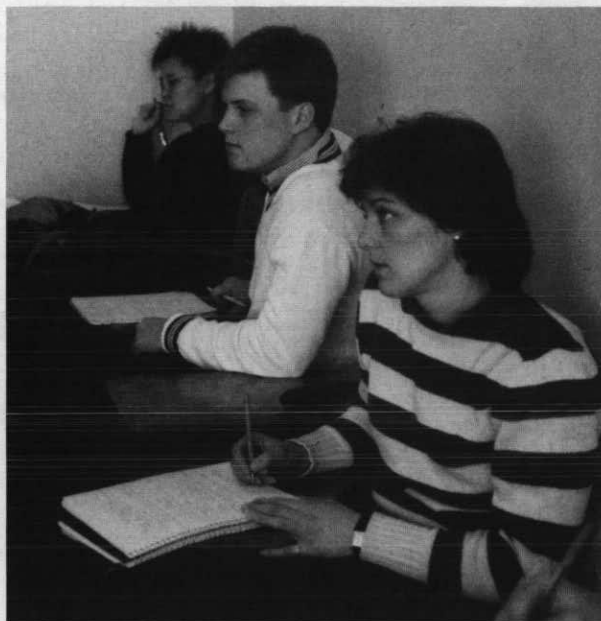
## Community Services

Henrietta Tolson, M.S.W., Adviser

The University is in the process of reviewing its offerings in the area of Community Services, but courses in this field, as well as in economics, political science, psychology, and sociology, combined with field experiences, will prepare a student for professional careers in social work or graduate study in social welfare, with abilities ranging from therapeutic interviewing to organizational management.

To complete this degree students will combine courses from the social sciences with the following community services offerings:

- |                 |   |                    |
|-----------------|---|--------------------|
| <b>CS 300</b>   | <b>Introduction to Community Services</b>   | <b>5 credits</b>   |
| <b>(Sc 300)</b> | Historical development, structure and function of social welfare services and institutions; emphasis on philosophy and methods utilized by professional social work in meeting human needs. (fall, winter)  |                    |
| <b>CS 305</b>   | <b>Introduction to Community Action</b>   | <b>5 credits</b>   |
|                 | Studies methods by which community groups and organizers can intervene in the political and social processes of a community on the neighborhood, city, county and state levels, to initiate social change.  |                    |
| <b>CS 310</b>   | <b>Social Work With Families</b>  | <b>5 credits</b>   |
|                 | Behavioral dynamics of interpersonal relationships in the family; reciprocal nature of relationships; conceptual frameworks for individual and family therapy through study of treatment modalities. (spring)   |                    |
| <b>CS 374</b>   | <b>Intervention Skills</b>  | <b>5 credits</b>   |
|                 | Provides students with the basic principles and processes involved in giving help to individuals, groups and communities in the human services field; focus on some of the basic methods, techniques and strategies. (fall)                                       |                    |
| <b>SCS 376</b>  | <b>Factors of Interviewing</b>  | <b>5 credits</b>   |
| <b>(Sc 376)</b> | The interview as one of the major methods of helping people; study of factors of knowledge and method in proficient interviewing to provide a basis for future development. Prerequisite: CS 300 or permission. (winter, spring)                                  |                    |
| <b>CS 378</b>   | <b>Field Experience I</b>   | <b>7 credits</b>   |
| <b>CS 379</b>   | <b>Field Experience II</b>  | <b>7 credits</b>   |
| <b>CS 380</b>   | <b>Field Experience III</b>   | <b>3-7 credits</b> |
|                 | Direct observation, supervised practice experience in a social welfare agency with the agency's clientele, services and functions in the community. Prerequisites: CS 376 or permission for 378; 378 for 379; 379 for 380. Mandatory CR/NC (fall, winter, spring) |                    |
| <b>CS 400</b>   | <b>Grantsmanship</b>  | <b>2-5 credits</b> |
|                 | Trains students to write federal and foundation grants using government and foundation application kits. Examines great components and grants management.   |                    |
| <b>CS 420</b>   | <b>History and Survey of Drug Abuse</b>   | <b>5 credits</b>   |
|                 | 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.  |                    |
| <b>CS 440</b>   | <b>Crisis intervention</b>  | <b>5 credits</b>   |
|                 | Theory and practice of crisis intervention strategies. Schools, criminal justice agencies, family service agencies, public welfare agencies and crisis centers.   |                    |
| <b>CS 478</b>   | <b>Coordinating Seminar I</b>   | <b>3 credits</b>   |
| <b>CS 479</b>   | <b>Coordinating Seminar II</b>  | <b>3 credits</b>   |
|                 | Discussion and analysis of practices, programs, objectives, policies and procedures of various agencies, organizations and institutions. Corequisites: CS 378 with 478; 379 with 479.   |                    |



## Theology and Religious Studies

Stephen V. Sundborg, 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



## General Program Requirements

Students who major in theology and religious studies must satisfy core curriculum requirements of the University as given on page 26 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 and core option ..... 10 credits  
History core option ..... 10 credits  
Philosophy 110, 220 ..... 10 credits  
Social Science core options ..... 10 credits  
Theology and Religious Studies 200 ..... 5 credits

### Sophomore year

Philosophy core option ..... 5 credits  
Social Science elective ..... 5 credits  
Theology and Religious Studies ..... 15 credits  
Electives ..... 20 credits

### Junior year

Mathematics/Science core options ..... 10 credits  
Philosophy elective ..... 5 credits  
Theology and Religious  
Studies 425, 426, 427 ..... 15 credits  
Electives ..... 15 credits

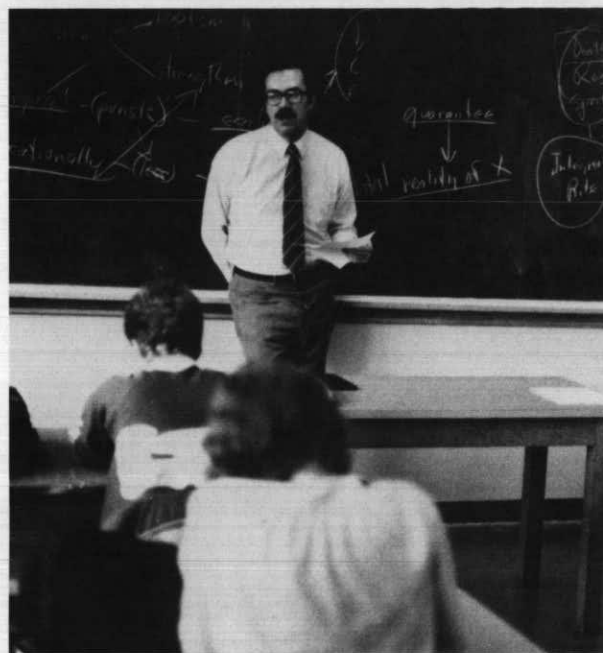
### Senior year

Theology and Religious Studies 460 ..... 5 credits  
Theology and Religious Studies electives ..... 20 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, page 26.

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 Prophets and Wisdom 5 credits**  
(240) 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 The Gospel of Jesus Christ 5 credits**  
(210) 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 The Message of Paul 5 credits**  
(220) 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 John: What I Have Seen and Heard 5 credits**  
(215) 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 Foundations of Believing 5 credits**  
(330) 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 271 (347) The Black Religious Experience 5 credits**  
Description of the particular religious experience of black people, developing themes of freedom, proclamation, power, hope. Themes explored reveal convergence with religion in general, yet divergence into a particular black religious experience.
- RS 275 (478) Jewish History and Theology 5 credits**  
Survey of Jewish history, going back to biblical times, to discover the religious generative 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.



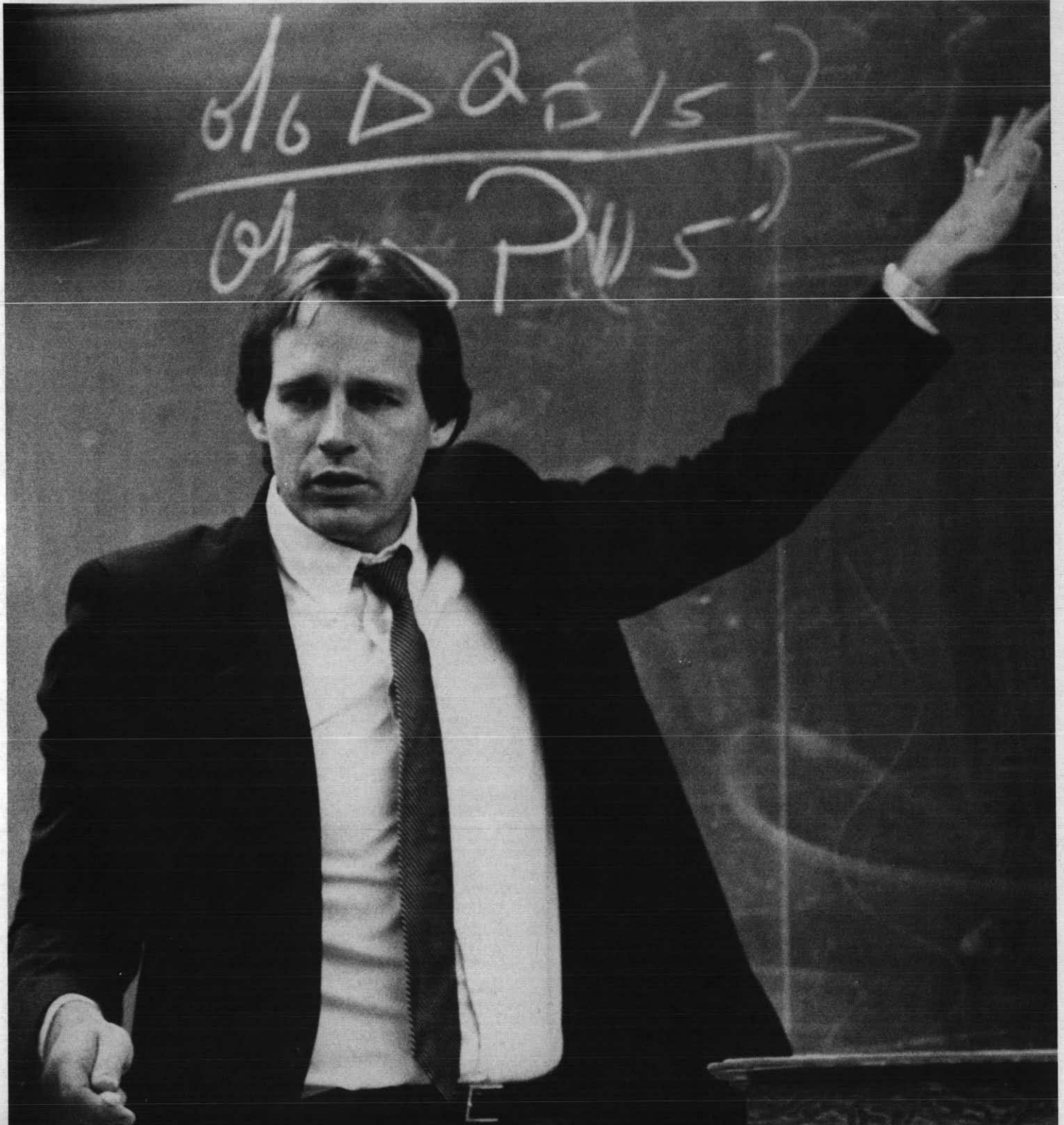


- RS 321 (420) Christian Sacraments 5 credits**  
Biblical investigation of the origin of the sacraments in Christ and the Church; nature of symbolism as evocative and healing; the doctrinal, liturgical, and moral aspects of the sacraments within a community's ongoing life and worship.
- RS 325 (476) 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 2-5 credits**  
**RS 397 Independent Study 2-5 credits**  
**RS 398 Independent Study 2-5 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 2-5 credits**  
**RS 497 Independent Study 2-5 credits**  
**RS 498 Independent Study 2-5 credits**

# *Albers School of Business*







## **Albers School of Business**

**John D. Eshelman, Ph.D., Dean**

**Sharon K. James, Ph.D., Assistant Dean**

### **Rainier National Bank Professor of Finance:**

Hildegard R. Hendrickson, Ph.D.

### **University 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:** Gerald Hampton, 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 Freshman and undergraduate transfer students who meet the University's regular admission standards may be admitted to the Albers School 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 113 or 114). 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 fulfill 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  
English 110 and a literature course; Mathematics 118, 130; Computer Science 113 (CSC 114 may be substituted); Philosophy 110, 220 and a five-credit philosophy elective; social sciences, ten credits (Psychology 100, Sociology 101 or Pls 190 recommended); ten credits in theology and religious studies selected from two different areas; five credits in natural sciences; and ten credits chosen with the direction of an adviser. Economics courses cannot be used.
  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 and a core literature course ..... 10 credits  
Mathematics 118, 130 ..... 10 credits  
Natural Science ..... 5 credits  
Philosophy 110 ..... 5 credits  
Social Sciences (Psychology 100, Sociology 101 or Political Science 190 recommended) ..... 10 credits  
Elective ..... 5 credits

### Sophomore year

Business 230, 231, 260, 270 ..... 20 credits  
Economics 271, 272 ..... 10 credits  
Computer Science 113 (recommended) or 114 ..... 5 credits  
Philosophy 220 ..... 5 credits  
Theology and religious studies ..... 5 credits

### Junior year

Business 310, 340, 350, 360, 380 ..... 25 credits  
Business major (300-499) ..... 5 credits  
Theology and religious studies ..... 5 credits  
Electives of which 10 credits must be other than business or economics ..... 10 credits

### Senior year

Business 482 ..... 5 credits  
Business major (300-499) ..... 15 credits  
Philosophy ..... 5 credits  
Electives ..... 20 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 CSC 240 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 majors 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. Arts and Sciences ..... 75 credits  
In addition to the requirements specified above for the Bachelor of Arts in Business Administration, the accounting program requires Speech 100 or 200 and thus has only 5 required elective credits in arts/sciences.
  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 ..... 10 credits
- Total ..... 180 credits



## Bachelor of Arts in Business Administration Accounting Major

### Freshman year

English 110 and a core literature course	10 credits
Mathematics 118, 130	10 credits
Natural Science	5 credits
Philosophy 110	5 credits
Social Sciences (Psychology 100, Sociology 101 or Political Science 190 Recommended)	10 credits
Speech 100 or 200	5 credits

### Sophomore year

Business 230, 231, 260, 270	20 credits
Economics 271, 272	10 credits
Computer Science 113 (recommended) or 114	5 credits
Philosophy 220	5 credits
Theology and religious studies	5 credits

### Junior year

Business 340, 350, 380	15 credits
Accounting major:	
Business 330, 332, 333, 334, 336	25 credits
Theology and religious studies	5 credits

### Senior year

Business 310, 360, 482	15 credits
Accounting major:	
Business 431, 435	10 credits
Philosophy	5 credits
Electives (of which 5 credits must be arts/sciences electives)	5 credits
Total	180 credits

### Program to Begin Fall, 1987

## Information Systems Management Major Objectives

Information Systems Management provides knowledge and understanding of information technology and how that technology can be used to improve the performance of organizations and people. Career opportunities for information system managers are found in profit, non-profit and government agencies.

Requirements for the Information System Management major are: Bus 311, 312, 413 and CSC 150, 170 or 180, 235 and 250. University Core requirements and Business Core requirements must also be met.

## Bachelor of Arts in Business Administration Information Systems Management Major:

### Freshman year

Computer Science 113 or 114	5 credits
English 110 and core literature course	10 credits
Mathematics 118 and 130	10 credits
Natural Science	5 credits
Philosophy 110	5 credits
Social Sciences (Psychology 100, Sociology 101 or Political Science 190 recommended)	10 credits

### Sophomore year

Business 230, 231, 260, 270 .....	20 credits
Computer Science 150 .....	5 credits
Economics 271, 272 .....	10 credits
Philosophy 220 .....	5 credits
Theology and Religious Studies .....	5 credits

### Junior year

Business 310, 340, 350 .....	15 credits
Business 311, 312 .....	10 credits
Computer Science 170 or 180, 250 .....	10 credits
Theology and Religious Studies .....	5 credits
Elective (preferably Arts and Sciences) .....	5 credits

### Senior year

Business 360, 380, 482 .....	15 credits
Business 413 .....	5 credits
Computer Science 235 .....	5 credits
Philosophy .....	5 credits
Electives (preferably 5 credits of Arts and Sciences) .....	15 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 Business Statistics 5 credits (211)**  
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 Information Systems Management 5 credits (460) in Business**  
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 113 or 114.
- BUS 311 Information Systems Analysis and Design 5 credits**  
Survey of systems analysis and design in organizations. Topics include conceptual 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 Production and Operations Management** 5 credits  
(480) 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 113 or 114. (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)

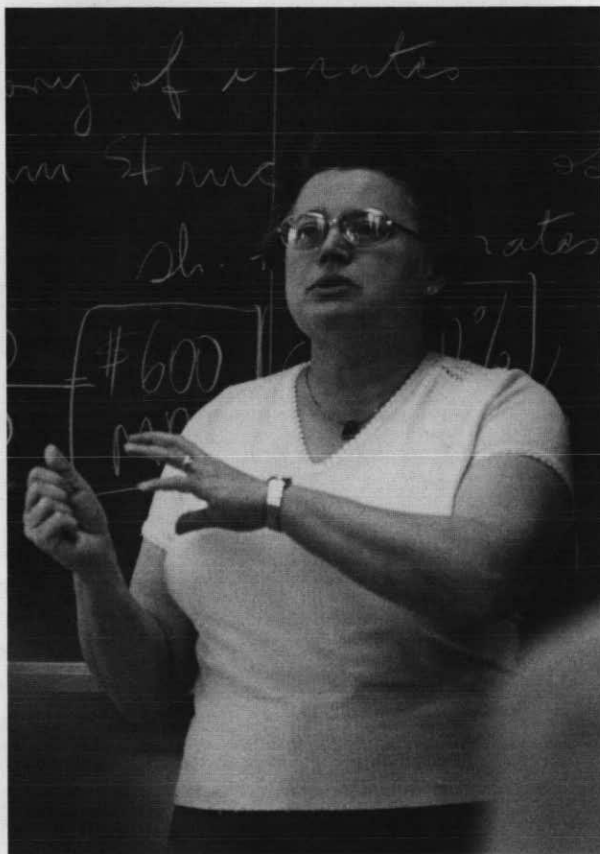
**BUS 483 Management Seminar** 5 credits  
Development of a specific area of management. Various approaches to study of organizations, conceptual and analytical methods, research methodologies and trends in management. Prerequisite: Bus 360, 383, Senior standing.

**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 non-profit 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 page 26 of this bulletin. In fulfilling the core, Mt 118 and 130 are required, and Pls 100 or 190 are highly recommended. To be granted the Bachelor of Arts in Economics degree a student must achieve a cumulative gpa of not less than 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 113 (recommended) or CSC 114.

**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 and a core literature course ..... 10 credits  
History core option ..... 10 credits  
Mathematics 118, 130 ..... 10 credits  
Philosophy 110 ..... 5 credits  
Political Science elective (Pls 100 or 190 recommended) ..... 5 credits  
Computer Science 113 or 114 ..... 5 credits

#### Sophomore year

Business 230, 260 ..... 10 credits  
Economics 271, 272 ..... 10 credits  
Philosophy 220 ..... 5 credits



Social Science core option ..... 5 credits  
Electives ..... 15 credits

#### Junior year

Economics 372, 374 and electives ..... 20 credits  
Philosophy core option ..... 5 credits  
Theology core options ..... 10 credits  
Electives ..... 10 credits

#### Senior year

Economics electives ..... 25 credits  
Electives ..... 20 credits  
Total ..... 180 credits

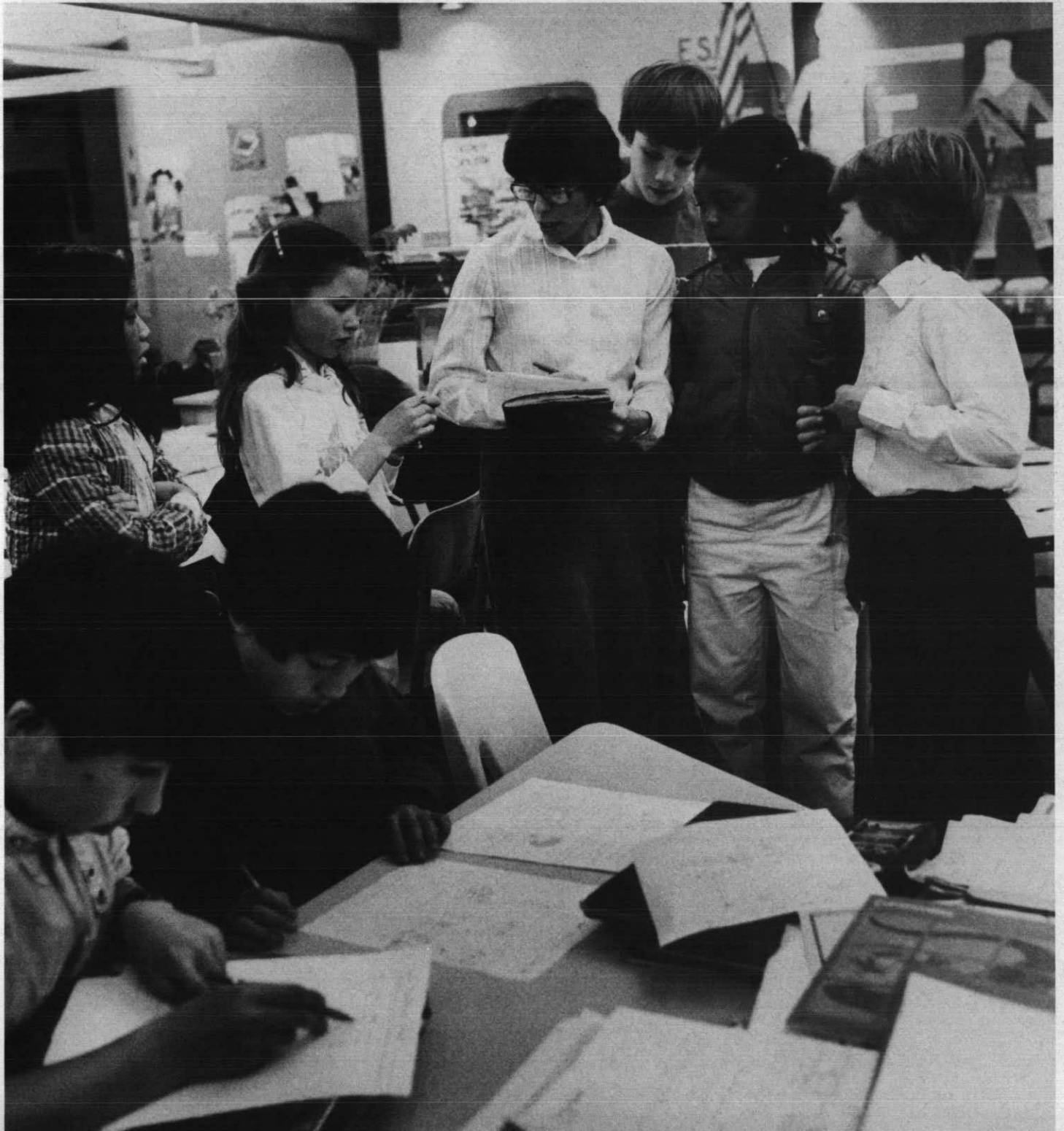
#### Economics Courses

<b>EC 100</b>	<b>Nature of Economic Society</b>	<b>5 credits</b>
	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.	
<b>EC 271</b>	<b>Principles of Economics — Macro</b>	<b>5 credits</b>
	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).	
<b>EC 272</b>	<b>Principles of Economics — Micro</b>	<b>5 credits</b>
	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).	
<b>EC 291</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>EC 292</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>EC 293</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>EC 371</b>	<b>History of Economic Thought</b>	<b>5 credits</b>
	Major historical developments in economic thought, ancient to contemporary, Christian influence, mercantilism, laissez faire; German and Austrian schools, Marx and socialists; Keynes and neo-Keynesian analysis.	
<b>EC 372</b>	<b>National Income Analysis</b>	<b>5 credits</b>
	Determination of levels of national income, employment and prices. Problems of unemployment and inflation. Policies for stabilization and growth. Prerequisite: Ec 271.	
<b>EC 374</b>	<b>Intermediate Price Theory</b>	<b>5 credits</b>
	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.	
<b>EC 375</b>	<b>Managerial Economics</b>	<b>5 credits</b>
	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.	
<b>EC 377</b>	<b>Government and Business</b>	<b>5 credits</b>
	Development in the United States of public policy. Government regulation of industry and commerce and	

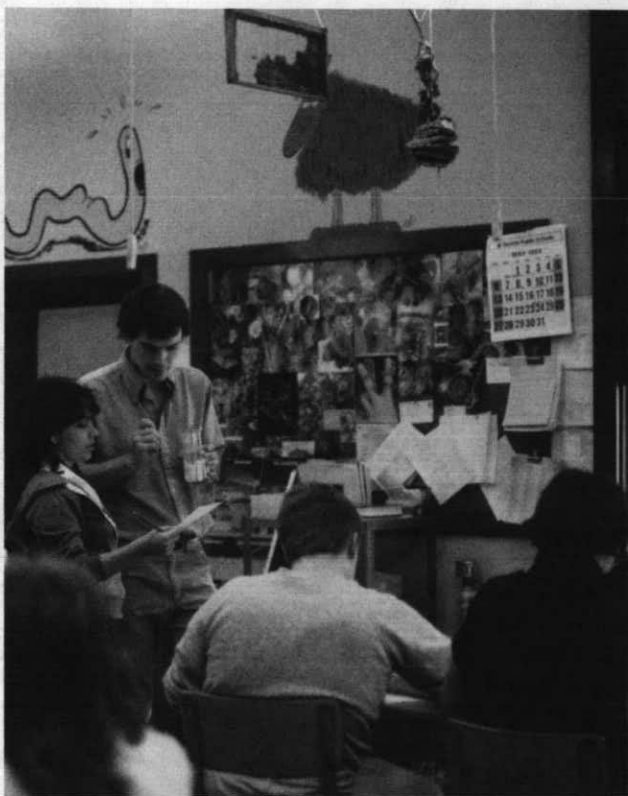
application to mergers, business concentration and restrictive business practices, regulation of public utilities. Prerequisite: Ec 272.

<b>EC 378</b>	<b>Urban Economics</b>	<b>5 credits</b>
	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.	
<b>EC 471</b>	<b>Government Finance</b>	<b>5 credits</b>
	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.	
<b>EC 472</b>	<b>International Trade and Development</b>	<b>5 credits</b>
	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.	
<b>EC 473</b>	<b>International Finance and Investment</b>	<b>5 credits</b>
	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.	
<b>EC 474</b>	<b>Forecasting Business Conditions</b>	<b>5 credits</b>
	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.	
<b>EC 476</b>	<b>Labor Economics</b>	<b>5 credits</b>
	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.	
<b>EC 477</b>	<b>Economic Development</b>	<b>5 credits</b>
	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.	
<b>EC 478</b>	<b>Comparative Economic Systems</b>	<b>5 credits</b>
	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.	
<b>EC 479</b>	<b>Senior Research</b>	<b>5 credits</b>
	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.	
<b>EC 491</b>	<b>Special Topics</b>	<b>2-5 credits</b>
<b>EC 496</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>EC 497</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>EC 498</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>EC 499</b>	<b>Independent Study</b>	<b>1-5 credits</b>
	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, Montessori, 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. The American Montessori Society accredits the Montessori Teacher Education program.

### **Organization**

The School of Education is organized into four departments: Teacher Education, Curriculum and Instruction, Counselor Preparation, and in 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, 434, 435, 437 or 442 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 or 340, 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.

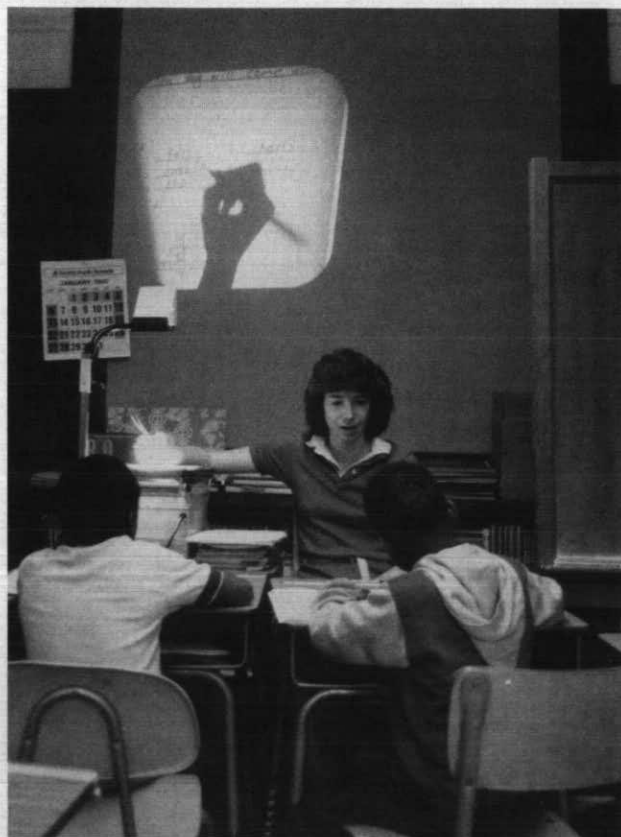
1. At the discretion of the Chairperson, applicants whose coursework is more than seven years old and who do not meet the g.p.a. criteria may be admitted conditionally. Such students will be required to take appropriate coursework and maintain the required g.p.a. in such coursework before admission to Education courses.
2. Students whose coursework is more than seven years old and do not 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: 60 credits, 2) A teaching major of at least 45 credits in any subject commonly taught in secondary schools. (See departmental sections of the bulletin for exact requirements in each teaching major. 3) Professional education courses: 47 credits. 4) Electives: 40 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) Bus 230, 231, 270, 340, and 380; 2) Econ. 271 and 272; 3) Ed 430, Teaching Secondary School Subjects; Business: 4) proficiency must be demonstrated in **two** of these skills — typing, use of office machines and word processing.

## Typical Program

### Freshman year

English core options .....	10 credits
History core options .....	10 credits
Philosophy core options .....	5 credits
Social Science core option .....	5 credits
Major or electives .....	15 credits

### Sophomore year

Education 363 .....	3 credits
Mathematics/Science core options .....	10 credits
Philosophy core options .....	10 credits
Theology core options .....	10 credits
Major or electives .....	10 credits

### Junior year

Education 323, 325, 326, 353 .....	10 credits
Major or electives (including course in teaching of major) .....	35 credits

### Senior year

Education 330, 337, 354, 430, 432, 460 and 439 .....	22 credits
Student Teaching .....	12 credits
Major and electives .....	23 credits
<b>Total .....</b>	<b>190 credits</b>

## Bachelor of Education

### Elementary

The Montessori program will not be continued after fall, 1987, so will not accept new students beginning in spring '86. Courses with a Montessori emphasis affected include Ed 434, 435, 441, 442 and 447.

**Bachelor of Education (elementary, middle school, junior high school or Montessori school teaching) — 1)** All University core requirements: 60 credits. The B.Ed. required certain specific core courses as shown in the program outline. See page 26 for remaining core requirements. 2) FA 101, 102 or 103 and 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: 65 credits.

Students interested in Montessori or special education should confer with their Program Coordinators early in their studies.

### Elementary

## Typical Program

### Freshman year

English core (include American Literature) ....	10 credits
History core (include U.S. History) .....	10 credits
Philosophy core option .....	5 credits
Social Science core option .....	5 credits
Teaching subject or supporting area .....	15 credits



### Sophomore year

Teaching subject and FA 101, 102 or 103 .....	10 credits
Science elective with lab; Mathematics 200 ...	10 credits
Education 322 .....	3 credits
Philosophy core options .....	10 credits
Theology core options .....	10 credits

### Junior year

Education 323, 325, 326, 353, 432 .....	13 credits
Education 330, 336, 340, 354 .....	15 credits
Teaching subject and electives .....	25 credits

### Senior year

Education 438, 420, 352, 460, 355 .....	17 credits
Student teaching .....	12 credits
Teaching subject and supporting area and electives .....	20 credits
<b>Total .....</b>	<b>190 credits</b>





### Typical Program Elementary with Montessori Emphasis

#### Freshman year

English core (include American Literature) . . . 10 credits  
History core (include U.S. History) . . . . . 10 credits  
Philosophy core option . . . . . 5 credits  
Social Science core option . . . . . 5 credits  
Teaching subject or supporting area . . . . . 15 credits

#### Sophomore year

Teaching Subject and FA 101, 102 or 103 . . . . 10 credits  
Science elective with lab; Mathematics 200 . . 10 credits  
Education 322 . . . . . 3 credits  
Philosophy core options . . . . . 10 credits  
Theology core options . . . . . 10 credits

#### Junior year

Education 328, 329, 432, 353 . . . . . 15 credits  
Education 336 and 340, 354, 420 . . . . . 15 credits  
Teaching subject and electives . . . . . 23 credits

#### Senior year

Student teaching (½ day for a year) . . . . . 26 credits  
Education 420, 434, 435, 437, 442 . . . . . 20 credits  
Teaching subjects . . . . . 10 credits  
Total . . . . . 190 credits

### Typical Program — Special Education

#### Freshman year

English core (include American Literature . . . . 10 credits  
History core (include U.S. History) . . . . . 10 credits  
Philosophy core option . . . . . 5 credits  
Social Science core option . . . . . 5 credits  
Teaching subject or supporting area . . . . . 15 credits

#### Sophomore year

Teaching subject and FA 101, 102 or 103 . . . . 10 credits  
Biology elective; Mathematics 200 . . . . . 10 credits  
Education 322 . . . . . 3 credits  
Philosophy core options . . . . . 10 credits  
Theology core options . . . . . 10 credits

#### Junior year

Education 323, 325, 326, 432, 353 . . . . . 13 credits  
Education 330, 336, 340, 354 . . . . . 15 credits  
Education 438 and 425, 352 . . . . . 9 credits  
Teaching subjects . . . . . 13 credits

#### Senior year

Student teaching . . . . . 12 credits  
Education 355, 420, 424, 426, 427, 460 . . . . 20 credits  
Teaching subjects and elective . . . . . 20 credits  
Total . . . . . 190 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, spring)
- 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 328 Montessori Orientation 5 credits**  
Basic philosophy, principles and procedures of environmental learning within a "prepared environment." Perceptual-motor education as utilized by everyday living and learning experiences of the young child. (fall)
- ED 329 Sensorial Education 5 credits**  
Experience with the education of the senses in isolation. Also a study of the acquisition of practical skills

within the child through his absorptive and imitative tendencies which lead gradually to abstraction. (fall)

- 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.
- 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.
- ED 391 Special Topics 1-5 credits**  
**ED 392 Special Topics 1-5 credits**  
**ED 393 Special Topics 1-5 credits**
- 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.
- ED 424 Introduction to Learning Disabilities 3 credits**  
History and current practices in diagnosis and remediation of learning disabilities.
- ED 425 Psychology of the Exceptional Child 3 credits**  
Study of the atypical child who deviates from the normal to well above or below the average; tests for evaluation; consideration of remedial techniques. Prerequisite: Ed 322 or permission of instructor.



<b>ED 426</b>	<b>Special Education — Introduction to Mental Retardation</b>	<b>3 credits</b>	Study of the syndromes and behavioral characteristics of the mentally retarded and survey of the current trends in the field.
<b>ED 427</b>	<b>Special Education — Methods in Mental Retardation</b>	<b>3 credits</b>	Application of principles of learning and development in designing instructional programs for the mentally retarded. Prerequisite: Ed 426.
<b>ED 428</b>	<b>Language Development</b>	<b>3 credits</b>	An introduction to critical features of the developmental processes of receptive and expressive language with consideration of diagnosis, curriculum and method.
<b>ED 430</b>	<b>Teaching Secondary School Subjects</b>	<b>3 credits</b>	General methods of teaching in specific subjects, areas and levels of the secondary school.
<b>ED 431</b>	<b>Early Education and Child Development</b>	<b>3 credits</b>	Current issues and trends in early childhood education — birth through eight years. Emphasis on pre-school and kindergarten. Topics will include infant programs, management of learning centers, and parent participation in early education.
<b>ED 432</b>	<b>Mainstreaming the Exceptional Student</b>	<b>3 credits</b>	Issues surrounding mainstreaming; methods for working with exceptional students in the regular classroom.
<b>ED 434</b>	<b>Montessori Language Arts Methods &amp; Materials</b>	<b>5 credits</b>	Development of language and communication skills in young children, readiness for reading and writing, materials and methods for teaching language arts. Supervised practice. (winter)
<b>ED 435</b>	<b>Montessori Mathematics Methods &amp; Materials</b>	<b>5 credits</b>	Development of logico-mathematical processes in the young child, introduction to number and its properties, basic operations leading to abstraction. Supervised practice. (winter)
<b>ED 436</b>	<b>Early Education Practicum</b>	<b>3 credits</b>	Supervised field experience in an early education setting.
<b>ED 437</b>	<b>Comparative and Observational Study of Early Education</b>	<b>5 credits</b>	Theory and practice of observation; comparative study of current models in early education, including public and private kindergartens, infant centers. Montessori schools, and programs for special children. (spring)
<b>ED 438</b>	<b>Laboratory Experience — Elementary</b>	<b>1-6 credits</b>	Mandatory CR/NC. (fall, winter, spring)
<b>ED 439</b>	<b>Laboratory Experience — Secondary</b>	<b>1-6 credits</b>	Mandatory CR/NC. (fall, winter, spring)
<b>ED 440</b>	<b>Student Teaching — Elementary</b>	<b>12 credits</b>	One quarter of full-day supervised teaching experience on the elementary school level. Prerequisite: Ed 330 and permission of the Dean. Corequisite: Ed 420. (fall, winter, spring)
<b>ED 441</b>	<b>Montessori Student Teaching</b>	<b>3 credits</b>	Montessori Teaching Practicum: August workshop. Class meets to prepare the student for the Montessori Practicum; includes practicum experiences from the beginning of the practicum site's school year to the beginning of the University's fall quarter. Starting date varies. Requires completion of Practicum application, usually by previous July 1 and pre- or co-requisite of Ed 328, 329, 434, 435, 437, 442 and 447. Mandatory C/NC.
<b>ED 442</b>	<b>Montessori Geography and Science</b>	<b>5 credits</b>	Study of the world, flora, fauna and people through concrete materials, supervised practice. (spring)
<b>ED 445</b>	<b>Student Teaching — Secondary</b>	<b>12 credits</b>	One quarter of full-day supervised teaching experience on the secondary school level. Prerequisite: Ed 330 and permission of the Dean. (fall, winter, spring)
<b>ED 446</b>	<b>Student Teaching — Supplementary</b>	<b>5-15 credits</b>	
<b>ED 447</b>	<b>Montessori Student Teaching</b>	<b>5 credits</b>	Supervised practicum in an approved Montessori pre-school, three hours per day plus professional preparation time and intern seminars as announced. Prerequisite: Ed 441. Three quarters required, begins only in fall.
<b>ED 450</b>	<b>Gifted Education: Introduction</b>	<b>3 credits</b>	An introduction to gifted education including definition of areas of giftedness, identification, curriculum modes, program organization, parent involvement, attitudes concerning giftedness, evaluation of student performance.
<b>ED 451</b>	<b>Gifted Education: Workshop I</b>	<b>3 credits</b>	Current issues in gifted education including, identification procedures, right brain/left brain research, evaluation of the gifted student and a sharing forum on giftedness. Prerequisite: Ed 450.
<b>ED 452</b>	<b>Gifted Education: Workshop II</b>	<b>3 credits</b>	Curriculum for the gifted including differentiating the curriculum, gifted student and the arts, counseling the gifted student and a sharing forum on giftedness. Prerequisite: Ed 450.
<b>ED 460</b>	<b>Computers and Instructional Technology in the Classroom</b>	<b>3 credits</b>	An examination of the uses of computers and other forms of media in the classroom.
<b>ED 470</b>	<b>Manual Language</b>	<b>3 credits</b>	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.
<b>ED 472</b>	<b>Literature for Early Education</b>	<b>3 credits</b>	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.
<b>ED 477</b>	<b>Multicultural Literature</b>	<b>3 credits</b>	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.
<b>ED 491</b>	<b>Special Topics</b>	<b>1-5 credits</b>	
<b>ED 492</b>	<b>Special Topics</b>	<b>1-5 credits</b>	
<b>ED 493</b>	<b>Special Topics</b>	<b>1-5 credits</b>	
<b>ED 496</b>	<b>Independent Study</b>	<b>1-5 credits</b>	
<b>ED 497</b>	<b>Independent Study</b>	<b>1-5 credits</b>	
<b>ED 498</b>	<b>Independent Study</b>	<b>1-5 credits</b>	

# *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. 2.3 (C+) g.p.a. required in the major
2. No PUB major courses may be taken CR/NC
3. The required internship is ungraded
4. 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 349	Collective Bargaining
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 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

Pls 100 American National Government	5 credits
English 110 and core option	10 credits
History core options	10 credits
Mathematics/Science core options	10 credits
Electives	10 credits

### Sophomore year

Pls 210 Introduction to Local and State	5 credits
PUB 280 Introduction to Public Administration	5 credits
Philosophy core options	10 credits
Social Science core option	5 credits
Economics 271 or 272	5 credits
Electives	15 credits

### Junior year

PUB 281 Working in Public Organizations	5 credits
PUB 282 Origins of Public Policy	5 credits
Pls 390 Research Methods and Design	5 credits
Philosophy core option	5 credits
Public Administration emphasis courses	10 credits
Theology core option	10 credits
Electives	5 credits

### Senior year

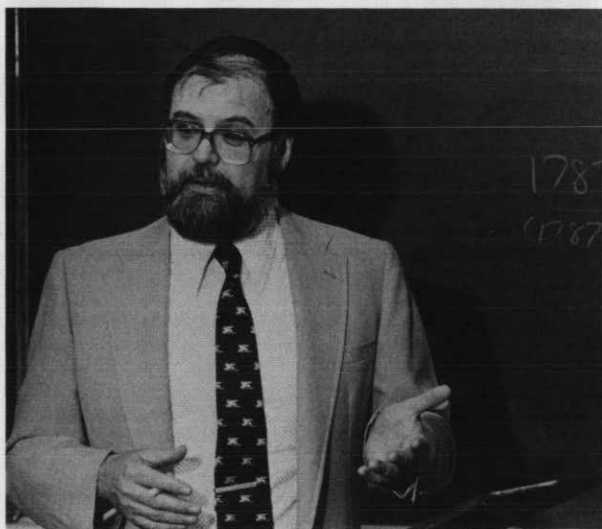
PUB 480 Management Control	5 credits
PUB 481 Policy Process	5 credits
PUB 482 Issues in Public Administration	5 credits
PUB 495 Internship	5 credits
Public Administration emphasis courses	5 credits
Electives	20 credits

Total ..... 180 credits

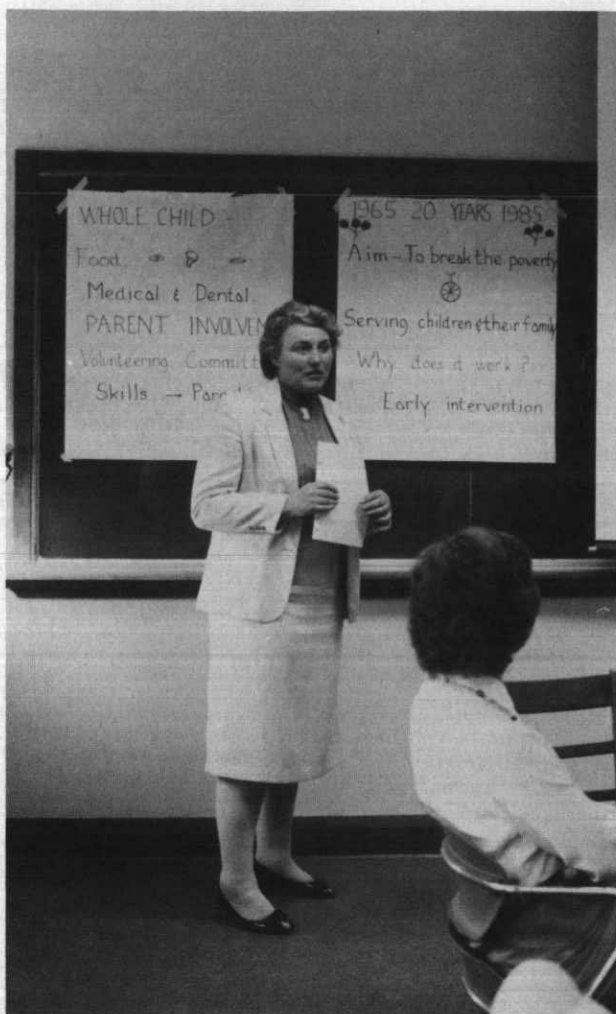


## Institute of Public Service Courses

<b>PUB 280 Introduction to Public Administration</b>	<b>5 credits</b>
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.	
<b>PUB 281 Working in Public Organizations</b>	<b>5 credits</b>
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.	
<b>PUB 282 Origins of Public Policy</b>	<b>5 credits</b>
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.	
<b>PUB 291 Special Topics</b>	<b>1-5 credits</b>
<b>PUB 292 Special Topics</b>	<b>1-5 credits</b>
<b>PUB 293 Special Topics</b>	<b>1-5 credits</b>







**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**

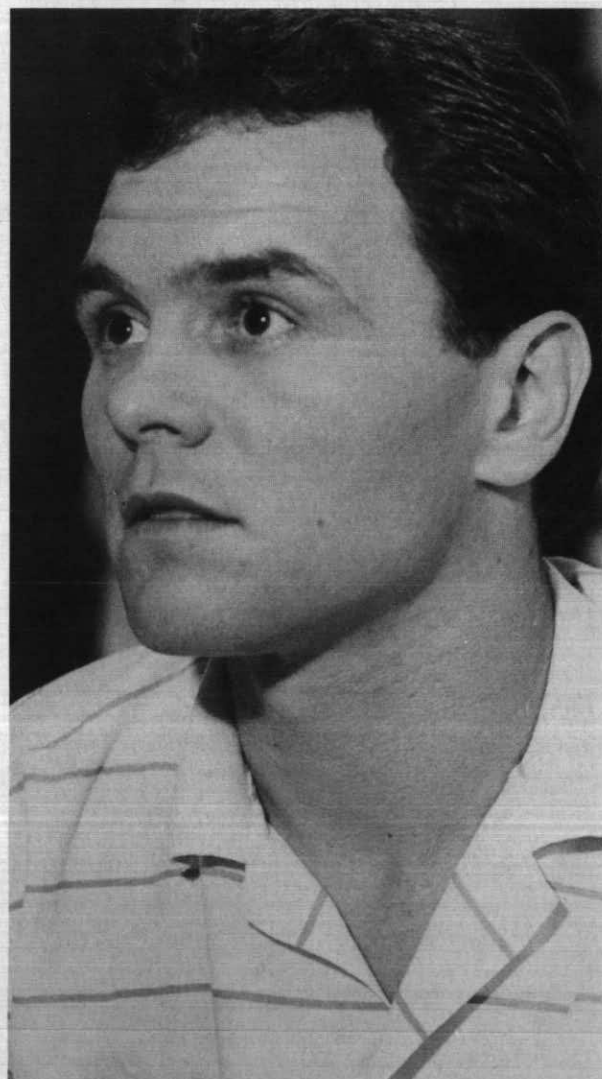
**PUB 494 Practica** **1-5 credits**  
Short courses to integrate theory and practice in human resources, public and non-profit management. Topics vary with contemporary student interest. Courses are offered on Friday evenings and Saturdays.

**PUB 495 Internship (Ungraded)** **2-5 credits**  
Supervised work with seminars on job expectations, organizational setting, client relationships and performance.

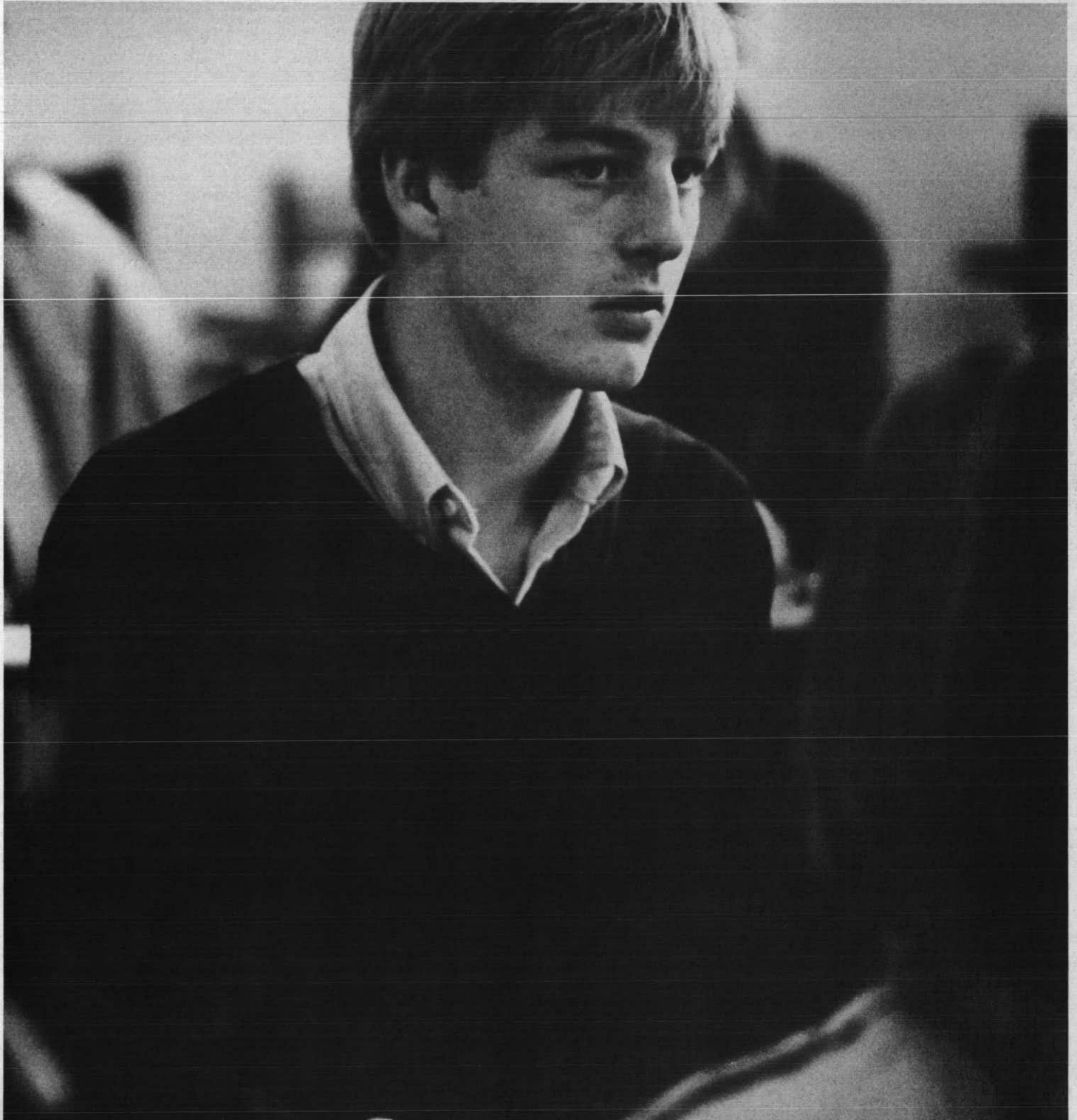
**PUB 496 Independent Study** **1-5 credits**

**PUB 497 Independent Study** **1-5 credits**

**PUB 498 Independent Study (Graded)** **1-5 credits**



*Matteo Ricci*  
*College-11*







## **Matteo Ricci College — II**

*Bernard M. Steckler, Ph.D., Dean*

*Joanne O. Kelly, M.A., 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 valiative 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 non-verbal 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.

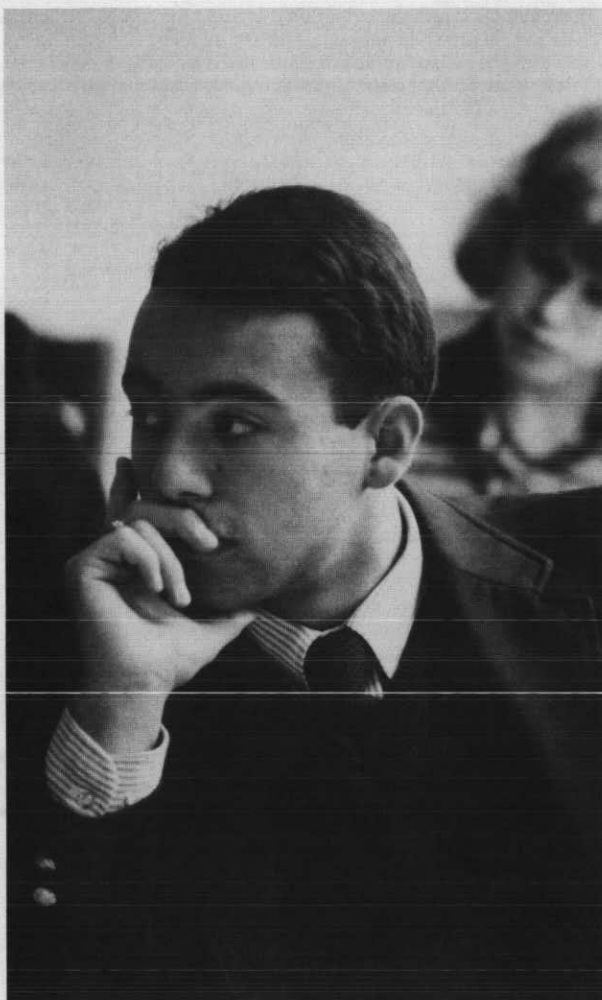
### **Degree Offered**

Bachelor of Arts

### **General Program Requirements**

The MRC-II Advisory Panel 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 an Advisory Panel member.





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.

### 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

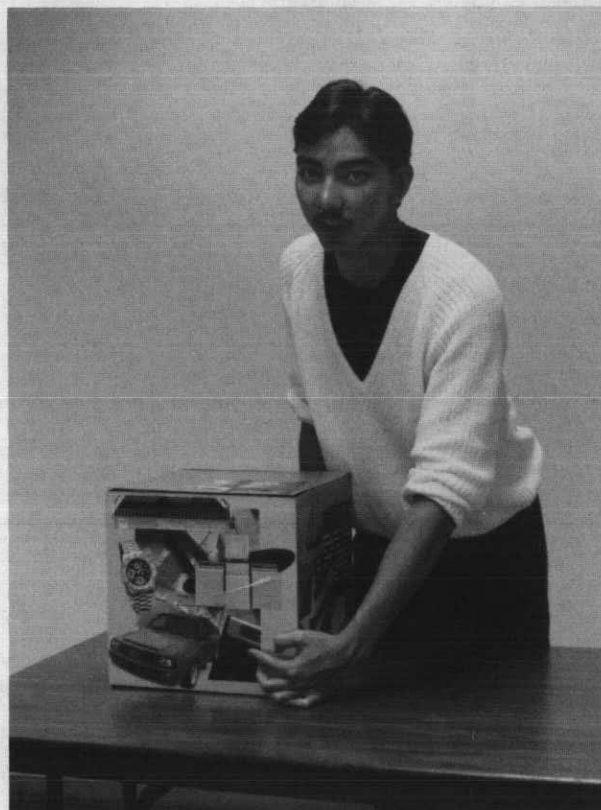
#### Year/6

HUM 400 series ..... 15 credits  
 Area of Concentration and  
 Approved Courses ..... 30 credits  
 Total ..... 135 credits

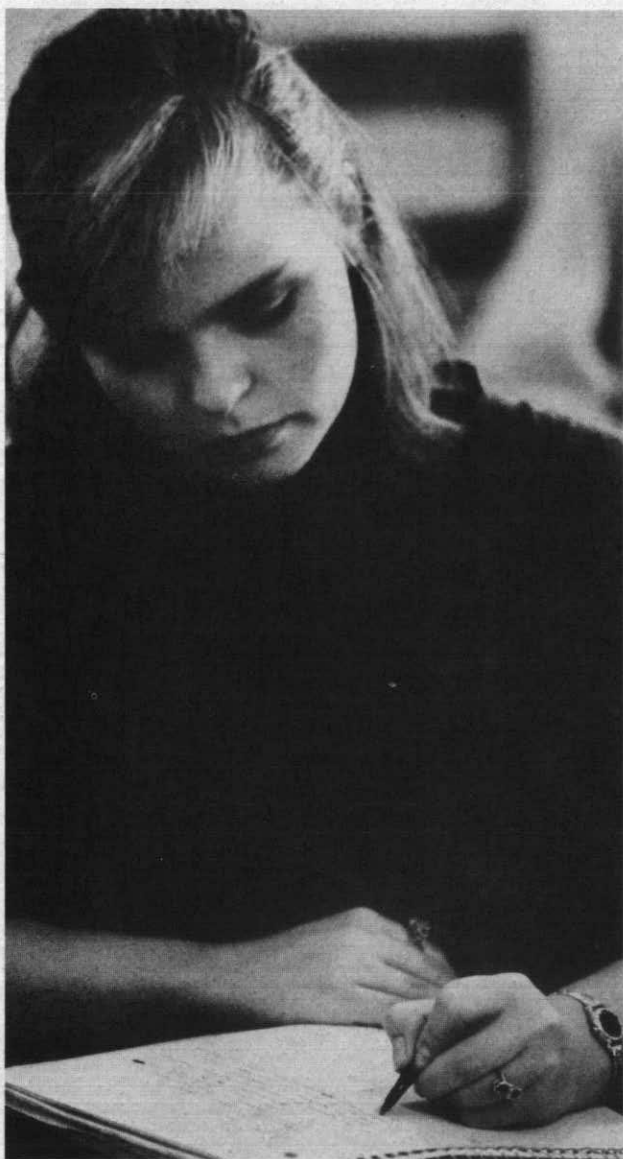
### Matteo Ricci College/HUM Courses

**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

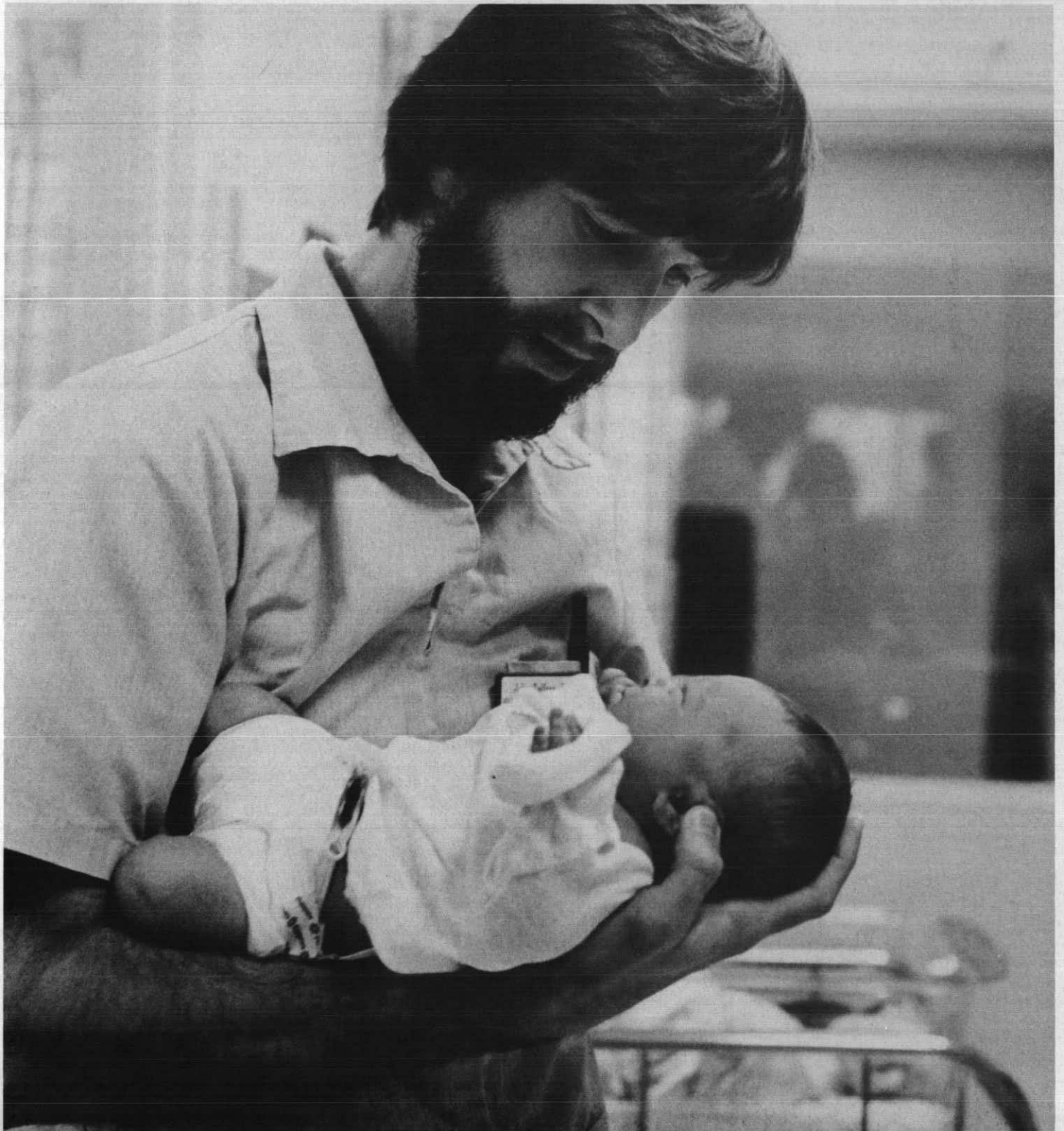
- HUM 401 MRC Seminar** 5 credits

- 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**

*Janet M. Claypool, R.N.C., M.N., Interim 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 professional 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 previous employer

### **Degree Offered**

Bachelor of Science in Nursing

### **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 Orthopedic 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 page 26 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 recommended 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

### Freshman year

Chemistry 101, 102 .....	10 credits
English 110 and core option .....	10 credits
History core option .....	10 credits
Philosophy 110 .....	5 credits
Psychology 100 .....	5 credits
Elective .....	5 credits

### Sophomore year

Biology 200, 210, 220 .....	15 credits
Nursing 205, 206, 300 .....	15 credits
Philosophy 220 .....	5 credits
Psychology of Education 322 .....	5 credits
Theology core option .....	5 credits

### Junior year

Nursing 312, 314, 316, 330, 332, 335, 337, 340, 341 .....	45 credits
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### Senior year

Nursing 408, 409, 432, 433 .....	25 credits
Philosophy 255 or 250 .....	5 credits
Theology core option .....	5 credits
Electives .....	10 credits
Total .....	180 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 .....	5 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

<b>N 205</b>	<b>Basic Nursing I (For nursing majors only)</b>	<b>5 credits</b>
	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. Concurrent with BI 200 fall or BI 210 winter.	
<b>N 206</b>	<b>Basic Nursing II</b>	<b>5 credits</b>
	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: BI 200, 210 and N 205. Concurrent with BI 220 and N 300.	
<b>N 291</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>N 292</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>N 293</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>N 300</b>	<b>Pathophysiology</b>	<b>5 credits</b>
	Study of the functional changes of the body which accompany illness and form the basis for nursing intervention. Prerequisites: Ch 101, Ch 102, BI 200, BI 210, N 205. Concurrent with BI 220, N 206 or RN student.	
<b>N 312</b>	<b>Health Appraisal</b>	<b>5 credits</b>
	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: BI 200, BI 210, or BI 270-271; N 205, N 206, N 300 and Ed 322 or Psy 332. Concurrent with either N 335, N 337, or N 341 or RN student.	
<b>N 314</b>	<b>Mental Health Concepts</b>	<b>5 credits</b>
	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: BI 200, BI 210 or BI 270, BI 271 and BI 220, N 205, N 206, N 300 and Ed 322 or Psy 322; concurrent with either N 335, N 337 or N 341.	
<b>N 316</b>	<b>Research and Trends in Nursing</b>	<b>5 credits</b>
	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: BI 200, BI 210 or BI 270, BI 271 and BI 220; N 205, N 206, N 300 and Ed 332 or Psy 322; concurrent with either N 335, N 337 or N 341, or RN student.	

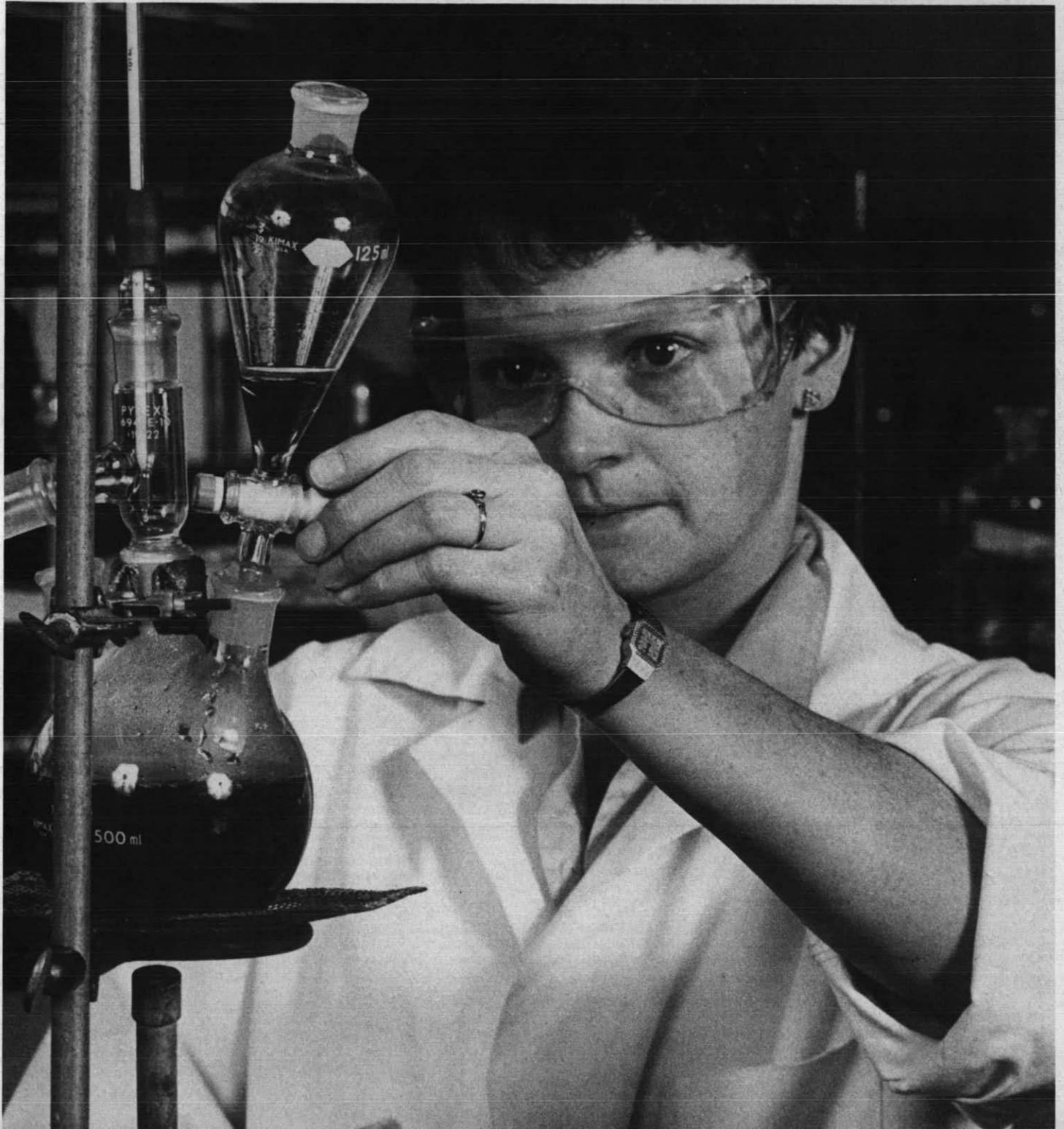




- N 330 Medical-Surgical Nursing I** **4 credits**  
Problems in various phases of illness; nursing process in assisting individuals to maintain-regain health or adapt to chronic illness; nursing care related to pulmonary, renal and gastro-intestinal problems and alterations in fluid and electrolyte 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 theory courses, N 330 and N 332. Prerequisites: N 205, N 206, N 300; concurrent with N 312, N 314 or N 316 and either N 330 or N 332.
- 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 theory courses, N 330 and N 332. Prerequisites: N 205, N 206, N 300; concurrent with N 312, N 314 or N 316 and either N 330 or N 332.

- 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. Registered Nurse students only.
- 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, Software, and Transportation 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, Mathematics, Mechanical Engineering, Medical Technology, Nuclear Medicine Technology and Physics.

**Master of Software Engineering** — See Graduate Bulletin

**Master of Transportation 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 page 26 of this Bulletin. The three engineering degrees require 192 credits, and the radiation therapy technology degree requires 182 credits. The history and social science 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.

Upper division engineering courses are restricted to engineering majors who have been formally admitted to departmental candidacy. Such admission requires completion of all lower division prerequisites, as well as English 110 or its equivalent.



## Allied Health Technology

Vicky M. Brautigan, Ph.D., Chairperson  
Andrea C. Skelly, BS, RDMS,  
Director, Diagnostic Ultrasound Program

### Objectives

The Allied Health Technology program is 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 program affords simultaneous opportunities for receiving a liberal arts education and a 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

### Accreditation

The Diagnostic Ultrasound and Nuclear Medicine Technology degrees are accredited by the Council 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 page 26 of this Bulletin for English, philosophy and theology and religious studies. Core requirements for history and social science are 15 credits for all Allied Health Technology programs.

### 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 112; and 45 credits of AH 310, 311 and 312, which must be completed in an accredited cytotechnology internship site. AH 415 and HI 322, 425, 426 and 450 are recommended. Biology electives recommended are BL 200, 210 (or 270, 271), 220 (or 300), 310, 330, 350, 351, and 380.

**Bachelor of Science in Diagnostic Ultrasound** — 25 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, HI 322; MT 112, 131; CSC 113 or 114, AH 330, 331, 332, 333, 355, 370, 375, 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.

**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 380; 47 credits in chemistry, including CH 121, 122, 131, 132, 219, 470, 471, 472; MT 112, 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 112, 131; CSC 113 or 114; 30 credits in chemistry, including CH 121, 122, 123, 131, 132, 133, 241, 242, 251, 252; 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 and core option .....	10 credits
History/Social Science core options .....	10 credits
Mathematics .....	5 credits
Philosophy 110 .....	5 credits

### Sophomore year

Biology 200, 210 (or 270, 271) 220 (or 300), 380 .....	20 credits
Chemistry 101, 102 (or 121, 122 and 131, 132) .....	10 credits
Philosophy 220 .....	5 credits
Theology core options .....	10 credits

### Junior year

Allied Health 415 .....	3 credits
Biology 310, 330, 350, 351 .....	15 credits
History/Social Science core option .....	5 credits
Health Information 322, 425, 426, 450 .....	12 credits
Philosophy core option .....	5 credits
Elective .....	5 credits

### Senior year

Allied Health 310, 311, 312 .....	45 credits
<b>Total .....</b>	<b>180 credits</b>

## Bachelor of Science in Diagnostic Ultrasound

### Freshman year

Biology 165 or 167 .....	5 credits
Biology elective .....	5 credits
English 110 .....	5 credits
History/Social Science core elective .....	5 credits
Mathematics 112, 131 .....	10 credits
Philosophy 110, 220 .....	10 credits
Psychology 100 .....	5 credits

### Sophomore year

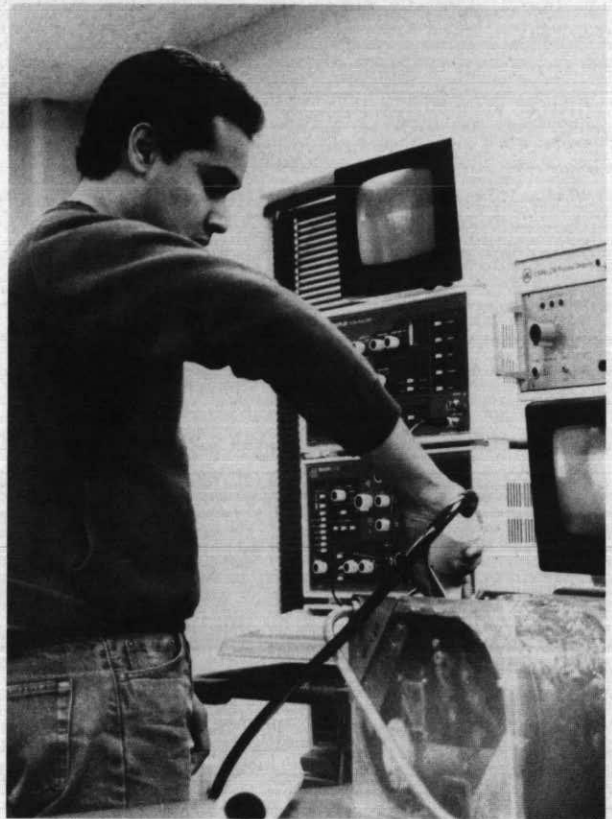
Biology 200, 210 (or 270, 271) .....	10 credits
English Literature .....	5 credits
Health Information 322 .....	3 credits
Nursing 300 (or Biology 305) .....	5 credits
Physics 105, 106 .....	10 credits
Theology electives .....	10 credits

### Junior year

Allied Health 330, 331, 332, 333, 355, 370, 375 .....	27 credits
Computer Science 113 or 114 .....	5 credits
History/Social Science core elective .....	5 credits
Philosophy core elective .....	5 credits
Physics 350 .....	3 credits
Electives .....	1 credit

### Senior year

Allied Health 473, 474 (3 times) .....	34 credits
Allied Health 483 (4 times), 484 (2 times) .....	12 credits
<b>Total .....</b>	<b>180 credits</b>



## Bachelor of Science in Medical Technology

### Freshman year

Biology 160 series .....	10 credits
Chemistry 121, 122, 131, 132 .....	10 credits
English 110 and core option .....	10 credits
Mathematics 112 .....	5 credits
History/Social Science core option .....	5 credits
Computer Science 113 or 114 .....	5 credits

### Sophomore year

Biology 200, 210 or 270, 271 .....	10 credits
Chemistry 123, 133 .....	5 credits
Mathematics 131 .....	5 credits
Philosophy 110, 220 .....	10 credits
Physics 105, 106 .....	10 credits
Theology core option .....	5 credits

### Junior year

Allied Health 410, 415, 420 .....	9 credits
Biology 300 and elective .....	10 credits
Chemistry 219, 241, 242, 251, 252 .....	17 credits
Philosophy core option .....	5 credits
Electives .....	4 credits

### Senior year

Biology 350, 351, 360, 380 .....	15 credits
Chemistry 455, 470, 471, 472, 475 .....	15 credits
History/Social Science core option .....	10 credits
Philosophy core option .....	5 credits
Theology core option .....	5 credits
<b>Total .....</b>	<b>180 credits</b>

## Bachelor of Science in Nuclear Medicine Technology

### Freshman year

Chemistry 121, 122, 123, 131, 132, 133	15 credits
English 110	5 credits
History/Social Science core elective	5 credits
Mathematics 112, 131	10 credits
Philosophy 110	5 credits
Theology elective	5 credits

### Sophomore year

Biology 200, 210 (or 270, 271)	10 credits
Chemistry 241, 242, 251, 252	12 credits
Physics 105, 106, 107	15 credits
Philosophy 220	5 credits
Theology elective	5 credits

### Junior year

Allied Health 370	3 credits
Chemistry elective	3 credits
Computer Science 113 or 114	5 credits
English Literature	5 credits
Health Information 322	3 credits
History/Social Science core electives	10 credits
Nursing 300 (or Biology 305)	5 credits
Philosophy core elective	5 credits
Elective	4 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
<b>Total</b>	<b>180 credits</b>



## Allied Health Courses

<b>AH 310</b>	<b>Cytotechnology Internship I</b>	<b>15 credits</b>
<b>AH 311</b>	<b>Cytotechnology Internship II</b>	<b>15 credits</b>
<b>AH 312</b>	<b>Cytotechnology Internship III</b>	<b>15 credits</b>
<b>AH 330</b>	<b>Diagnostic Ultrasound I</b>	<b>5 credits</b>
<b>AH 331</b>	<b>Diagnostic Ultrasound II</b>	<b>5 credits</b>
	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)	
<b>AH 322</b>	<b>Echocardiography</b>	<b>3 credits</b>
	Anatomy, physiology and pathological conditions of the adult and pediatric heart, their visualization and evaluation with real-time imaging and M-mode echocardiography. Prerequisites: BL 200, 210; AH 355; PH 350. (winter)	
<b>AH 333</b>	<b>Methods of Cardiac Evaluation</b>	<b>2 credits</b>
	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)	
<b>AH 355</b>	<b>Human Cross Section Anatomy</b>	<b>5 credits</b>
	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)	
<b>AH 370</b>	<b>Management and Professionalism</b>	<b>3 credits</b>
	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)	
<b>AH 375</b>	<b>Ultrasound Instrumentation</b>	<b>4 credits</b>
	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)	
<b>AH 391</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>AH 392</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>AH 393</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>AH 396</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>AH 397</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>AH 398</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>AH 410</b>	<b>Clinical Hematology</b>	<b>3 credits</b>
	Automated and manual cell counting; cellular morphology; testing procedures related to red and white cell disorders. Prerequisite: permission (winter-odd numbered years)	
<b>AH 415</b>	<b>Fundamentals of Immunology</b>	<b>3 credits</b>
	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; collimators, 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 Technology 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 not only is a disciplined study of the sciences of life, 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. The programs in the department are designed to provide a liberal education and to prepare a student for graduate studies, professional work in basic and applied biology, or as future life science educators.

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, predoctoral, 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.

### Degrees Offered

Bachelor of Science in Biology

### General Program Requirements

Students in biology must satisfy the core curriculum requirements of the University as given on page 26 of this bulletin for English, philosophy, and theology and religious studies. 15 credits in history or social science are required.

### 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 .....	5 credits
English literature core option .....	5 credits
Mathematics 131 .....	5 credits

#### **Sophomore year**

Chemistry 241/251, 242/252, 243 .....	15 credits
Foreign language or statistics .....	10 credits
Philosophy 110, 220, and core option .....	15 credits
Systematics choice (BL 235 or 252) .....	5 credits

#### **Junior year**

Biology elective .....	5 credits
Biology Structure choice (BL 310, 325, or 330) .....	5 credits
General Ecology (BL 370) .....	5 credits
Physiology choice (BL 385 or 388) .....	5 credits
Physics (Ph 105, 106, 107) .....	15 credits
Theology core options .....	10 credits

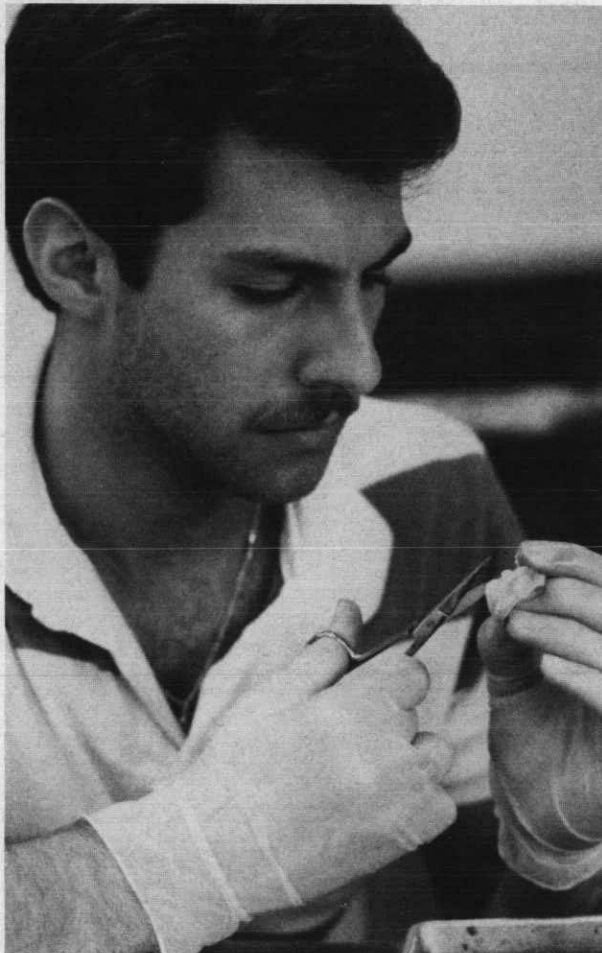
#### **Senior year**

Biology electives .....	9 credits
Cell Physiology (BL 485) .....	5 credits
Genetics and Genetics Lab (BL 350 and BL 351) .....	5 credits
History or Social Science core options .....	15 credits
Seminar .....	1 credit
Electives .....	10 credits
<b>Total .....</b>	<b>180 credits</b>

### **Biology Courses**

<b>BL 101</b>	<b>Principles of Biology</b>	<b>5 credits</b>
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)		
<b>BL 165</b>	<b>General Biology I</b>	<b>5 credits</b>
<b>BL 166</b>	<b>General Biology II</b>	<b>5 credits</b>
<b>BL 167</b>	<b>General Biology III</b>	<b>5 credits</b>
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. May be taken in any order. Four lecture and three laboratory hours per week. (I—fall, II—winter, III—spring.)		
<b>BL 182</b>	<b>Elementary Human Anatomy and Physiology</b>	<b>5 credits</b>
A one-quarter survey of structure and function of the human body. Two three-hour lecture-laboratory sessions per week. (fall)		
<b>BL 185</b>	<b>Biology of Human Sexuality</b>	<b>5 credits</b>
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)		
<b>BL 190</b>	<b>Principles of Physical Anthropology</b>	<b>5 credits</b>
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)		
<b>BL 200</b>	<b>Anatomy and Physiology I</b>	<b>5 credits</b>
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)		
<b>BL 210</b>	<b>Anatomy and Physiology II</b>	<b>5 credits</b>
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)		
<b>BL 220</b>	<b>Microbiology</b>	<b>5 credits</b>
Introduction to medical microbiology. Three lecture and four laboratory hours per week. Credits not applicable for biology major. Prerequisite: BL 210. (spring)		
<b>BL 235</b>	<b>Invertebrate Zoology</b>	<b>5 credits</b>
Survey of invertebrate phyla including their anatomy, morphology, taxonomy and ecology. Four hours lecture and three hours laboratory per week. One week-end field trip. Prerequisite: BL 165, 166, 167. (fall)		
<b>BL 241</b>	<b>Vertebrate Zoology</b>	<b>5 credits</b>
Structure, physiology, ecology and behavior of Hemichordata and Chordata. Three lectures and four laboratory hours per week. Prerequisite: BL 165, 166, 167. (fall, even years)		

- 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: BI 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 micro-



- organisms. Three lecture and four laboratory hours per week. Prerequisite: BI 210 or 271, or 275 or 380. (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: BI 200 and 210, or BI 270 and 271. Recommended: BI 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: BI 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: BI 165, 166, 167. (spring even years)
- 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: BI 165, 166, 167. Recommended: BI 310.
- BL 330 Comparative Vertebrate Histology** 5 credits  
Study of the fundamental body tissues. Three lecture and four laboratory hours per week. Prerequisite: Permission of instructor. (winter)
- BL 350 Genetics** 3 credits  
Classical and molecular principles of the transfer of hereditary information. Three lecture hours per week. Prerequisite: BI 165, 166, 167. (spring)
- BL 351 Genetics Laboratory** 2 credits  
Experience in genetic experimentation. Four laboratory hours per week. Prerequisite: BI 350 or taken concurrently. (spring)
- BL 360 Parasitology** 5 credits  
Study of parasitic protozoa, helminths and anthropods. Three lecture and four laboratory hours per week. Prerequisite: BI 165, 166, 167; Recommended: BI 235, (spring)
- BL 370 General Ecology** 5 credits  
Study of the interactions 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: BI 235 or 252; Mt 112. (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: BI 165, 166, 167; recommended: BI 252, BI 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: BI 165, 166, 167; BI 235. (spring, even years)
- BL 380 Cell Physiology** **5 credits**  
Control of fundamental life processes in plant and animal cells. Four hours of lecture and three hours of laboratory per week. Prerequisites: BI 165, 166, 167, Ch 241, 251, 252. Recommended: BI 275, Mt 112. (winter)
- BL 385 Plant Physiology** **5 credits**  
Study of the function of plants, with emphasis on the wide range of physiological processes 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: BI 165, 166, 167 and Ch 241.

- 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: BI 165, 166, 167, Ch 241, 251. (fall)
- BL 430 Endocrinology**  
Structure and function of the glands of internal secretion of vertebrates. Prerequisite: Advanced standing in biology and Ch 242. (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: BI 200, 210 or 270, 271 or 310 or 326. Permission of instructor. (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. Prerequisite: BI 165, 166, 167; BI 235, Ch 121, 131, 122, 132, 123, 133. (spring)
- BL 465 Population Biology: Evolution** **5 credits**  
Causes and mechanisms of genetic adaptation of organisms. Five lectures per week. Prerequisite: BI 350 or permission. (spring)
- BL 470 Entomology** **5 credits**  
Structure, function, classification, ecology, behavior and economic importance of insects. Three lecture and four laboratory hours per week. Prerequisite: BI 165, 166, 167; BI 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: BI 165, 166, 167; Ch 241, 242, 243, 251, 252. Recommended: Ch 455; Mt 112. (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 page 26 of this Bulletin for English, philosophy and theology and religious studies. Core requirements for history and social science are as follows: Bachelor of Arts degree, 10 credits in history and 10 credits in social science; Bachelor of Science in Chemistry degree, 10 credits in history or social science; and Bachelor of Science in Clinical Chemistry, 10 credits in history or social science.

### Departmental Requirements

**Bachelor of Arts** — 45 credits of chemistry which must include Ch 121, 122, 123, 131, 132, 133, 219, 241, 242, 251, 252 and either 352 or 361 and 363, plus electives from the following: Ch 243, 244, 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. For students planning graduate work. Mt 232, 233, 234 and Ph 204, 205 are strongly recommended as electives. Students in this program may elect to complete a sequence leading to secondary teacher certification. For details contact the School of Education.

**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, 326, 361, 362, 363, 364, 455, 470, 471, 472, 475, 476, 481, 482, 483; 20 credits in mathematics and computer science which must include three quarters of calculus and either CSC 113 or 114; and one year of introductory physics. Recommended electives: Ch 243, 244, 360; BI 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 112, 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 112 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.



## Bachelor of Arts

### Freshman year

Chemistry 121, 122, 123, 131, 132, 133 .....	15 credits
English 110 and core option .....	10 credits
Philosophy 110 .....	5 credits
Electives .....	15 credits

### Sophomore year

Chemistry 241, 242, 251, 252 .....	12 credits
Mathematics 112, 134, 135 .....	15 credits
Philosophy 220 and core option .....	10 credits
Theology core option .....	5 credits
Electives .....	3 credits

### Junior year

Chemistry 219 .....	5 credits
History core options .....	10 credits
Physics 105, 106, 107 .....	15 credits
Social Science core option .....	10 credits
Theology core option .....	5 credits

### Senior year

Chemistry 361 and 363 .....	5 credits
Chemistry elective .....	8 credits
Social Science core option .....	5 credits
Electives .....	27 credits
Total .....	180 credits

## Bachelor of Science in Chemistry

### Freshman year

Chemistry 121, 122, 123, 131, 132, 133 .....	15 credits
English 110 and core option .....	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
Philosophy 110 .....	5 credits
Physics 201, 202 .....	10 credits
Electives .....	10 credits

### Junior year

Chemistry 219, 360, 361, 362, 363, 364 .....	18 credits
History or Social Science core .....	5 credits
Philosophy 220 .....	5 credits
Theology core options .....	10 credits
Electives .....	7 credits

### Senior year

Chemistry electives .....	12 credits
Philosophy core option .....	5 credits
Theology core option .....	5 credits
Electives .....	23 credits
Total .....	180 credits

## Bachelor of Science in Clinical Chemistry

### Freshman year

Biology .....	5 credits
Chemistry 121, 122, 123, 131, 132, 133 .....	15 credits
English 110 and core option .....	10 credits
Mathematics 134, 135, 136 .....	15 credits

### Sophomore year

Chemistry 241, 242, 251, 252, 455 .....	17 credits
Computer Science 113 or 114 .....	5 credits
Philosophy 110, 220 .....	10 credits
Physics 105, 106, 107 .....	15 credits

### Junior year

Biology 270, 271 .....	10 credits
Chemistry 219, 326, 361, 362, 363, 364 .....	20 credits
History or Social Science elective .....	10 credits
Theology core options .....	5 credits

### Senior year

Chemistry 470, 471, 472, 475, 476, 481, 482, 483 .....	17 credits
Philosophy core option .....	5 credits
Theology core option .....	5 credits
Electives .....	16 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.

<b>CH 101</b>	<b>Introduction General Chemistry</b>	<b>5 credits</b>
	Survey of inorganic treating the basic principles and descriptive material relevant to the health sciences. Four lecture and three laboratory hours per week. (fall, winter)	
<b>CH 102</b>	<b>Introductory Organic and Biochemistry</b>	<b>5 credits</b>
	Continuation of 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)	
<b>CH 110</b>	<b>Fundamentals of Chemistry</b>	<b>5 credits</b>
	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)	
<b>CH 121</b>	<b>General Chemistry 1</b>	<b>4 credits</b>
<b>CH 122</b>	<b>General Chemistry 2</b>	<b>4 credits</b>
<b>CH 123</b>	<b>General Chemistry 3</b>	<b>4 credits</b>
	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 non-metals, the metallic state, nuclear chemistry. Four lecture hours per week. Prerequisites: High school algebra for 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).	



**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: 131 for 132. Corequisites: 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 semi-micro scale. Experimentation in the chemistry of ionic systems and basic quantitative analytical methods. Four hours per week. Corequisite: Ch 123; Prerequisite: 132. (spring, summer)

**CH 215 BASIC Computer Applications in Chemistry 2 credits**  
 Introduction to BASIC; application of microcomputers to problems in chemistry; 1 lecture, 2 laboratory hours per week.

**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 pre-med 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, infra-red and nuclear magnetic resonance spectra; laboratory work in organic quantitative 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 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 or permission.





- 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 or permission. (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 porphyrins; 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 radioimmunoassay techniques, renal and hepatic function assessment. Two lectures per week. Prerequisites: Ch 219, 455 or permission. (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

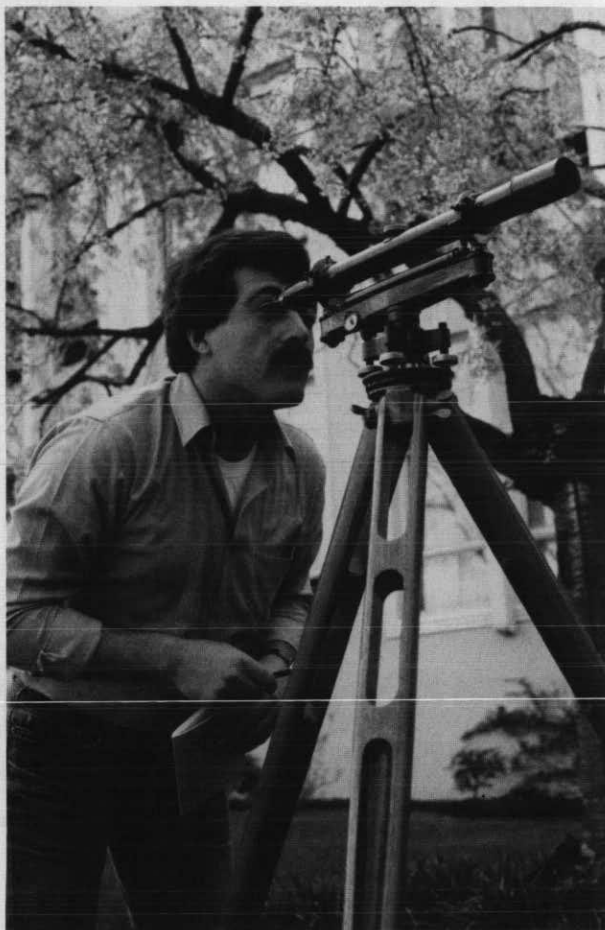
Practical experience in approved hospital clinical laboratory. Six laboratory hours per week. Mandatory CR/NC. Prerequisite: Permission.

- 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. Prerequisite: Permission.

- 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. Prerequisite: Permission.



## Civil Engineering

Dale A. Carlson, Ph.D., Chairperson

### Objectives

The principal objectives of the Civil Engineering department are to provide trained engineers to work in the various areas of the civil engineering profession and to provide a firm foundation for graduate study.

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  
Master of Transportation Engineering — See Graduate Bulletin.

### General Program Requirements

Students in Civil Engineering must satisfy the core curriculum requirements of the University as given on page 26 of this Bulletin for English, philosophy and theology and religious studies. Ten credits of history or social science are required.

### Departmental Requirements

**Bachelor of Science in Civil Engineering** — 80 credits in civil engineering which must include ECL 211, 321, 322, 323, 324, 331, 335, 337, 351, 353, 371, 402, 403, 445, 485, 487, 488, and 489. Also required are MT 134, 135, 136, 232, 233 and 234; EML 105, 210, 230, and 321; PH 200, 201, and 202 (or CH 122, 132); CH 121, 131, and CSC 230. Departmental Candidacy must be achieved prior to being granted entry into ECL 323. Candidacy is achieved by successfully completing all required 100 and 200 level CH, CSC, ECL, EML, MT, and PH courses with a combined grade point average of at least 2.50. Only courses graded C (2.0) or better may be transferred into the department to offset degree requirements. Required 300 and 400 level courses have Departmental Candidacy in one of the engineering departments as well as the specified courses as pre-requisites. 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

Chemistry 121, 131 .....	5 credits
English 110 and core option .....	10 credits
Mathematics 134, 135, 136 .....	15 credits
Mechanical Engineering 105 .....	5 credits
Philosophy 110 .....	5 credits
Physics 200 .....	5 credits

#### Sophomore year

Civil Engineering 211, 321, 322 .....	11 credits
Mathematics 232, 233, 234 .....	10 credits
Mechanical Engineering 210, 230 .....	10 credits
Philosophy 220 .....	5 credits
Physics 201, 202 .....	10 credits

#### Junior year

Civil Engineering 323, 324, 331, 335, 337, 351, 353, 371 .....	27 credits
Computer Science 230 .....	3 credits
Mechanical Engineering 321 .....	4 credits
Philosophy elective .....	5 credits
Theology core options .....	10 credits

#### Senior year

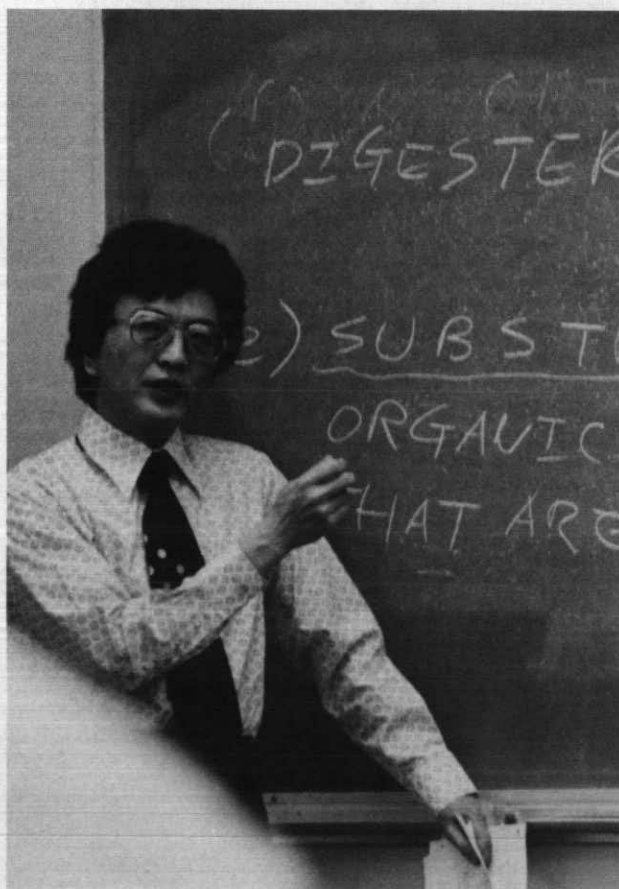
Civil Engineering 402, 403, 445, 485, 487, 488, 489 and electives .....	40 credits
History or Social Science core options .....	10 credits
Total .....	192 credits

### Civil Engineering Courses

<b>ECL 211 Engineering Measurements</b>	<b>5 credits</b>
Engineering measurements as applied to civil engineering. Planning for surveys, introduction to photogrammetry. Public Land and State Plane Coordinate Systems. Prerequisite: Sophomore standing. Four lecture and one laboratory period per week. Prerequisite: Mt 112, EML 105. (spring)	
<b>ECL 291 Special Topics</b>	<b>1-5 credits</b>
<b>ECL 292 Special Topics</b>	<b>1-5 credits</b>
<b>ECL 293 Special Topics</b>	<b>1-5 credits</b>



- ECL 321 Strength of Materials I** **4 credits**  
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: EML 210, 230, Mt 232, 233. (fall, spring)
- ECL 322 Strength of Materials Laboratory I** **2 credits**  
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: ECL 321. (fall, spring)
- ECL 323 Strength of Materials II** **4 credits**  
Continuation of the mechanics of solid deformable bodies. Beam topics, stability of columns, combined stresses and strains, fatigue and energy relationships. Prerequisite: ECL 321, 322, MT 234. (fall, winter)
- ECL 324 Strength of Materials Laboratory II** **2 credits**  
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: ECL 323. (fall, winter)
- ECL 331 Fluid Mechanics** **4 credits**  
Fluid statics and dynamics. Topics include fluid properties, continuity equation, Euler's equation; laminar and turbulent flow regimes. Prerequisites: EML 230, MT 234. (fall, winter)



- ECL 335 Applied Hydraulics** **4 credits**  
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: ECL 331. (winter)
- ECL 337 Fluids Laboratory** **2 credits**  
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: ECL 331. (winter, spring)
- ECL 351 Engineering Geology** **3 credits**  
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. Prerequisite: Junior standing. (winter)
- ECL 353 Soil Mechanics and Foundations** **5 credits**  
Engineering properties of soils; consolidation, shear strength, permeability. Fundamentals of slope stability and earth pressure theories. Fundamentals of foundation design. Four lecture and one laboratory session per week. Prerequisites: ECL 321, 322, ECL 351. (spring)
- ECL 371 Water Resources I** **3 credits**  
Conception, planning, design, construction, and operation of facilities to control and utilize water. Stream and flood analysis. Prerequisite: ECL 331. (spring)
- ECL 391 Special Topics** **1-5 credits**  
**ECL 392 Special Topics** **1-5 credits**  
**ECL 393 Special Topics** **1-5 credits**

- ECL 402 Engineering Economy** 3 credits  
Elements of immediate and long-term economy of design and maintenance; interest rates, present rates, present worth and prospective return on investment; depreciation and replacement studies. Prerequisite: Senior standing. (fall, winter)
- ECL 403 Project/Construction Management** 3 credits  
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)
- ECL 445 Structural Mechanics** 5 credits  
Classical and matrix methods in structural mechanics. Basic structural theory in both classical and matrix notation. Introduction to structural computer programs. Prerequisite: ECL 323, 324. (fall)
- ECL 447 Structural Design I** 5 credits  
**ECL 449 Structural Design** 5 credits  
Design of basic structural members and connections. Specific structural design building codes. I. Steel design. II. Reinforced and prestressed concrete design. Prerequisites: ECL 445 for I, 447 for II. (I. winter, II. spring)
- ECL 461 Introduction to Urban Transportation Engineering** 4 credits  
Presentation of all urban modes. Introduction to planning. Environmental issues and citizen participation. Three lectures and three engineering design laboratory hours per week. Prerequisite: Senior standing. (fall)
- ECL 463 Transportation Planning** 4 credits  
Historical background. The planning process. Goals and objectives. Models. Impact of transportation decisions. Information. Benefit/cost. Legal and political issues. Three lectures and three engineering design laboratory hours per week. Prerequisite: ECL 461 (winter)



- 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: ECL 463. (spring)
- 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: ECL 465. (spring)
- ECL 471 Water Resources II** 3 credits  
Geologic and hydrologic occurrence of ground water, underground flow, and ground water supply. Other selected related topics. Prerequisite: ECL 371. (fall)
- 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)
- ECL 483 Industrial Waste Treatment** 5 credits  
Design of waste treatment systems for industrial processes, especially as related to the Northwest industries. (spring)
- ECL 485 Sanitary Engineering I** 5 credits  
**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 industrial wastes. Four lectures per week plus one laboratory of field trip each week. Prerequisites: CH 121, 131, for 485; ECL 485 for 486. (I. fall, II. winter)
- ECL 487 Engineering Design and Professional Development I** 4 credits  
**ECL 488 Engineering Design and Professional Development II** 4 credits  
**ECL 489 Engineering Design and Professional Development III** 4 credits  
A correlative to senior program courses in structures, transportation and sanitary engineering, emphasizing the professional attributes of engineering and involving a design project with final report, together with the use of oral and written communication techniques for report presentation and evaluation. Prerequisites: senior standing (487 fall, 488 winter, 489 spring)
- ECL 491 Special Topics** 1-5 credits  
**ECL 492 Special Topics** 1-5 credits  
**ECL 493 Special Topics** 1-5 credits
- ECL 495 Thesis** 1-5 credits  
Problem in analysis or design at the level of undergraduate research. Prerequisite: Senior standing.
- ECL 496 Independent Study** 1-5 credits  
**ECL 497 Independent Study** 1-5 credits  
**ECL 498 Independent Study** 1-5 credits
- ECL 499 Undergraduate Research** 2-5 credits  
Research under the direction of a faculty member.





## 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.

### 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 satisfy the core curriculum requirements of the University as given on page 26 of this Bulletin for English, philosophy, and theology and religious studies. Core requirements for history and social science are as follows: Bachelor of Arts, 10 credits in history and 10 credits in social science; and Bachelor of Science in Computer Science, 15 credits in history or social science.

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 either 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 (5) 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 three 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 250 or above. BUS 460 may be considered a Computer Science course for the purpose of the Computer Science minor.

**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
Mathematics 134, 135 .....	10 credits
Core Options .....	10 credits
Electives .....	10 credits

### Sophomore Year

Computer Science 235, 250 .....	10 credits
Mathematics 222 .....	5 credits
Core Options .....	20 credits
Electives .....	10 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 .....	10 credits
Electives .....	15 credits
Total .....	180 credits

\*Recommended Elective

## Bachelor of Science in Computer Science

### Freshman Year

Computer Science 113 or 114, 150, 170.....	15 credits
Mathematics 134, 135, 136 .....	15 credits
Core Options .....	15 credits

### Sophomore Year

Computer Science 235, 240, 350 .....	15 credits
Mathematics 222, 232, 233, 234 or 351 .....	15 credits
Physics 200, 201 .....	10 credits
Core Options .....	5 credits

### Junior Year

Computer Science 310, 361, 362 .....	15 credits
Electrical Engineering 387, 486, 487 .....	10 credits
Physics 202 .....	5 credits
Core Options .....	15 credits

### Senior Year

Computer Science 490 and Electives .....	15 credits
Core Options .....	15 credits
Sequence Electives .....	15 credits
Total .....	180 credits

## Computer Science Courses

### 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, spring)

### 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. (winter, spring)

### CSC 170 Intermediate Programming with PASCAL 5 credits

Use of the PASCAL programming language to develop a number of intermediate level program solutions. Continued development of programming skills including writing, debugging and testing programs. 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. (fall, 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. Basic concepts of string processing, search/sort methods and elementary data structures. Four lecture and one laboratory hour per week. Prerequisites: CSC 150. (winter, 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)

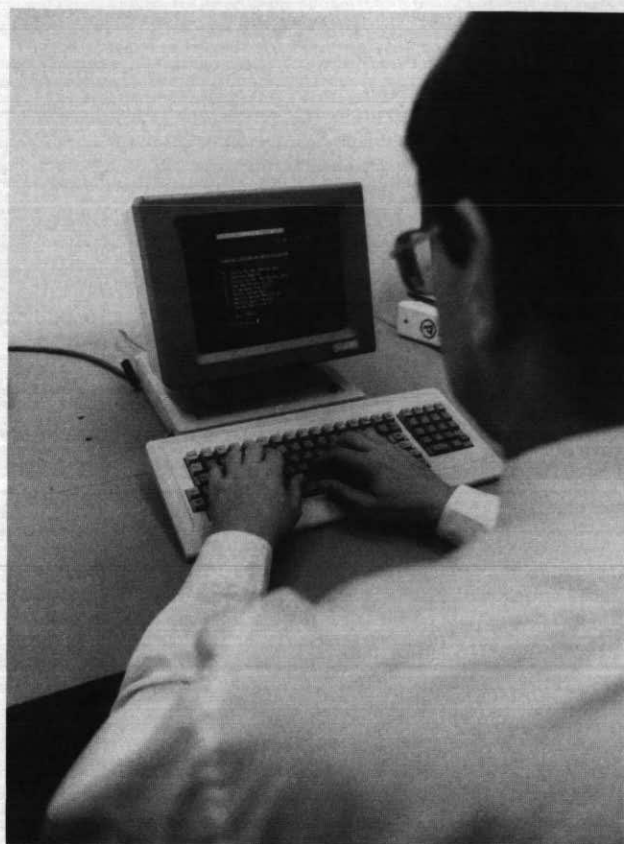
### CSC 235 Computer Systems & Assembler Language 5 credits

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. (winter, 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 391 Special Topics in Computer Science** 1-5 credits

**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 base 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 Foundation 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 Language** 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 deals with the applications of electricity to the generation, transmission, distribution and utilization of electric power, to measurement, to control, to computation and to communication by wire and electromagnetic waves.

The Electrical Engineering program strives to provide a broad foundation based on mathematical and scientific principles that will prepare the graduate to take his/her place in any of the various fields of study. It does not provide for undergraduate specialization in subfields of electrical engineering.

The curriculum includes content in networks, electronics, signal processing, communication, power and microprocessors. Hence, the student interested in a career in any specialty within the broad confines of electrical engineering is given adequate scientific training in a well balanced educational program.

The electrical engineering program is scientifically based and design oriented rather than technological in nature. It provides an integrated base for those graduates who choose to enter professional practice directly upon graduation, and a rigorous preparation for those who choose to go on to graduate school in electrical engineering.

### Degrees Offered

Bachelor of Science in Electrical Engineering

### General Program Requirements

Students in electrical engineering must satisfy the specific core curriculum requirements of the University as given on page 26 of this Bulletin for English, philosophy and theology and religious studies. Ten credits of history or social science are required.

### Departmental Requirements

**Bachelor of Science in Electrical Engineering** — 76 credits in electrical engineering which must include EEL 105, 301, 303, 304, 311, 341, 343, 346, 349, 411, 421, 433, 435, 448, 451, 478, 480, 485, and 487. Also required are MT 134, 135, 136, 232, 233, and 234; EML 105, 210, and either EML 230 or PH 310; PH 200, 201, 202, 205, 330 and 361; and CSC 230. Departmental Candidacy must be achieved prior to being granted entry into EEL 301. Candidacy is achieved by successfully completing all required 100 and 200 level CSC, EEL, EML, MT, and PH courses with a combined grade point average of at least 2.50. Only courses graded C (2.0) or better may be transferred into the department to offset degree requirements. Required 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 Electrical Engineering

#### Freshman year

Electrical Engineering 105 ..... 5 credits  
English 110 and core options ..... 10 credits

Mathematics 134, 135, 136 ..... 15 credits  
Mechanical Engineering 105 ..... 5 credits  
Philosophy 110 ..... 5 credits  
Physics 200 ..... 5 credits

#### Sophomore year

Computer Science 230 ..... 3 credits  
Mathematics 232, 233, 234 ..... 10 credits  
Mechanical Engineering 210 and  
230 or Physics 310 ..... 10 credits  
Philosophy 220 and core option ..... 10 credits  
Physics 201, 202, 205 ..... 13 credits

#### Junior year

Electrical Engineering 301, 303, 304, 311,  
341, 343, 346, 349 ..... 28 credits  
Physics 330, 361 ..... 10 credits  
Theology core options ..... 10 credits

#### Senior year

Electrical Engineering 411, 421, 433, 435, 448, 451,  
480,  
480, 485, 487 and EE 400-level electives .... 43 credits  
History or Social Science ..... 10 credits  
Total ..... 192 credits

### Electrical Engineering Courses

<b>EEL 105</b>	<b>Digital Operations and Computation</b>	<b>5 credits</b>
	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. Elementary concepts of programming and assembly language. (fall, winter, spring)	
<b>EEL 296</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>EEL 297</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>EEL 298</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>EEL 301</b>	<b>Electrical Circuits I</b>	<b>5 credits</b>
	Fundamental concepts and units. Kirchoff's laws, mesh and total analysis; equivalent circuits, linearity and superposition; first and second order circuits; natural and forced responses, initial condition; Laplace transform techniques, introduction to convolution. Prerequisites: Mt 234; Ph 201 and departmental candidacy. (fall, winter)	
<b>EEL 303</b>	<b>Electrical Circuits II</b>	<b>4 credits</b>
	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, Fourier series; introduction of the digital computer in circuit analysis and design. Four hours lecture and one four-hour laboratory per week. Prerequisites: EEL 301. (winter, spring)	
<b>EEL 304</b>	<b>Electrical Circuits Laboratory</b>	<b>2 credits</b>
	A laboratory covering the basic principles of electrical metering and the fundamental concepts of electrical circuit behavior. Principles of written communication are practiced. One four-hour laboratory session per week. Prerequisite EEL 301. Corequisite EEL 303. (winter, spring)	
<b>EEL 311</b>	<b>Seminar</b>	<b>0 credits</b>
	Technical research. In addition to research projects, attendance at regularly scheduled seminars by senior students is required.	



- EEL 315 Elements of Electrical Engineering** 5 credits  
For non-majors, an introductory course to electrical engineering. Basic circuit theory: linear systems; steady-state solutions; Laplace transform and transient analysis; magnetic fields, transformers and basic electromechanical energy conversion on basic electronic devices and circuits. Prerequisites: EML 281, MT 234, PH 201. (fall, winter)
- EEL 341 Semiconductor Circuits** 5 credits  
Solid state linear circuit models, biasing methods, elementary amplifiers, cascaded circuits, gain-frequency characteristics and bandwidth control Circuit operation and design procedures are included. Prerequisites: PH 361. Corequisite: EEL 303. (winter, spring)
- EEL 343 Semiconductor Circuit Design** 5 credits  
Linear power, push-all, feedback, Class AB, B and C, and tuned amplifiers; gain-frequency characteristics; oscillators. Prerequisite: EEL 341. (spring, fall)
- EEL 346 Electrical Engineering Laboratory I** 2 credits  
Laboratory problems in analysis and design for electronic communication and control for electrical engineering seniors; analog and digital systems. One hour lecture and one four-hour laboratory per week. Prerequisites: EEL 341. Corequisite: EEL 343. (spring, fall)
- EEL 349 Digital System Design** 4 credits  
Analysis of various logic types, system design using FET and BJT integrated circuits, A/D and D/A conversion and design of memory systems. EEL 105, 341, 343 concurrently. (spring, fall) Prerequisites: EEL 105, 341. Corequisite: EEL 343.
- 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, combinational logic, sequential logic, register and control concepts. Four lecture and one laboratory per week. Prerequisites: CSC 240, MT 233, PH 202.
- EEL 391 Special Topics** 1-5 credits  
**EEL 392 Special Topics** 1-5 credits  
**EEL 393 Special Topics** 1-5 credits  
**EEL 396 Independent Study** 1-5 credits  
**EEL 397 Independent Study** 1-5 credits  
**EEL 398 Independent Study** 1-5 credits
- EEL 411 Seminar** 2 credits  
Each student is required to prepare a technical paper and to present it orally to the class. Prerequisite: EEL 311, Senior standing in electrical engineering. (spring, fall)
- EEL 421 Linear Analysis and Synthesis** 4 credits  
Review of linear analysis as it applies to the synthesis problem. Ladder and bridge circuits. Synthesis of passive circuits by the methods of Cauer and Foster. Synthesis of special forms. Butterworth and Chebyshev filters for the approximation of frequency response characteristics; frequency scaling and transformations. Prerequisite: EEL 303. (fall, winter)
- 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: EEL 421. (winter, spring)
- EEL 435 Electromechanical Energy Conversion** 5 credits  
Electromechanical energy conversion principles and design. Application and details of electromechanical devices such as relays, transformers, rotating machinery and special devices. The laboratory emphasizes measurement and design principles and relates this to the lecture. Four hours lecture and one four-hour laboratory per week. Prerequisites: EEL 421, EML 281, MT 234. (winter, spring)
- EEL 448 Electrical Engineering Laboratory II** 2 credits  
Continuation of EEL 346. One hour lecture and four-hour laboratory per week. Prerequisites: EEL 343, 346, 349. (fall, winter)
- EEL 451 Distributed Systems** 5 credits  
Analysis of distributed systems; steady-state and transient analysis of loss-less lines; lossy lines; waveguides. Four lectures, one four-hour laboratory per week. Prerequisites: EEL 303, PH 330. (spring, fall)
- 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, s-plane and state-space techniques. Prerequisites: EEL 433, 435. (spring, fall)
- EEL 463 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: CSC 230; EEL 346 or EEL 315; and permission of the instructor. (fall, spring)
- EEL 465 Active Networks** 4 credits  
The design of active filters. The mathematical description of parameter sensitivity. Frequency scaling and transformation. Design of active RC circuits to match canonical filter forms. Practical considerations. Prerequisite: EEL 421 and permission of the instructor. (fall, spring)
- 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: PH 330. Corequisite: EEL 451. (fall, spring)
- 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. Prerequisite: PH 330. Corequisites: EEL 451 or PH 331. (fall, spring)
- EEL 471 Power Systems** 4 credits  
Analysis of power systems symmetrical components, faults on power systems, power system parameters, steady-state operation. Prerequisites: PH 330, EEL 435. Corequisite: EEL 451. (fall, spring)
- EEL 478 Electrical Engineering Design I** 3 credits  
Project design by students working in groups. Designs are built, tested and evaluated. Class meets two hours per week for review and critique of the assigned projects. Require senior standing in electrical engineering. One lecture and supervised design project. Prerequisites: EEL 343, 421, 448. (winter, spring)
- EEL 480 Electrical Engineering Design II** 3 credits  
Continuation of EEL 478. One lecture per week and supervised design project. Prerequisite: EEL 478. (fall, spring)
- 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. Prerequisites: EEL 303, 343, PH 330. (fall, winter)
- EEL 486 Data Communications** 2 credits  
An introduction to computer network concepts and problems of data communication in distributed com-

puter systems. Two lectures per week. Prerequisites: EEL 387.

<b>EEL 487</b>	<b>Microprocessor Design</b>	<b>3 credits</b>
Design of electrical digital components and systems which employ microprocessors. Assembly language programming, peripheral access, memory, interfacing the microprocessor to the external system. Two lectures and one four-hour laboratory. Prerequisite: EEL 349. (fall, winter)		
<b>EEL 491</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>EEL 492</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>EEL 493</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>EEL 496</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>EEL 497</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>EEL 498</b>	<b>Independent Study</b>	<b>1-5 credits</b>

## 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 pre dental 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.

### 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 112 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

<b>ISC 110</b>	<b>Science, Technology and Society</b>	<b>5 credits</b>
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.		
<b>ISC 201</b>	<b>To Feed the World</b>	<b>5 credits</b>
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.		
<b>ISC 202</b>	<b>To See The Light</b>	<b>5 credits</b>
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.		
<b>ISC 205</b>	<b>Biophysical Principles</b>	<b>5 credits</b>
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.		
<b>ISC 207</b>	<b>Air and Water</b>	<b>5 credits</b>
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)		
<b>ISC 208</b>	<b>Sun, Food and People</b>	<b>5 credits</b>
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)		
<b>ISC 209</b>	<b>Energy and Mineral Resources</b>	<b>5 credits</b>
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)		
<b>ISC 296</b>	<b>Independent Study</b>	<b>2-5 credits</b>
<b>ISC 297</b>	<b>Independent Study</b>	<b>2-5 credits</b>
<b>ISC 298</b>	<b>Independent Study</b>	<b>2-5 credits</b>
<b>ISC 310</b>	<b>Evolution: Development of a Theory</b>	<b>5 credits</b>
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.		
<b>ISC 320</b>	<b>Geology and Mineralogy of the Pacific Northwest</b>	<b>2 credits</b>
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 2-5 credits**  
**ISC 497 Independent Study 2-5 credits**  
**ISC 498 Independent Study 2-5 credits**

## Health Information Administration

### 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

Degree candidates in health information administration must satisfy the core curriculum requirements of the University as given on page 26 of this bulletin for English, philosophy, and theology and religious studies. Fifteen credits in history or social science are required.

### 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 and core option ..... 10 credits  
History or social science electives ..... 15 credits  
Mathematics ..... 5 credits  
Philosophy 110 ..... 5 credits  
Elective ..... 5 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 ..... 5 credits  
Philosophy 220 ..... 5 credits  
Theology and Religious Studies options ..... 10 credits  
Electives ..... 10 credits

#### Junior year

Biology 200, 210 ..... 10 credits  
Business 380 ..... 5 credits  
Health Information 475 ..... 5 credits  
Health Information 401 ..... 5 credits  
Philosophy core option ..... 5 credits  
Psychology 201 or Sociology 201 ..... 5 credits  
Electives ..... 10 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, pronunciation, and use of medical terms related to each body system. Medical reports. Prerequisite: BL 200, 210 or permission of instructor. (fall, spring)
- 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 II 5 credits**  
I. Coordination of record systems and information centers in health facilities. II. Use of standards designed 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)

<b>HI 425</b>	<b>Medical Science I</b>	<b>3 credits</b>
	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)	
<b>HI 426</b>	<b>Medical Science II</b>	<b>3 credits</b>
	Disorders that affect specific organ systems; heart, respiratory tract, digestive system, reproduction, liver, gall bladder, pancreas, endocrine glands, bones, joints and muscles, skin, special senses, mental illness, central nervous system. (spring)	
<b>HI 440</b>	<b>Practicum</b>	<b>2 credits</b>
<b>HI 441</b>	<b>Practicum</b>	<b>2 credits</b>
	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)	
<b>HI 450</b>	<b>Development of Management Resources</b>	<b>3 credits</b>
	Utilization of management methods and resources in the effective direction of a department, system or function with emphasis on budget, layout, work simplification, job analysis and equipment selection. (fall, winter)	
<b>HI 455</b>	<b>Professionalism and Leadership</b>	<b>3 credits</b>
	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)	
<b>HI 470</b>	<b>Legal Concepts for Health Fields</b>	<b>3 credits</b>
	Principles of law as applied to the health field, with particular reference to all phases of medical record practice. (fall)	
<b>HI 475</b>	<b>Health Information Computer Systems</b>	<b>5 credits</b>
	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)	
<b>HI 476</b>	<b>Health Information Computer Applications</b>	<b>3 credits</b>
	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)	
<b>HI 477</b>	<b>Health Information Computer Applications Laboratory</b>	<b>2 credits</b>
	Health information case analysis using computers and microprocessors. Corequisite: HI 476. (spring)	
<b>HI 480</b>	<b>Problem Solving and Decision Making — Seminar</b>	<b>2 credits</b>
	Prerequisite: HI 440. (winter, spring)	
<b>HI 491</b>	<b>Special Topics</b>	<b>2-5 credits</b>
<b>HI 492</b>	<b>Special Topics</b>	<b>2-5 credits</b>
<b>HI 493</b>	<b>Special Topics</b>	<b>2-5 credits</b>
<b>HI 496</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>HI 497</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>HI 498</b>	<b>Independent Study</b>	<b>1-5 credits</b>



## 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 page 26 of this bulletin for English, philosophy and theology and religious studies. Additional core requirements are as follows: Bachelor of Arts degree, 10 credits in history and 10 credits in social science; and Bachelor of Science in Mathematics degree, 15 credits in history or social science. A minimum grade of C is required in all mathematics courses applied toward the major.



## 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 three 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, psychology 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 310, 315, 322, 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 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 and core option ..... 10 credits  
History core option ..... 10 credits  
Mathematics 134, 135, 136 ..... 15 credits  
Philosophy 110 ..... 5 credits  
Social Science core option ..... 5 credits

### Sophomore year

Computer Science 113 or 114 ..... 5 credits  
Mathematics 232, 233, 234 ..... 10 credits  
Philosophy 220 and core option ..... 10 credits  
Physical or Life Science, Psychology or Economics ..... 15 credits  
Social Science core option ..... 5 credits

### Junior year

Mathematics 222 or 310 and electives ..... 10 credits  
Theology core options ..... 10 credits  
Electives ..... 25 credits

### Senior year

Mathematics 411 or 431 and elective ..... 10 credits  
Electives ..... 35 credits  
Total ..... 180 credits

## Bachelor of Science

### Freshman year

Mathematics 134, 135, 136 ..... 15 credits  
English 110 and core option ..... 10 credits  
History or Social Science core option ..... 5 credits  
Philosophy 110 ..... 5 credits  
Physical Science, Psychology or Economics ..... 10 credits

### Sophomore year

Mathematics 232, 233, 234 and 322 or 310 .... 15 credits  
History or Social Science core option ..... 10 credits  
Physical or Life Science, Psychology or Economics ..... 10 credits  
Philosophy 220 and core option ..... 10 credits

### Junior year

Mathematics 351 or 371 and electives ..... 15 credits  
Physical or Science, Psychology or Economics ..... 10 credits  
Theology core options ..... 10 credits  
Electives ..... 10 credits

### Senior

Mathematics 411, 412, 431 or 432 ..... 10 credits  
Computer Science 113 or 114 ..... 5 credits  
Electives ..... 30 credits  
Total ..... 180 credits

## Bachelor of Science in Mathematics

### Freshman year

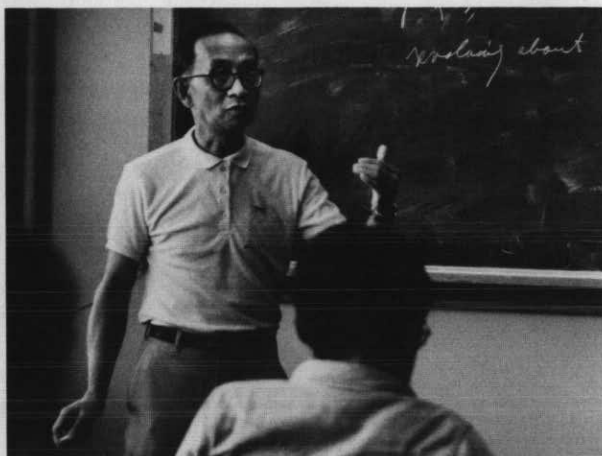
English 110 and core option ..... 10 credits  
History/Social Science core options ..... 15 credits  
Mathematics 134, 135, 136 ..... 15 credits  
Philosophy 110 ..... 5 credits

### Sophomore year

Mathematics 232, 233, 234, and 222 or 310 .... 15 credits  
Philosophy 220 and core option ..... 10 credits  
Sequence elective ..... 5 credits  
Electives ..... 15 credits

### Junior year

Mathematics 411, 412, 413 or 431, 432, 433 ..... 13 credits  
Sequence electives ..... 10 credits  
Theology core options ..... 10 credits  
Electives ..... 12 credits



### Senior year

Mathematics 351 or 371, 431, 432, 433 or 411, 412, 413, 481 and electives .....	25 credits
Electives .....	20 credits
Total .....	180 credits

### Proper Sequence for Taking Courses

The normal sequence of elementary mathematics courses is MT 101; MT 112 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 175, and MT 200. A student may not receive credit for more than one course from each of the following groups: MT 112 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

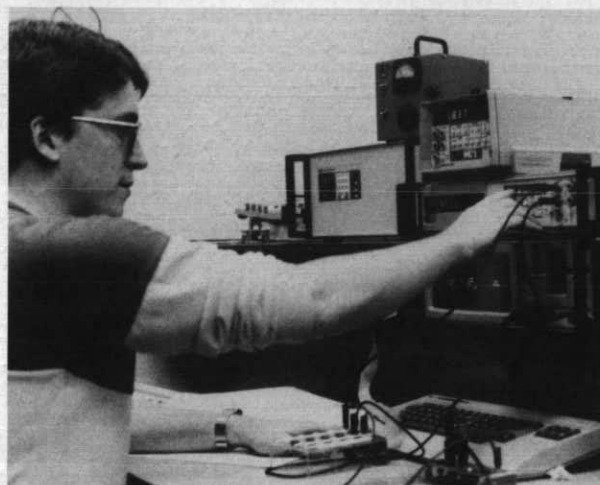
<b>MT 101</b>	<b>Intermediate Algebra</b>	<b>5 credits</b>
Sets and numbers, polynomials, fractions, linear equations and inequalities, exponents, quadratic equations and inequalities; systems of equations; functions and graphing. Prerequisite: One year each of high school algebra and geometry. (fall, winter, spring)		
<b>MT 112</b>	<b>College Algebra and Trigonometry</b>	<b>5 credits</b>
Sets; relations; algebra of functions; exponential, logarithmic, trigonometric, inverse trigonometric functions; equations; graphs. Prerequisite: MT 101 or one-and-one-half years of high school algebra. Credit not granted for both MT 112 and MT 118. (fall, winter, spring)		
<b>MT 118</b>	<b>College Algebra for Business</b>	<b>5 credits</b>
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 112 and MT 118. (fall, winter, spring)		
<b>MT 130</b>	<b>Elements of Calculus for Business</b>	<b>5 credits</b>
Rate of change; derivative, basic differentiation formulas, extrema; area under a curve; limits of sequences;		

the definite integral and applications. Prerequisite: MT 118. (fall, winter, spring)

<b>MT 131</b>	<b>Calculus for Life Sciences</b>	<b>5 credits</b>
Limits; rate of change; derivatives, basic differentiation formulas, extrema; the definite integral. Applications to the Life and Social Sciences. Prerequisite: MT 112 or equivalent. (spring)		
<b>MT 134</b>	<b>Calculus and Analytic Geometry I</b>	<b>5 credits</b>
<b>MT 135</b>	<b>Calculus and Analytic Geometry II</b>	<b>5 credits</b>
<b>MT 136</b>	<b>Calculus and Analytic Geometry III</b>	<b>5 credits</b>
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 112 or qualifying examination for 134; 134 for 135; 135 for 136. (All three offered fall, winter, spring)		
<b>MT 175</b>	<b>Mathematics for the Liberal Arts Student</b>	<b>5 credits</b>
Elementary logic; sets, relations and functions; topics chosen from geometry, abstract algebra, linear algebra, computer science, statistics and probability. Satisfies core requirement. (fall, spring)		
<b>MT 200</b>	<b>Theory of Arithmetic</b>	<b>5 credits</b>
Systems of numeration; elementary logic; sets; relations, equivalence classes; number systems and the integration of these concepts. Prerequisite: Mt 101 or 175, or equivalent. (fall, winter)		
<b>MT 222</b>	<b>Discrete Structures</b>	<b>5 credits</b>
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, winter)		
<b>MT 232</b>	<b>Multivariable Calculus</b>	<b>3 credits</b>
Partial derivatives, multiple integration, and applications. Prerequisite: MT 136. (fall, winter, spring)		
<b>MT 233</b>	<b>Linear Algebra</b>	<b>3 credits</b>
Matrices, determinants, vector spaces, linear transformations, eigenvalues. Prerequisite: MT 136. (fall, winter, spring)		
<b>MT 234</b>	<b>Differential Equations</b>	<b>4 credits</b>
First and second order of differential equations; linear differential equations; systems of differential equations; power series solutions. Prerequisites: MT 232 and 233. (fall, winter, spring)		
<b>MT 291</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>MT 292</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>MT 293</b>	<b>Special Topics</b>	<b>1-5 credits</b>
<b>MT 296</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>MT 297</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>MT 298</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>MT 310</b>	<b>Introduction to Advanced Mathematics</b>	<b>5 credits</b>
Logic and proofs; quantifiers; basic notions of set theory; induction, cartesian products and relations; equivalence relations; functions; cardinality. Provides a transition to upper division mathematics courses. Prerequisite: MT 136. (spring of alternate years)		



<b>MT 315</b>	<b>Number Theory</b>	<b>5 credits</b>
	Divisibility and the Euclidean algorithm; congruences; quadratic reciprocity law; numerical functions; the Moebius inversion formula. Prerequisite: MT 135.	
<b>MT 321</b>	<b>Foundations of Euclidean Geometry</b>	<b>5 credits</b>
	Axiomatic foundations of Euclidean geometry; ruler and compass constructions; problems of antiquity; the 5th postulate and non-Euclidean geometries. Prerequisite: MT 135.	
<b>MT 322</b>	<b>Topics in Geometry</b>	<b>5 credits</b>
	Selected topics in Advanced Geometry. May be repeated for credit with permission. Prerequisite: MT 233 or permission.	
<b>MT 351</b>	<b>Probability</b>	<b>5 credits</b>
	Basic concepts and theorems in probability theory; the binomial, Poisson, normal and other fundamental probability distributions; moments; limit theorems. Prerequisite: MT 232.	
<b>MT 371</b>	<b>Introduction to Numerical Methods</b>	<b>5 credits</b>
	Approximation and errors; finite differences, numerical integration; numerical solution of differential equations. Three lecture and two computer laboratory hours per week. Prerequisites: MT 233 and ECS 113 or 114.	
<b>MT 381</b>	<b>Elementary Topology</b>	<b>5 credits</b>
	Set theory; topology of the real line; topological spaces; compactness; connectedness; product spaces; metric spaces. Prerequisite: Mt 233. (spring of alternate years)	
<b>MT 411</b>	<b>Introduction to Abstract Algebra I</b>	<b>5 credits</b>
<b>MT 412</b>	<b>Introduction to Abstract Algebra II</b>	<b>5 credits</b>
<b>MT 413</b>	<b>Introduction to Abstract Algebra III</b>	<b>3 credits</b>
	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)	
<b>MT 431</b>	<b>Introduction to Real Analysis I</b>	<b>5 credits</b>
<b>MT 432</b>	<b>Introduction to Real Analysis II</b>	<b>5 credits</b>
<b>MT 433</b>	<b>Introduction to Real Analysis III</b>	<b>3 credits</b>
	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)	
<b>MT 437</b>	<b>Introduction to Complex Variables</b>	<b>5 credits</b>
	The complex number system, analytic functions, integration, series, residues, conformal mapping. Prerequisite: MT 234.	
<b>MT 481</b>	<b>Senior Seminar</b>	<b>2 credits</b>
	Problems in modern mathematics. Each student will make an oral presentation to the class. Prerequisite: Permission. (spring)	
<b>MT 491</b>	<b>Special Topics</b>	<b>2-5 credits</b>
<b>MT 492</b>	<b>Special Topics</b>	<b>2-5 credits</b>
<b>MT 493</b>	<b>Special Topics</b>	<b>2-5 credits</b>
<b>MT 497</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>MT 498</b>	<b>Independent Study</b>	<b>1-5 credits</b>
<b>MT 499</b>	<b>Independent Study</b>	<b>1-5 credits</b>



## 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.

### Degrees 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 page 26 of this Bulletin for English, philosophy and theology and religious studies. Ten credits of history or social science are required.

### Departmental Requirements

**Bachelor of Science in Mechanical Engineering** — 74 credits in mechanical engineering which must include EML 105, 210, 230, 304, 321, 323, 350, 370, 372, 411, 412, 413, 425, 434, and 436. Also required are MT 134, 135, 136, 232, 233, and 234; ECL 321, 322, 331, 337, and 402; EEL 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 EML 350. Candidacy is achieved by successfully completing all required 100 and 200 level CSC, CH, EML, MT, and PH courses with a combined grade point average of at least 2.50. 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 and core option .....	10 credits
Mathematics 134, 135, 136 .....	15 credits
Mechanical Engineering 105 .....	5 credits
Philosophy 110 .....	5 credits
Physics 200 .....	5 credits

### Sophomore year

Civil Engineering 321 .....	4 credits
Computer Science 230 .....	3 credits
Mathematics 232, 233, 234 .....	10 credits
Mechanical Engineering 210, 230 .....	10 credits
Philosophy 220 and core option .....	10 credits
Physics 201, 202 .....	10 credits
Science elective .....	5 credits

### Junior year

Civil Engineering 322, 331, 337 .....	8 credits
Electrical Engineering 315 .....	5 credits
History/Social Science core option .....	5 credits
Mechanical Engineering 304, 321, 323, 350, 370, 372 .....	26 credits
Theology/Religious Studies core option .....	5 credits

### Senior

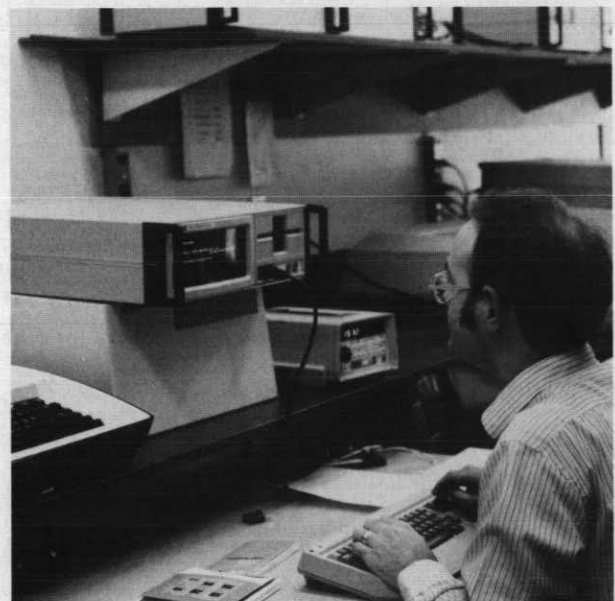
Civil Engineering 402 .....	3 credits
History/Social Science core option .....	5 credits
Mechanical Engineering 411, 412, 413, 425, 434, 436 and electives .....	33 credits
Theology/Religious Studies core option .....	5 credits

Total..... 192 credits

## Mechanical Engineering Courses

<b>EML 105 Engineering Graphics and Analysis</b>	<b>5 credits</b>
Engineering communication, drafting instruments, lettering, orthographics, isometrics, free-hand sketching, dimensioning. Descriptive geometry. Vector algebra. Elementary programming. Five two-hour sessions per week. (fall, winter, spring)	
<b>EML 210 Statics</b>	<b>5 credits</b>
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)	
<b>EML 230 Dynamics</b>	<b>5 credits</b>
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: EML 210, MT 136. (fall, winter, spring)	
<b>EML 291 Special Topics</b>	<b>1-5 credits</b>
<b>EML 292 Special Topics</b>	<b>1-5 credits</b>
<b>EML 293 Special Topics</b>	<b>1-5 credits</b>
<b>EML 296 Independent Study</b>	<b>1-5 credits</b>
<b>EML 297 Independent Study</b>	<b>1-5 credits</b>
<b>EML 298 Independent Study</b>	<b>1-5 credits</b>

<b>EML 304 Basics of CAD/CAM</b>	<b>3 credits</b>
Introduction to microcomputer structure. Basics of interfacing microprocessors with the real world. Applications; graphics, control, robotics. Two lectures and one two-hour laboratory per week. Prerequisite: CSC 230. (fall, spring)	
<b>EML 321 Thermodynamics</b>	<b>4 credits</b>
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: ECL 331. (winter)	
<b>EML 323 Heat Transfer</b>	<b>5 credits</b>
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 two-hour laboratory per week. Prerequisite: EML 321. (spring)	
<b>EML 350 Materials Science</b>	<b>5 credits</b>
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 two-hour laboratory per week. Prerequisite: ECL 321, 322. (spring)	
<b>EML 370 Machine Elements I</b>	<b>4 credits</b>
Study of beams and columns. Failure theories. Impact, Fatigue, Corrosion, and Wear. Four lecture hours per week. Prerequisite: ECL 321. (winter)	
<b>EML 372 Machine Elements II</b>	<b>4 credits</b>
Continuation of EML 370. Fasteners, welds, springs, bearings, gears, clutches, and brakes. Four lectures per week. Prerequisite: EML 370. (spring)	
<b>EML 391 Special Topics</b>	<b>1-5 credits</b>
<b>EML 392 Special Topics</b>	<b>1-5 credits</b>
<b>EML 393 Special Topics</b>	<b>1-5 credits</b>
<b>EML 396 Independent Study</b>	<b>1-5 credits</b>
<b>EML 397 Independent Study</b>	<b>1-5 credits</b>
<b>EML 398 Independent Study</b>	<b>1-5 credits</b>

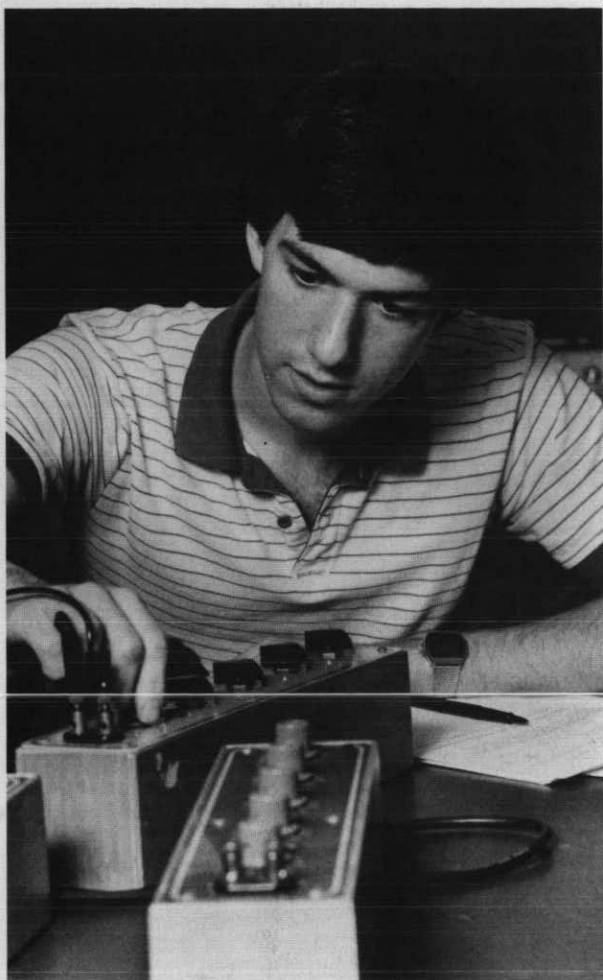




- EML 401 Principles of Instrumentation** **2 credits**  
Review of the elements of instrumentation systems: sensors; cables; penditimers; filters; and display devices. Further study of each system element to find sources of unwanted signals and or noise. Study of methods to eliminate or minimize unwanted signals and noise. One lecture and two laboratory hours per week. Prerequisite: EML 436.
- 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: EML 304, 372. Corequisite: ECL 402. (fall)
- EML 412 Engineering Design II** **4 credits**  
Individual and group design projects 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; electromechanical, hydraulic and pneumatic systems; energy conversion. Two lecture and four design hours per week. Prerequisite: EML 411. (winter)
- EML 413 Engineering Design III** **4 credits**  
Continuation of EML 412. Two lecture and four design hours per week. Prerequisite: EML 412. (spring)
- 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 two-hour laboratory per week. Prerequisite: EML 321. (fall)
- 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: EML 323, 425.



- 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: EML 425.
- 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: EEL 315; MT 234. (fall)
- EML 436 Dynamic Systems Laboratory** **2 credits**  
Laboratory experiments which augment the lecture material in EML 434. Characteristics and relevant constraints for a variety of system elements and assemblies. Design, construction, and testing of a servo-system. One four-hour laboratory per week. Prerequisite: EML 434. (winter)
- 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: EML 434.
- EML 441 Heat/Ventilation/Refrigeration** **4 credits**  
Psychrometry; space heating and cooling loads; air conditioning; fans and ducts; heat exchangers; solar systems; refrigeration. Prerequisites: EML 323 and 425.
- EML 452 Heat Treatment of Ferrous and Non-Ferrous Materials** **2 credits**  
Heat treatment of various metallic alloys, particularly steel. Composites and their structure. Prerequisite: EML 350.
- EML 454 Fracture Mechanics** **2 credits**  
Modern fracture theory — stress intensity functions, crack driving forces. Fast fracture. Impact fracture. Prerequisites: ECL 321, 322; EML 350, 370.
- 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. Prerequisites: ECL 331; EML 321.
- EML 463 Gas Turbines** **4 credits**  
Basic gas dynamics, Brayton cycle, design principles of compressors, turbines, and compressors. Prerequisites: ECL 337; EML 425.
- EML 465 Turbomachinery** **4 credits**  
Design operation of turbines and compressors, principles of turbine/compressor types, off-design operation, pumps, cavitation, two-phase flow. Prerequisites: ECL 337; EML 425.
- EML 491 Special Topics** **2-5 credits**  
**EML 492 Special Topics** **2-5 credits**  
**EML 493 Special Topics** **2-5 credits**
- EML 496 Independent Study** **1-5 credits**  
**EML 497 Independent Study** **1-5 credits**  
**EML 498 Independent Study** **1-5 credits**



## Physics

Reed A. Guy, Ph.D., Chairman

### 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 page 26 of this Bulletin, except that for the Bachelor of Science in Physics degree, 15 credits of history or social science are required.

### 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, CSC 114).

**Undergraduate Minor** — 30 credits in physics which must include either PH 200, 201, 202, 204, and 205. One hundred level courses may not be counted toward the minor.

### Bachelor of Science in Physics

#### Freshman year

Mathematics 134, 135, 136 .....	15 credits
Physics 200 .....	5 credits
Core options .....	20 credits
Electives .....	5 credits

#### Sophomore year

Mathematics 232, 233, 234 .....	10 credits
Physics 201, 202, 204, 205 .....	15 credits
Core options .....	15 credits
Electives .....	5 credits

#### Junior year

Physics 310, 311, 330, 331 .....	16 credits
Physics elective .....	5 credits
Related science elective .....	5 credits
Core options .....	10 credits
Electives .....	9 credits

#### Senior year

Physics 481, 485 .....	10 credits
Physics electives .....	9 credits
Related science elective .....	5 credits
Core options .....	5 credits
Electives .....	16 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 112 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 134. (fall, winter, spring)

**PH 201 Electricity and Magnetism 5 credits**  
Electric charge, forces, fields, flux; Gauss' law; electric potential; conductors, dielectrics, capacitance; current and resistance; DC circuits; magnetic forces, fields; inductance. Prerequisites: PH 200, MT 135. (fall, winter, 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. (winter, spring)

**PH 204 Relativity 2 credits**  
An introduction to special relativity. The Lorentz transformation; relativistic kinematics and dynamics. Prerequisites: PH 201 and MT 135. (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 and MT 232. (fall, spring)

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

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

**PH 310 Intermediate Mechanics I 5 credits**  
Vector 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 234, or permission. (winter)

**PH 311 Intermediate Mechanics II 3 credits**  
General motion of a rigid body; Lagrange's equations; small vibrations. Prerequisite: PH 310. (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; time-varying fields and Maxwell's equations. Prerequisites: PH 201, MT 234. (winter, spring)

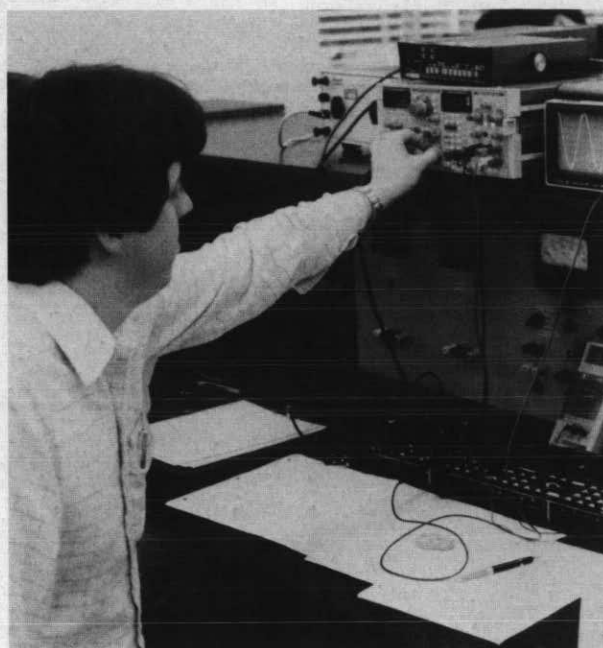
**PH 331 Electromagnetic Waves 3 credits**  
Derivations and solutions of wave equations; plane waves in vacuum and material media; reflection, refraction, polarization; radiation of electromagnetic waves. Prerequisite: PH 330. (spring)

**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, impedance, 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 391 Special Topics 1-5 credits**  
**PH 392 Special Topics 1-5 credits**  
**PH 393 Special Topics 1-5 credits**



**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. (spring)

**PH 475 Basic Physics of Nuclear Fission Reactors 5 credits**  
Brief historical sketch, discussion of pertinent 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 493 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 human, dental, 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 allow them to fulfill the proper requirements in the physical and biological sciences. Premedical students may choose any academic major; most students 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 page 26 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 BL 310, 326 and Physics 105, 106, 107. Professional schools also recommended 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.



# *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.

### **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  
Master of Transportation Engineering

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**John K. Blume, President**  
University Enterprises, Inc.

**Emmett H. Carroll, S.J.,** Assistant Professor of English,  
Seattle University

**William J. Clancy,** Executive Vice President,  
First Interstate Bank

**John D. Durbin**  
Durbin Corporation

**John Ellis**  
Puget Sound Power & Light

**Rhoady Lee, Jr.**  
Lakeside Industries

**Paul L. Locatelli, S.J.,** Academic Vice President,  
University of Santa Clara

**Harry Mullikin,** Chairman and Chief Executive Officer,  
Westin Hotels

**Thomas H. O'Leary**  
Burlington Northern Inc.

**Lammert B. Otten, S.J.,** Assistant Professor of  
Electrical Engineering, Seattle University

**James C. Pigott**  
Pigott Enterprises

**William D. Ruckelshaus**  
Perkins Coie Stone Olsen & Williams

**Robert L. Sheeran,** Senior Resident Vice President,  
Merrill, Lynch, Pierce, Fenner & Smith

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Pacific Northwest Bell

**William J. Sullivan, S.J.**  
President, Seattle University

**Joseph A. Tetlow, S.J.**  
Austin, Texas

**Daniel C. Weber, S.J.,**  
President, Bellarmine Preparatory School

**Lenny Wilkens**  
Seattle Supersonics

**T. A. Wilson,** Chairman and Chief Executive Officer,  
The Boeing Company

**Francis P. Wood, S.J.,** Professor of Electrical Engineering,  
Seattle University

**Ann Wyckoff**  
Seattle, Washington

## Board of Regents

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Poulsbo, Washington

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Puget Sound Power & Light

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**Brian Ducey,** Senior Vice President & Credit Administrator,  
Seattle-First National Bank

**James D. Dwyer,** Executive Director,  
Port of Seattle

**Patrick Fahey,** President and Chief Operating Officer,  
Old National Bancorporation

**Virgil Fassio,** Publisher,  
The Seattle Post-Intelligencer

**Carlos Flohr (Emeritus)**  
Flohr & Company Metals Fabricators, Inc.

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Foster, Pepper and Riviera

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Board of Prison Terms and Paroles

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Bainbridge Island, Washington

**D. John Jolly**  
John F. Sullivan Company

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Seattle University Alumni Board of Governors

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Lakeside Industries

**Dorothy Lynch**  
Bremerton, Washington

**Mary Malarkey**  
Seattle, Washington

**Frank McCord,** Managing Partner,  
Peat, Marwick, Mitchell and Company

**David L. Moberly**  
Deloitte, Haskins & Sells

**John A. Moga**  
Arthur Andersen & Company

**Robert D. O'Brien,** Chairman  
Seattle University Board of Trustees

**Thomas O'Connell**  
Bellevue Community College

**Donald Phelps,** Chancellor,  
Seattle Community College District

**Charles Riley,** Executive Vice President,  
Peoples Bancorporation

**Celeste Rogge**  
Seattle, Washington

**Rosanne Royer**  
Seattle, Washington

**Millie Russell,** Special Assistant to the Vice President for  
Minority Affairs, University of Washington

**Valerie Ryan**  
Seattle, Washington



**Mary Ann Sauvage**  
Seattle, Washington

**S. Josef Selak**  
Piper, Jaffray & Hopwood, Inc.

**Lois Spellman**  
Seattle, Washington

**William J. Sullivan, S.J.,**  
President, Seattle University

**John R. Walsh, Jr.,**  
Partner, Price Waterhouse

**William Weisfield,**  
President, Northwest Building Corporation

**Frederic S. Weiss,** Vice President & Manager,  
Coldwell Banker Commercial Real Estate Services

**James Williams,** Executive Director,  
Seattle Opportunities Industrialization Center

**William P. Woods (Emeritus)**  
Bellevue, Washington

## University Administration

**William J. Sullivan, S.J., Ph.D., D.D.,** President

**Gary A. Zimmerman, Ph.D.**  
Executive Vice President

**L. John Topel, S.J., Ph.D.**  
Vice President for Academic Affairs

**Gregory F. Lucey, S.J., Ph.D.**  
Vice President for University Relations

**Virginia L. Parks, Ph.D.**  
Vice President for Finance and Treasurer

**George A. Pierce, Ph.D.**  
Vice President for Administration

**Jeremy Stringer, Ph.D.**  
Vice President for Student Life

## Academic Affairs

**G. David Pollick, Ph.D.**  
Dean, College of Arts and Sciences

**John D. Eshelman, Ph.D.**  
Dean, Albers School of Business

**John J. Gilroy, Ph.D.**  
Dean, School of Education

**Janet Claypool, M.N.,** Interim Dean, School of Nursing

**Terry J. van der Werff, D.Phil.**  
Dean, School of Science and Engineering

**Marylou Wyse, Ph.D.,** Dean, Graduate School

**Bernard M. Steckler, Ph.D.,** Dean, Matteo Ricci II

**Esther Ray Mills, Ph.D.**  
Director of Admissions  
Director, Institute of Public Service

**Marilyn Annin Carrithers, M.A.Ed.**  
Registrar

**Timothy F. Cronin, S.J., Ed.D.**  
Administrative Assistant to the Vice President  
for Academic Affairs

**Sheila M. Hood, M.A.**  
Associate Vice President for Enrollment Services

**Marie Hudgins, M.A.**  
Director, Learning Center/Disabled Student Resources

**Joseph B. Monda, Ph.D.**  
Director, Continuing Education and Summer School

**Mary Margaret Ridge, B.A.**  
Director, General Studies

**Lawrence E. Thomas, M.A.L.S.**  
University Librarian

## Administrative Services

**James I. Adolphson, B.A.B.A.,** Budget Director

**Janet R. Crombie,** Director, Financial Aid

**Anna E. Dillon,** Director, Personnel Services

**Robert W. Fenn, M.P.A.,** Director, Safety and Security

**Jerome C. Pederson, M.B.A.,** Director, General Services

**Henry J. Sommer, Jr., M.P.A.,** Director,  
Physical Plant Services

## Student Life

**Minnie A. Collins, M.A.,** Director, Minority Student Affairs

**Curt DeVere, B.A.,** Director, International Student Center

**Barry Eben, Ph.D.,** Director, Counseling Center

**Kenneth J. Galbraith, S.J., Ph.D.,** University Chaplain

**Lyle Geels, B.A.,** Director, Saga Food Service

**Sara B. Hull, Ph.D.,** Director,  
McGoldrick Center & Career Planning

**William J. Grace, M.S.**  
Director, Office of Student Leadership

**Joseph O. McGowan, S.J., M.Ed.**  
Director, Campus Ministry

**Harold P. Menninger, Ed.D.,** Director, University Sports

**Judith Lee Sharpe, M.A.**  
Director, Resident Student Services

**Frederick B. Smith, M.D.,** Director, Health Center

**Andrew J. Thon, S.J., Ph.D.,** Assistant Vice President for  
Student Life

**Kathy L. Cook, M.Ed.,** Director, Child Development Center

## University Relations

**Donald M. Bowman, M.B.A.**  
Assistant Vice President for University Relations

**William F. LeRoux, S.J., M.A., S.T.D.**  
Assistant to the Vice President for University Relations

**Mark Burnett, M.P.A.**  
Director of Alumni Relations & Communications

**M. Katherine Hyde, 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.

### **Ciarence 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)**

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.

### **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.

### **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.

### **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.

### **William Blanchard, Ph.D. (1983)**

Assistant Professor of Public Service  
B.S., 1965, U.S. Coast Guard Academy; M.E., 1971, Lamar State College of Technology; M.S., 1972, U.S. Naval Postgraduate School; Ph.D., 1983, University of Washington.

### **Roger E. Blanchette, S.J., M.A. (1966)**

Assistant Professor of Theology and Religious Studies  
A.B., 1957, M.A., 1959, Gonzaga University; S.T.B., 1965, Alma College; M.A., 1965, University of Santa Clara.

### **Dorothy G. Blystad, M.Ed. (1963)**

Assistant Professor of Education  
B.A., 1947, Colorado University; M.Ed., 1978, Seattle Pacific 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.

### **John P. 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.

### **J. Gerard Bussy, S.J., Ph.D. (1948)**

Professor Emeritus  
L.Ph., 1933, S.T.L., 1937, Gregorian; M.A., 1952, Seattle University; Ph.D., 1957, 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.

### **Joseph Calvo, M.B.A. (1985)**

Instructor in Business  
B.A., 1975, Loyola College; M.B.A., 1983, Golden Gate 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; M.A., 1963, Gregorian University; M.A., 1966, Rutgers University; D.A., 1980, Carnegie-Mellon University.

### **Frank E. Case, S.J., Ph.D. (1975)**

Associate Professor of Economics  
A.B., 1962, M.A., 1965, Ph.L., 1965, St. Louis University; S.T.M., 1970, University of Santa Clara; Ph.D., 1980, Washington University.

### **Ben Cashman, Ph.D. (1962)**

Professor of Political Science  
B.A., 1949, University of Washington; M.A., 1950, Fletcher School of Law and Diplomacy; Ph.D., 1969, University of Washington.

### **Frederick W. Cathey, Ph.D. (1982)**

Assistant Professor of Mathematics  
B.A., 1973, University of Utah; Ph.D., 1979, University of Washington.



**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)**

Associate Professor of Education  
A.B., 1973, University of California at Los Angeles; Ph.D., 1979, Stanford University.

**Lih F. Chen, M.S. (1985)**

Instructor in Electrical Engineering  
B.S., 1978, College of Chinese Culture, (Taipei); M.S., 1983, University of Alaska; M.S., 1985, Virginia Polytechnic Institute and State University

**Percy H. Chien, Ph.D., (1976)**

Associate Professor of Civil Engineering  
B.S.C.E., 1962, National Taiwan University; M.S.C.E., 1967, University of Houston; Ph.D., 1972, Clemson University.

**Louis K. Christensen, Ph.D. (1965)**

Professor of Music  
B.A., 1954, M.A. (Mus.) 1956, Ph.D., 1961, University of Washington.

**Janet M. Claypool, M.N. (1966)**

Interim Dean, School of Nursing  
Professor of Nursing  
B.S.N., 1959, M.N., 1960, University of Washington.

**Gerald L. Cleveland, Ph.D. (1967)**

Professor of Business  
B.S.B.A., 1953, University of South Dakota; M.B.A., 1957, University of Minnesota; Ph.D., 1965, University of Washington.

**Mary Cobelens, M.L. (1971)**

Assistant Librarian  
B.A., 1959, Central Washington State; M.L., 1971, University of Washington.

**Robert H. Cousineau, S.J., Docteur (1975)**

Professor of Philosophy  
B.A., 1953, M.A., 1954, Boston College; Ph.L., 1954, Weston College; S.T.L., Woodstock College; Docteur, 1969, University of Paris.

**Thomas W. Cunningham, Ph.D. (1959)**

Professor of Psychology  
B.A., 1956, Seattle University; M.S., 1959, Ph.D., 1966, University of Portland.

**Nikolas J. Damascus, M.F.A. (1951)**

Professor of Art  
B.F.A., 1944, M.F.A., 1947, Art Institute of Chicago.

**Margaret Mary Davies, Ph.D. (1955)**

Professor Emeritus  
A.B., 1938, Ph.D., 1960, University of Washington.

**George D. Davis, M.S. (1969)**

Associate Professor of Biology  
B.S., 1956, M.S., 1960, University of Tulsa.

**Verelle M. Davis, M.S. (1972)**

Assistant Professor of Nursing  
B.S., 1959, University of Washington; M.S., 1970, Catholic University.

**Rosario T. DeGracia, M.S. (1963)**

Associate Professor of Nursing  
B.S.N., 1954, University of the Philippines; M.S., 1959, Western Reserve University.

**C. Frederick DeKay, Ph.D. (1980)**

Assistant Professor of Economics  
B.A., 1972, University of Washington; Ph.D., 1979, Johns Hopkins University.

**Robert J. Deltete, Ph.D. (1978)**

Assistant Professor of Philosophy  
B.A., 1969, Seattle University; M.A., 1976, Ph.D., 1983, Yale University.

**Bonnie Jean Denoon, Ph.D. (1975)**

Associate Professor of Education  
B.A., 1961, M.Ed., 1966, Wichita State University; Ph.D., 1975, Peabody College.

**Khalil (Charles) Dibee, Ph.D. (1964)**

Professor of Business  
B.S., 1956, University of Detroit; M.B.A., 1958, Ph.D., 1962, University of Texas.

**Stephen R. Dickerson, Ph.D. (1980)**

Assistant Professor of Philosophy  
B.A., 1974, Ohio State University; M.A., 1976, Ph.D., 1980, Michigan State University.

**Joseph P. Donovan, S.J., Ph.D. (1948)**

Professor Emeritus  
A.B., 1938, Gonzaga University; M.A., 1940, Georgetown University; Ph.D., 1948, University of Pennsylvania.

**William J. Dore, Jr., M.A. (1963)**

Professor of Drama  
B.A., 1954, M.A., 1957, University of Washington.

**Jane B. Dozer, Ph.D. (1985)**

Assistant Professor of French  
B.A., 1969, Principia College; M.A., 1970, Middlebury College; Ph.D., 1978, University of California at Los Angeles.

**Kate C. Duncan, Ph.D. (1985)**

Chairperson, Fine Arts Department  
Assistant Professor of Art History  
B.A., 1964, M.A., 1967, University of New Mexico; Ph.D., 1982, University of Washington.

**Diane M. Durnam, Ph.D. (1985)**

Research Assistant Professor of Chemistry  
B.S., 1976, University of California; Ph.D., 1981, University of Washington.

**Robert J. Egan, S.J., Ph.D., (1964)**

Associate Professor of Theology and Religious Studies  
B.A., 1955, Gonzaga University; S.T.L., M.A., 1963, St. Mary's University; Ph.D., 1973, Fordham University.

**Mary B. Ehlers, Ph.D. (1974)**

Chairperson, Mathematics Department  
Associate Professor of Mathematics  
B.A., B.A. in Ed., 1964, Western Washington State College; M.A., 1966, Ph.D., 1969, Washington State University.

**David A. Eichmann, M.S. (1984)**

Instructor in Computer Science  
B.S., 1978, University of Iowa; M.S., 1983, University of Iowa.

**Gary J. Erickson, Ph.D. (1985)**

Associate Professor of Electrical Engineering  
B.S., 1964, Portland State University; M.S., 1967, Ph.D., 1977, University of Wyoming.

**John D. Eshelman, Ph.D. (1969)**

Dean, Albers School of Business  
Professor of Economics  
B.S., 1963, Harding College; M.A., 1967, Ph.D., 1971, University of Washington.

**Gerald T. Favero, CPT, B.A. (1985)**

Assistant Professor of Military Science  
B.A., 1979, Seattle University.

**Edward S. Favilla, S.J., Ph.D. (1986)**

Associate Professor of Business  
B.S., 1959, M.S., 1969, Seattle University; Ph.D., 1975, Arizona State University; Ph.D., 1985, North Texas State University.

**Patricia Ann Ferris, Ph.D. (1967)**

Professor of Nursing  
B.S., 1951, St. Mary's College, Indiana; M.S., 1958, Western Reserve University; Ph.D., 1972, University of Washington.

**Lewis Filler, D. Eng. Sci. (1962)**

Chairperson, Mechanical Engineering Department  
Professor of Mechanical Engineering  
B. Aero. Eng., 1953, M. Aero. Eng., 1954, D. Eng. Sci., 1958, New York University.

**Alice L. Fisher, M.S.P.H. (1950)**

Professor Emeritus  
B.S.N., 1930, University of Minnesota; M.S.P.H., 1936, University of Michigan.

**C. Patrick Fleenor, Ph.D. (1973)**

Professor of Business  
B.A., 1969, Boise State College; M.B.A., 1970, Ph.D., 1975, University of Washington.

- Beverly A. Forbes, Ed.D. (1983)**  
Associate Professor of Education  
B.S., 1958, Washington State University; M.Ed., 1969, Ed.D., 1977, University of Washington.
- Winfield S. Fountain, Ed.D. (1957)**  
Professor Emeritus  
B.A., 1939, North Idaho College of Education; M.Ed., 1953, Ed.D., 1956, University of Washington.
- Eric C. Frankel, Ph.D. (1980)**  
Assistant Professor of Software Engineering  
B.A., 1968, Cornell University; M.S., 1968, Purdue University; Ph.D., 1972, University of Maryland.
- Louis Gaffney, S.J., Ph.D. (1956)**  
Professor of Psychology  
A.B., 1942, M.A., 1943, Gonzaga University; S.T.L., 1950, Alma College; Ph.D., 1956, University of Minnesota.
- Franz J. Gebert, M.A. (1983)**  
Director, German-in-Austria Program  
M.A., 1955, University of Portland.
- Pierre C. Gehlen, Ph.D. (1982)**  
Associate Professor of Mechanical Engineering  
B.S., 1961, Université de l'Etat a. Liege; Ph.D., 1966, Northwestern University.
- Lane A. Gerber, Ph.D. (1980)**  
Professor of Psychology  
B.S., 1960, Franklin and Marshall College; Ph.D., 1968, University of Chicago.
- Karen A. Gilles, M.L.S. (1981)**  
Assistant Librarian  
B.A., 1968, University of Illinois; M.L.S., 1978, University of Washington.
- John J. Gilroy, Ph.D. (1982)**  
Dean, School of Education  
Associate Professor of Education  
B.A., 1957, M.A., 1958, LaSalle College; M.A., 1967, Middlebury College; Ph.D., 1972, University of Pittsburgh.
- Robert L. Glass, M.S. (1982)**  
Assistant Professor of Software Engineering  
B.A., 1952, Culver-Stockton College; M.S., 1954, University of Wisconsin.
- James P. Goodwin, S.J., M.A. (1950)**  
Professor Emeritus  
B.A., 1937, M.A., 1938, Gonzaga University; M.A., 1950, Harvard University.
- Kathye Jean Grisham, M.N. (1976)**  
Assistant Professor of Nursing  
B.A., 1965, University of Wisconsin; M.N., 1967, University of Washington.
- Kristen E. Guest, Ph.D. (1981)**  
Associate Professor of Education  
B.A., B.S., 1965, University of Minnesota; M.A., 1967, Ph.D., 1970, University of Wisconsin.
- William A. Guppy, Ph.D. (1952)**  
Professor of Psychology  
Ph.B., 1950, Seattle University; M.A., 1953, Ph.D., 1959, Loyola University, Chicago.
- Reed A. Guy, Ph.D. (1975)**  
Chairperson, Physics Department  
Associate Professor of Physics  
B.S., 1966, University of Alabama; Ph.D., 1970, University of Virginia.
- Wynne A. Guy, M.A. (1979)**  
Assistant Professor of Mathematics  
B.A., 1966, University of Alabama; M.A., 1969, University of Virginia.
- Karen G. Guyot, M.S.L.S. (1969)**  
Associate Librarian  
B.A., 1966, State University of New York, Harpur College; M.S.L.S., 1968, University of North Carolina.
- Margaret M. Haggerty, Ph.D. (1971)**  
Professor of Education  
B.S., 1957, College of St. Teresa; M.A., 1964, Ph.D., 1967, Catholic University.
- Steen Halling, Ph.D. (1976)**  
Chairperson, Psychology Department  
Associate Professor of Psychology  
B.A., 1967, York University; M.A., 1970, Ph.D., 1976, Duquesne University.
- Gerald Hampton, Ph.D. (1976)**  
Professor of Business  
B.A., 1962, University of Washington; M.B.A., 1967, Ohio State University; Ph.D., 1973, University of Washington.
- J. Hutchinson Haney, M.S. (1974)**  
Assistant Professor of Rehabilitation  
B.A., 1966, University of Denver; M.S., 1968, University of Arizona.
- Mary Alice Hanken, M.Ed. (1972)**  
Chairperson, Health Information Administration  
Assistant Professor of Health Information Administration  
B.S., 1963, M.Ed., 1973, Seattle University.
- John M. Harding, J.D. (1975)**  
Associate Professor of Business  
B.A., 1942, Yale University; J.D., 1948, Yale Law School.
- Vernon J. Harkins, S.J., B.A., S.T.L. (1958)**  
Assistant Professor of Philosophy  
B.A., 1951, Gonzaga University; S.T.L., 1957, Alma College.
- Charles R. Harmon, M.A. (1953)**  
Professor of History  
B.S.S., 1950, Seattle University; M.A., 1957, University of Washington.
- Robert G. Heeren, Ph.D. (1983)**  
Chairperson, Electrical Engineering Department  
Associate Professor of Electrical Engineering  
B.S., 1960, Purdue University; M.S., 1962, Ph.D., 1968, University of Illinois.
- Hildegard R. Hendrickson, Ph.D. (1967)**  
Rainier National Bank Professor of Finance  
Professor of Economics and Business  
B.A., 1958, M.B.A., 1959, Ph.D., 1966, University of Washington.
- Marvin T. Herard, M.F.A. (1960)**  
Professor of Art  
B.A., 1954, University of Washington; M.F.A. 1960, Cranbrook Academy of Art.
- Helon E. Hewitt, M.N. (1965)**  
Professor of Nursing  
B.S., 1959, M.N., 1961, University of Washington.
- Alan L. Hilton, Ed.D. (1985)**  
Associate Professor of Education  
B.A., 1966, California State University, Sacramento; M.S., 1974, Santa Clara University; Ed.D., 1980, University of Southern California.
- James B. Hogan, Ph.D. (1976)**  
Associate Professor of Political Science  
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Assistant Professor of Physics  
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## Where to Write or Call

There is a central mail room on the campus. Information on specific items may be obtained by writing to the offices listed below and adding:  
Seattle University/Seattle, Washington 98122  
or, by calling the main switchboard at (206) 626-6200. Mail for student residence halls must be addressed to their respective locations.

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Director of Admissions  
626-5720

**ALUMNI**

Alumni Association  
626-5656

**BULLETINS AND CATALOGS**

Director of Admissions  
626-5720

**CAMPUS MINISTRY**

Director of Campus Ministry  
626-5900

**CAREER PLANNING, PLACEMENT AND JOB FINDING ASSISTANCE**

Director of Career Planning and Placement  
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  
626-5462

**FOREIGN STUDENTS**

Director of Admissions or International Student  
Adviser  
626-5388

**GIFTS, GRANTS AND BEQUESTS**

Development Director  
626-5656

**GRADES, READMISSIONS, STUDENT RECORDS, TRANSCRIPTS**

Registrar  
626-5700

**GRADUATE STUDY**

Dean, Graduate School  
626-6320

**JESUIT FACULTY RESIDENCE**

Father Minister  
626-6448

**MINORITY STUDENTS**

Director of Minority Students Affairs  
626-6226

**PERSONAL WELFARE AND HEALTH**

Vice President for Student Life  
626-5685

**PUBLICATIONS**

Publications Director  
626-5656

**PUBLIC INFORMATION**

Communications Director  
626-5656

**SPORTS PROGRAM**

University Sports Director  
626-5305

**STUDENT HOUSING**

Director for Resident Student Services  
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**TEACHERS CERTIFICATION AND TEACHER PLACEMENT**

Dean, School of Education  
626-5416

**TUITION, PAYMENT OF BILLS, REFUNDS**

Controller  
626-5747

# INDEX — with departmental course abbreviations in parenthesis

<b>Academic Calendars</b> .....	2
Academic Honoraries .....	9
Academic Regulations .....	19
Academic Terms .....	19-26
Accounting (BUS) .....	73
Accreditation .....	5
ACT Test .....	10
Admission .....	10
Admission Policy .....	10-12
Aerospace Studies .....	53
Affirmative Action .....	10
Albers School of Business .....	72-78
Alcohol Studies (ALC) .....	29-30
Allied Health Technology (AH) .....	101-104
Application .....	10
Application for Housing .....	9
Applied Social Research .....	65
Art (ART) .....	37-39
Arts and Sciences .....	28-70

<b>Biology (BL)</b> .....	105-108
Book Store .....	8
Business, Albers School of (BUS) .....	72-78

<b>Campus and the City</b> .....	6
Campus Ministry .....	6
Career Planning and Placement .....	8
Certificate Programs — Undergraduate	
Alcohol Studies (ALC) .....	29-30
Health Information	
Administration (HI) .....	122-123
Human Resources (PUB) .....	88-90
Rehabilitation (RHB) .....	62-64
Change of Major .....	19
Chemistry (CH) .....	109-112
Child Care Center .....	8
Civil Engineering (ECL) .....	113-115
Classification of Students .....	19
Clinical Chemistry (CH) .....	109-112
Commencement with Deficiencies .....	19
Community Services (CS) .....	67
Computer Science (ECS) .....	116-118
Concurrent Enrollment at	
Two Colleges .....	19
Core Curriculum .....	26
Corrections .....	65
Costs .....	16
Counseling .....	8
Course Numbering System .....	20
Credit by Examination .....	18, 20
Credit Hour .....	18
Credit/No Credit .....	21
Criminal Justice (CJP) .....	31-32
Curriculum	
Arts and Sciences .....	28-70
Business .....	72-78
Education .....	80-86
Matteo Ricci II .....	92-94
Nursing .....	96-98
Science and Engineering .....	100-132
Graduate .....	133-134
Cytotechnology (AH) .....	101-104

<b>Degree Requirements</b> .....	23
Diagnostic Ultrasound (AH) .....	101-104
Disabled Student Resources .....	8
Drama (DR) .....	39

<b>Early Admission</b> .....	11
Economics (EC) .....	77-78
Education (ED) .....	80-86
Electives .....	18
Electrical Engineering (EEL) .....	119-120
English (EN) .....	33-35
Examinations .....	20
Expenses .....	16

<b>Faculty</b> .....	137-143
Family Tuition Plan .....	16
Fees .....	16
Finance (BUS) .....	73-76
Financial Aid .....	12-15
Fine Arts (FA) .....	36-40
Foreign Languages (FL) .....	41-43
French (FR) .....	42
French-in-France Program .....	41

<b>General Business</b> .....	73-77
General Science (ISC) .....	121-122
General Studies .....	44
German (GR) .....	42-43
German-in-Austria .....	41
Global Studies .....	44
Grade Point Average .....	18, 21
Grade Reports .....	21
Grading System/Symbols .....	21
Graduate School .....	133-134
Grants .....	13, 15

<b>Health Information</b>	
Administration (HI) .....	122-123
History (HS) .....	45-47
Honors Program (HU) .....	47-48
Housing .....	9

<b>Incomplete Removal</b> .....	22
Index of Discipline Codes .....	24
Information Systems Management .....	73-77
Institute of Public Service (PUB) .....	88-90
International Students .....	8
Intramurals/Recreation .....	9

<b>Journalism (JR)</b> .....	49-50
------------------------------	-------

<b>Learning Center</b> .....	9
Loans .....	14

<b>Management (BUS)</b> .....	72-78
Marketing (BUS) .....	72-78
Master of Business Administration .....	134
Master's Degrees .....	134
Mathematics (MT) .....	123-126
Matteo Ricci-II (HUM) .....	92-94
Mechanical Engineering (EML) .....	126-128
Medical Technology (AH) .....	101-104
Military Science (MS) .....	51-53
Minority Student Affairs .....	8
Music (MU) .....	40

<b>Nuclear Medicine</b>	
Technology (AH) .....	101-104
Nursing .....	96-98

<b>Organization of Schools</b> .....	5
Arts and Sciences .....	28-70
Business .....	72-78
Education .....	79-86
Matteo Ricci-II .....	92-94
Nursing .....	96-98
Public Service .....	88-90
Science and Engineering .....	100-132
Graduate School .....	133-134
Organization of Seattle University .....	5

<b>Philosophy (PL)</b> .....	53-56
Philosophy Core .....	26
Physics (PH) .....	129-131
Political Science (PLS) .....	57-58
Pre dental .....	132
Prelaw .....	59
Premedical .....	132
Preprofessional Programs .....	59, 132
Prerequisite .....	18
Probation, Admission on .....	11, 20
Psychology (PSY) .....	59-61
Public Administration .....	88-90
Public Service,	
Institute of (PUB) .....	88-90, 134
Purpose and Scope .....	4

<b>Readmission</b> .....	22
Refunds .....	10
Regents .....	135-136
Rehabilitation (RHB) .....	62-63
Repeating a Course .....	22
Residence Charges .....	16
Residence Halls .....	9

<b>SAT Test</b> .....	10
Scholarships .....	13
Science and Engineering .....	100-132
Senior Residence Requirements .....	23
Sociology (SC) .....	64-67
Spanish (SP) .....	43
Speech (SPH) .....	36
Sports Programs .....	9
Student Activities .....	8
Student Classification .....	19
Student Employment .....	15
Student Expenses .....	16
Student Health Center .....	9
Student Housing .....	9
Student Life .....	8-9
Student Loans .....	14
Student Organizations .....	8-9

<b>Terms, Academic</b> .....	18-19
Theology and Religious	
Studies (RS) .....	67-70
Theology Core .....	26
Transcripts .....	19, 23
Transfer	
Credit .....	23
From other Universities .....	23
Transient Students .....	12, 19
Trustees .....	135
Tuition .....	16

<b>University History</b> .....	4
---------------------------------	---

<b>Washington Pre-College Test</b> .....	10
Withdrawal .....	23



