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## 1991-92 Bulletin of Information - Undergraduate

Seattle University

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*Seattle University*



**1991-1992**  
**UNDERGRADUATE**

**Bulletin**  
**OF INFORMATION**



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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 and Economics, 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.

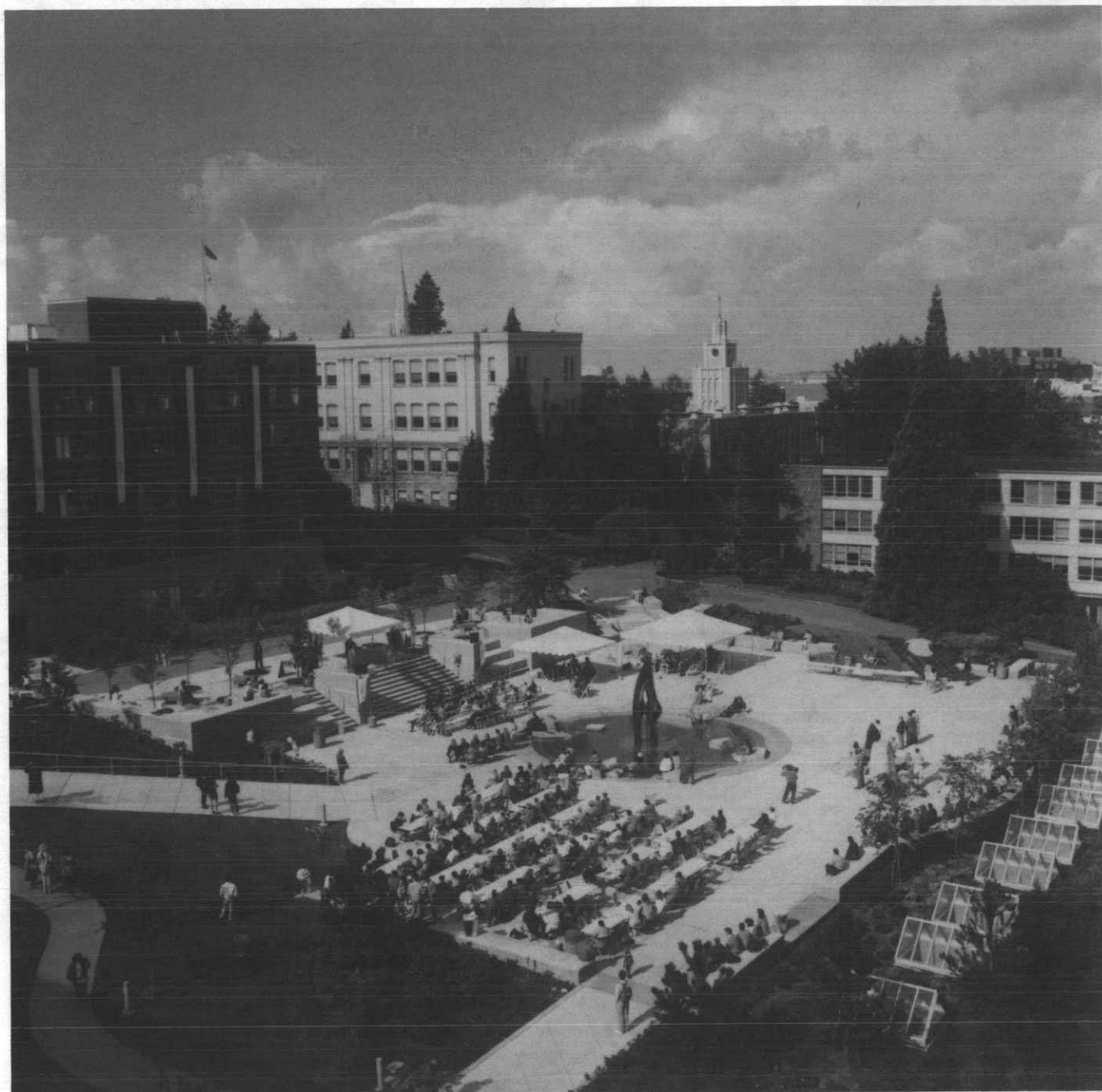
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Information concerning graduate and summer school programs may be obtained in supplementary bulletins.

**Seattle University  
Broadway and Madison  
Seattle, Washington 98122-4460  
(206)296-6000**



**1891 - 1991  
CELEBRATING A CENTURY  
OF JESUIT EDUCATION**



*Seattle University*

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**About  
Seattle University**



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## 1990-91 Academic Year

### Fall Quarter 1990

|                |   |
|----------------|---|
| May 6          | Advance registration for fall 1990 begins           |
| September 26   | Classes begin; tuition and fees due                 |
| October 2      | Last day to register or add/drop                    |
| November 6     | Last day to remove I grades from spring/summer 1990 |
| November 12    | Veteran's Day — no classes                          |
| November 14    | Advance registration, winter 1991 begins            |
| November 21-23 | Thanksgiving — no classes                           |
| November 28    | Last day to withdraw with W grade                   |
| November 30    | Closing date to remove N grade from previous year   |
|                | Closing date to remove I grade from previous year   |
|                | Closing day for degree applications                 |
| December 7     | Last class day                                      |
| December 10-12 | Final examinations                                  |
| December 17    | Grades due  |

### Winter Quarter 1991

|             |  |
|-------------|--|
| January 2   | Evening classes begin (classes beginning after 4 pm) |
| January 3   | Day classes begin; tuition and fees due              |
| January 9   | Last day to register or add/drop                     |
| January 21  | Martin Luther King's Birthday — no classes           |
| February 15 | Last day to remove I grade from fall 1990            |
| February 15 | President's Day — no day classes                     |
|             | All classes after 4 pm will meet as scheduled        |
| February 19 | Advance registration — spring 1991 begins            |
| March 1     | Closing date to remove N grades from previous year   |
| March 6     | Last day to withdraw with W grade                    |
| March 15    | Last class day                                       |
| March 18-20 | Final examinations                                   |
| March 25    | Grades due   |

### Spring Quarter 1991

|          |   |
|----------|---|
| April 1  | Classes begin; tuition and fees due               |
| April 5  | Last day to register or add/drop                  |
| May 1    | Closing date to remove N grade from previous year |
| May 8    | Advance registration — summer 1991 begins         |
| May 10   | Last day to remove I grade from winter 1991       |
| May 12   | Advance registration — fall 1991                  |
| May 23   | Last day to withdraw with W grade                 |
| May 27   | Memorial Day — no classes                         |
| June 4   | Last class day                                    |
| June 5-7 | Final examinations                                |
| June 8   | Baccalaureate                                     |
| June 9   | Commencement                                      |
| June 10  | Grades due  |



### Summer Quarter 1991

|            |  |
|------------|--|
| May 12     | Advance registration begins                  |
| June 17    | Classes begin                                |
| June 21    | Last day to add/drop — First and full term   |
| July 2     | Last day to withdraw — first term            |
| July 4     | Independence Day — no classes                |
| July 15    | Registration and classes begin — Second term |
| July 19    | Last day to add/drop — second term           |
| July 26    | Last to withdraw — second and full term      |
| August 1   | Last day to remove N grade — summer 1990     |
| August 2   | Last class day — 7-week session              |
| August 1-2 | Final examinations — 7-week session          |
| August 9   | Last class day — 8-week session              |
| August 8-9 | Final examinations — 8-week session          |
| August 12  | Grades due                                   |

*Continued on next page*



## 4 Academic Calendar

### 1991-92 Academic Year

#### Fall Quarter 1991

|                  |   |
|------------------|---|
| May 12           | Advance registration begins                         |
| September 25     | All classes begin; tuition and fees due             |
| October 2        | Last day to register or add/drop                    |
| November 6       | Last day to remove I grades from spring/summer 1991 |
| November 11      | Veteran's Day — no classes                          |
| November 20      | Advance registration, winter 1992 begins            |
| November 21      | Last day to withdraw with W grade                   |
| November 27-30   | Thanksgiving — no classes                           |
| December 2       | Closing date to remove N grade from previous year   |
| December 2       | Closing day for degree applications                 |
| December 7       | Last class day                                      |
| December 9-12,14 | Final examinations                                  |
| December 17      | Grades due, 10 a.m.                                 |

#### Winter Quarter 1992

|                 |   |
|-----------------|---|
| January 6       | All classes begin; tuition and fees due                                     |
| January 12      | Last day to register or add/drop  |
| January 20      | Martin Luther King's Birthday — no classes                                  |
| February 14     | President's Day — no classes (Sat., Feb. 15 classes will meet as scheduled) |
| February 18     | Last day to remove I grade from fall 1991                                   |
| March 1         | Advance registration — spring 1992 begins                                   |
| March 2         | Closing date to remove N grade from previous year                           |
| March 4         | Last day to withdraw with W grade   |
| March 14        | Last class day  |
| March 16-19, 21 | Final examinations  |
| March 24        | Grades due, 10 a.m.   |

#### Spring Quarter 1992

|           |  |
|-----------|--|
| March 30  | All classes begin; tuition and fees due      |
| April 5   | Last day to register or add/drop             |
| April 17  | Good Friday — no classes                     |
| April 18  | Easter holiday — no classes                  |
| May 1     | Closing date to remove N grade previous year |
| May 11    | Last day to remove I grade from winter 1992  |
| May 20    | Advance registration — summer 1992 begins    |
| May 24    | Advance registration fall 1992               |
| May 25    | Memorial Day — no classes                    |
| May 27    | Last day to withdraw with W grade            |
| June 8    | Last class day                               |
| June 9-12 | Final examinations                           |
| June 13   | Baccalaureate                                |
| June 14   | Commencement                                 |
| June 17   | Grades due, 10 a.m.                          |

#### Summer Quarter 1992

|              |  |
|--------------|--|
| May 20       | Advance registration begins                  |
| June 22      | Classes begin                                |
| June 28      | Last day to add/drop — first and full term   |
| July 4       | Independence Day — no classes                |
| July 7       | Last day to withdraw first term              |
| July 20      | Registration and classes begin — second term |
| July 26      | Last day to add/drop — second term           |
| July 31      | Last day to withdraw — second and full term  |
| August 3     | Last day to remove N grade — summer 1991     |
| August 7     | Last class day — 7-week session              |
| August 6-7   | Final examinations — 7-week session          |
| August 14    | Last class day — 8-week session              |
| August 13-14 | Final examinations — 8-week session          |
| August 21    | Grades due, 10 a.m.                          |

#### Interession 1992

|              |                                  |
|--------------|----------------------------------|
| August 17    | Classes begin                    |
| August 19    | Last day to register or add/drop |
| September 4  | Last day to withdraw             |
| September 7  | Labor Day — no classes           |
| September 14 | Last class day                   |
| September 16 | Grades due, 10 a.m.              |



### Purpose and Scope

As an institution of higher learning, Seattle University's objective and purpose include the conversation, interpretation and transmission of knowledge, ideas and values. The university is dedicated to the extension of the frontiers of knowledge by critical and exhaustive investigation or experimentation. Thorough, intelligent training in theory and principles provided by Seattle University prepares students for professional careers.

As Seattle University enters its second century of educational service, it rededicates itself to its historical mission of:

- \* teaching and learning,
- \* education for values,
- \* preparation for service, and
- \* growth of persons.

In its life as a comprehensive university, Seattle University brings this four-fold purpose to bear on all its activities and programs, on its multiple relations to its students and to its own community of educators, and on the various publics which it serves.

Conducted under the auspices of the Society of Jesus, Seattle University supports Christian ideals and values. It affirms the belief in the unity and totality of all human knowledge, whether experiential, speculative or divinely revealed. As a community inspired with the Spirit of Christ, the campus atmosphere inside and outside the classroom encourages the development of an unbiased, truly liberated and enlightened intelligence in its faculty and student body.

### History

Founded in 1891, Seattle University moves into its second century of providing higher education in the Jesuit tradition. The university's development as one of the Northwest's leading centers of higher education is closely interwoven with the history of Seattle and the Puget Sound area. It is also a story of a relentless effort on the part of the university to serve the educational needs of a growing metropolitan community.

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

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

With the advice and assistance of Fr. Prefontaine, the mission procurator purchased property which ultimately became the present campus, and in 1893, the cornerstone of its first building was laid. The new parish and school was opened for classes in September 1894.

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



## 6 About Seattle University

A temporary casualty of World War I, classes at Seattle College were suspended from 1918 to 1922. In 1919, the successful high school department moved to a new seven-acre campus on Interlaken Boulevard, a gift of Mr. Thomas C. McHugh. On its reinstatement in 1922, following the war, the college department was also housed at the new campus.

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

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

Rapid expansion of both the physical boundaries and educational facilities of Seattle University marked the decades of the 1950s and 1960s. With just three permanent buildings and three war surplus structures in 1950, the university added or converted 12 major buildings over the next 20 years. Most of the development occurred under the direction of Fr. A.A. Lemieux, SJ, president of the university from 1948 to 1965.

Extensive curriculum expansion highlighted the 1970s with innovative new schools and programs. Chief among these additions were the School of Science and Engineering (1972), and Matteo Ricci College (1977). The doctorate in educational leadership, the university's first doctoral degree program, was instituted in 1976.

Institutional innovations include master level programs in software engineering and in therapeutic psychology, along with a baccalaureate program in computer science. The Institute for Theological Studies was initiated in 1985. Programs in communication studies and international business were implemented in 1988.

New academic programs offered in fall 1990 include a master in teaching degree, master's degrees in adult education and training, and bachelor's degrees in international studies and biochemistry.

This region's only bachelor's degree in civil engineering with an environmental track was inaugurated in spring 1990, and in fall 1991 a new master of science in taxation program begins.

Teaching is the first priority at Seattle University. Courses are taught by qualified professors, not graduate students. Faculty members and their students enjoy close relationships on a first-name basis.

Your Seattle University education can be put to work through internships as you complete your studies. The university's graduates are well-received by corporate, institutional and public sector employers.

### Organization

As an independent, coeducational institution, Seattle University is incorporated under the laws of the state of Washington and operated by its own board of trustees. The university, administered under the auspices of the Society of Jesus, is one of 28 Jesuit institutions of higher education in the United States. Like other Jesuit institutions, Seattle University 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 seven major academic units:

The **College of Arts and Sciences** is comprised of 12 departments. These are communication/journalism, criminal justice, English, fine arts, foreign languages, history, military science, philosophy, political science/public administration, psychology, sociology, and theology and religious studies. Program divisions include addiction studies, honors, international studies, liberal studies, prelaw, and premajor.

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

The **School of Education** offers graduate degree programs that qualify its students for teaching certificates, principal's certificates and counseling certificates, issued by the Office of the Superintendent of Public Instruction. There is no longer an undergraduate teacher preparation program at Seattle University. For information about the graduate programs, consult the Graduate Bulletin, or call the School of Education office.

**Matteo Ricci College** is the three-year university phase of a program that integrates high school and university level studies, enabling students to complete their high school and university degrees in six or seven years, rather than eight.

The **School of Nursing** offers a baccalaureate program in professional nursing, which qualifies students for registration through state licensure. Registered nurses who intend to complete requirements for the bachelor of science in nursing degree are also admitted to the program.

The **School of Science and Engineering** includes the departments of biology, chemistry, computer science, diagnostic ultrasound, general science, mathematics, and physics, as well as civil and environmental, electrical, mechanical and software engineering.

The Graduate School has programs leading to master's degrees in business, education, ministry (Institute for Theological Studies), psychology, public administration (Institute for Public Service), religious education, and software engineering. An educational specialist degree can be earned in administration or educational diagnostics/school psychology. A doctor of education degree with a major in educational leadership is also offered. For additional information about graduate programs consult the Graduate Bulletin.

The Office of Evening Programs is an academic/administrative unit which assists the major academic units described above in providing undergraduate degree programs at night by coordinating course scheduling and the provision of student services, and helping to recruit new students.

## Accreditation

Seattle University is accredited by, and is a member of numerous academic and professional bodies. Seattle University 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)
- Council on Rehabilitation Education
- National Council for Accreditation of Teacher Education
- National League for Nursing

### The university 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, Council for the Advancement and Support of Education, National Association of Intercollegiate Athletics, and the National University Consortium for Sport in Society.

## Campus

With the natural splendor of Puget Sound providing a breathtaking backdrop, Seattle University offers all the educational advantages of attending college in a metropolitan area. The 52-acre campus on historic First Hill is nestled on the edge of downtown Seattle, one of the nation's most picturesque cities.

The campus is growing to serve the needs of more than 4,500 students and 300 faculty members. September 1989 marked the dedication of the centennial fountain designed by George Tsutakawa. Located in the center of campus, the fountain and the new quadrangle provide an artistic atmosphere in an open-air setting, which has become a favorite meeting place for the campus community. Early in 1990 the Thomas J. Bannan Center for Science and Engineering was dedicated. Here the teaching and research laboratories feature state-of-the-art equipment for undergraduates. Opened in fall 1990, the Bessie Burton Sullivan Skilled Nursing Residence is an integral part of the service orientation of the campus. It is intended to develop excellence in education and the care of older persons.

On-campus housing is provided in three coed residence halls: Bellarmine Hall, Xavier Hall and Campion Tower.

Under one roof in the University Services Building are the offices for enrollment services, enrollment research, admissions, financial aid, registrar, controller, and the Book Store.

The Connolly Center, an indoor sports and recreation facility, features two swimming pools, basketball, badminton, tennis and racquetball courts, weight room and dance area. All home games for the men's and women's basketball teams are played on the north court. The Connolly Center is also headquarters for Seattle University's innovative intramural program, which offers a wide variety of activities including flag football, basketball, co-rec softball and indoor soccer. Clinics designed to improve skills in volleyball, tennis, golf and swimming are also offered.





## 8 About Seattle University

Beyond textbooks and term papers, students may participate in student government or work on the student newspaper. Seattle University offers 60 campus clubs, honoraries and professional organizations. Honor groups range from Alpha Kappa Psi, for business students, to Sigma Theta Tau, the national nursing honorary. The popular Hawaiian Club sponsors an annual luau and students from other countries hold an all-campus international dinner with entertainment. Drama enthusiasts may get involved in student theatre productions or sing in the chorale.

A unique opportunity called Pathways is offered for new students at Seattle University. The program is a stimulating way for students to integrate the lessons of the classroom with the lessons of life. Students are paired with faculty or staff mentors who provide support and friendship.

Seattle University competes in varsity athletics at the NAIA level in men's and women's basketball, soccer, tennis, skiing and sailing. The 1990 Chieftains women's soccer team earned a trip to the District I Playoffs for the first time in team history, where they advanced to the championship game. The Lady Chieftains basketball team has made the playoffs 10 times in the past 13 years and has received national recognition the last five years.

Students never have to look long for a place to study, relax, socialize or play. The campus has quiet corners, green lawns, impromptu volleyball games and places to sit and talk.

We believe your education is an investment for life. And it means more than going to classes and taking tests. At Seattle University, it means growing as an individual in a learning and caring community.



### Student Development

One of the primary aims of the educational mission at Seattle University is the total development of students. This holistic growth process is enhanced by integrating opportunities for social, emotional, cultural, physical and spiritual development, in addition to intellectual growth. The Division of Student Development 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, Pigott, and the three university residence halls, the professionals who comprise the Student Development staff are committed to meeting the developmental needs of Seattle University's diverse student population.

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

**Pathways** is a program that brings the concept of "growth of persons" to life by offering a coordinated program of out-of-class learning experiences. Students assess the areas in which they want to grow, pair up with a faculty or staff mentor, and participate in a series of retreats, outings and service projects that help students to learn and to form lasting friendships. Soon there will be a developmental transcript which documents out-of-class learning activities.

**The Center for Leadership and Service** includes student activities, clubs and organizations, Student Union programs, the Volunteer Center and student government, Associated Students Seattle University (ASSU). This office provides leadership opportunities and leadership development programs for all students.

**The Campus Ministry** team is committed to the personal and spiritual growth of students, and to supporting the diversity and richness of faith traditions reflected in our university community. In collaboration with Jesuit priests, lay faculty, staff and students, we offer opportunities for building friendships and community through worship, retreats, pastoral counseling, community service, sacramental preparation, education for peace and justice, and fellowship. The Search Program is specifically for students and provides a unique weekend opportunity to explore values and faith in a supportive community environment.

**The Counseling Center** offers opportunities for individuals and groups who may be experiencing stress, relationship problems, depression or other problems that may be interfering with personal or academic functioning. Vocational counseling is available on a personal basis, using interest inventory testing as a guide for individual planning. The center also sponsors various workshops offered throughout the school year on subjects such as stress management, assertion training, weight control and test anxiety.

The **Career Development Center** offers career counseling appointments and personalized job placement assistance including resume writing, cover letters, interviewing skills and job search strategies. The CDC provides career development workshops and hosts employers on-campus to interview graduating students. Another facet of the CDC is the Job Location and Development program, which assists students in finding part-time work and the opportunity to learn while they earn. The JLD program coordinates both the off-campus state work-study program and all the non-work-study opportunities, and develops these positions in the Puget Sound region.

The **International Student Center**, located on the corner of 11th and Cherry, serves 350 students from approximately 45 countries around the world. We seek to serve a dual purpose; to enable students to achieve success at Seattle University and, through the contribution of their unique cultures and perspectives, to in turn enrich the entire university community. The International Center serves as a focal point for activities and programs of a cultural, educational or social nature, and as a gathering place for students and students' organizations.

The **Minority Student Affairs Office** promotes an understanding and appreciation of 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 of students and employees of Seattle University, and supplements the university's community program by also serving children from the surrounding community.

**Disabled Student Resources** is a component of the Learning Center that provides academic advising, support, advocacy and referrals for students with physical disabilities and other unique needs. We can help with:

- interpreters
- notetakers
- readers
- testing adaptations
- test proctors
- room changes
- adaptive/auxiliary aids
- braille
- phonic ear (FM classroom system)
- tape recorder (variable speed)
- TDD (telecommunication device for the deaf)

The **Learning Center** provides academic support and skill enhancement to all Seattle University students. Experienced learning specialists and graduate interns will take time to explore specific academic needs and assist in designing an individual educational plan. The Learning Center can help students with:

- tutors
- academic assessments
- learning inventories
- time management
- effective study skills
- instructional strategies
- reading strategies
- writing strategies

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

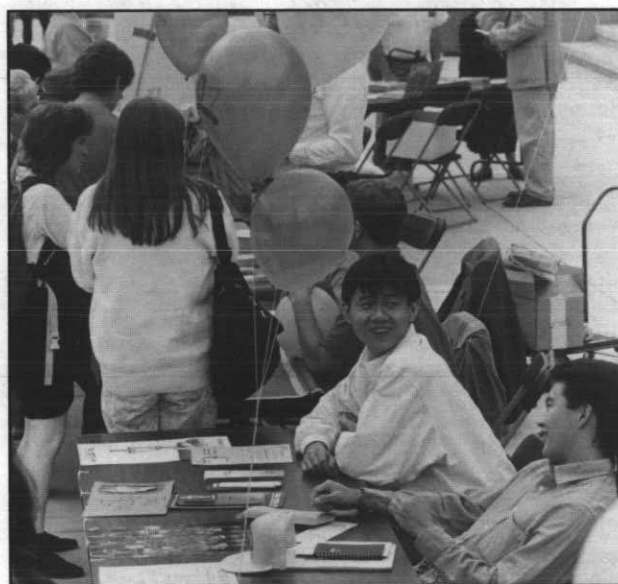
The **Campus Assistance Center** is a one-stop information, resource and referral service available for all students. This center, in cooperation with the Admissions Office, coordinates campus tours for prospective students.

The **Volunteer Center** assists students in the areas of: community service requirements in selected courses, ASSU, club and individual community awareness projects and activities. Through the Volunteer Center students work with the homeless, abused and neglected children, the elderly, refugees and many others.

**Orientation** programs are sponsored each summer and fall 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
- Alpha Phi Sigma—national criminal justice honorary
- Beta Alpha Psi—national accounting honorary
- Beta Gamma Sigma—national business honorary
- Beta Beta Beta—national biology honorary
- Kappa Delta Phi—national education honorary
- Omicron Delta Epsilon—national economics honorary
- Psi Chi—national psychology honorary
- Sigma Theta Tau—national nursing honorary
- Tau Beta Pi—national engineering honorary



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**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.

The **Student Health Center** is open to all regularly enrolled students. In addition to providing assistance for acute medical problems, the Health Center provides information and wellness programming to help students create and maintain a healthy lifestyle. 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, tennis, sailing and skiing for men and women. The university places a high priority on its intramural and recreation programs, and provides a wide variety of indoor, outdoor and off-campus activities. 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** is provided in the Marketplace (main university cafeteria located in Bellarmine Hall); the Chieftain (located on the first floor of the Student Union); and The Cave (coffee shop and convenience store located in Campion Tower).

Resident students, except those residing in Campion Tower, are required to purchase food credits on the University Vali-Dine system. Credits are good at any campus student food service location. Off-campus students may also purchase Vali-Dine food credits. Further information may be obtained from the Marriott 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 Residential Life.

**Residence Halls:** Three coeducational residence halls offer convenient living accommodations, lounges and facilities for study and recreation. Bellarmine Hall, a seven-story residence hall with 400 students, provides the main dining room for all resident students. The largest residence hall is the 12-story Campion Tower, although only the top eight floors are used for student occupancy. Xavier Hall, the third campus residence, has a 200 student capacity. Residence halls are supervised by residence hall directors, Jesuit floor moderators and student resident assistants.

**Application for Housing:** Requests for on-campus student housing are made through the director for Residential Life. A deposit is required for reservations. See the Costs section of this bulletin for housing cost information. Cancellation of reservations must be received by the director for Residential Life 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 academic year will suffer a financial loss.

### 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 **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.

**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 296-5990 (24 hours). Emergency only, call 296-5911 (24 hours).





## 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 undergraduate 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 provost through the assistant provost for academic administration and the dean of admission. 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.

Undergraduate admission may be granted to qualified applicants for any of the four quarters of the academic year. All applicants for admission must remit an application fee to the university. Inquiries concerning undergraduate admission should be addressed to the Office of Admissions, Seattle University, Seattle, Washington 98122-4460.

## Special Consideration

Students who show exceptional promise may be admitted without rigid adherence to minimum unit requirements, even if they have not graduated from high school or have graduated from a non-accredited high school. All admissions decisions in these cases are made by the provost and the university's board of undergraduate admissions.

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

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

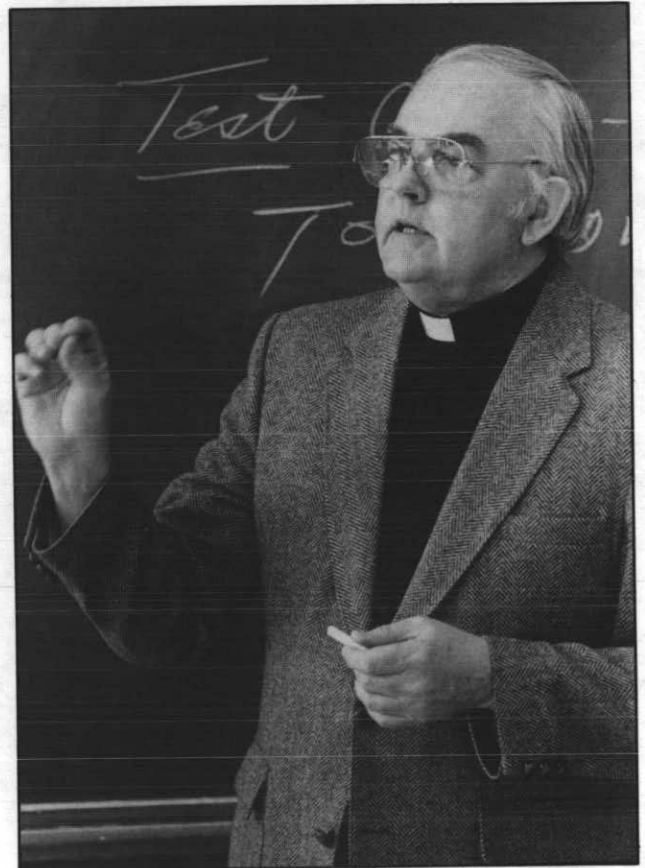
Denis Ransmeier, M.B.A., is the responsible employee designated by Seattle University to coordinate its effort to comply with section 504 of the Rehabilitation Act of 1973.

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

## Admission From Secondary Schools

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

- Have graduated or will graduate from an accredited high school;
- Have a high school grade point average in the 16 college preparatory units noted below of 2.50 or above as measured on the 4.00 scale, or rank in the upper 50 percent of the senior class;
- Have completed 16 units of college preparatory courses; or
- Have submitted scores from one of the following examinations: Scholastic Aptitude Test (SAT) or American College Test (ACT).



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

### Course Recommendations

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

|                                       |   |
|---------------------------------------|---|
| English.....                          | 4 |
| Mathematics (algebra, geometry)*..... | 2 |
| Social Studies .....                  | 2 |
| Laboratory Science* .....             | 1 |
| Foreign Language + .....              | 2 |
| Academic Electives (approved)**.....  | 5 |

\*Applicants for most science and engineering degrees must have completed three units of mathematics and two units of laboratory science.

+ Foreign language study is strongly recommended, since students in the College of Arts and Sciences must complete a foreign language III course or demonstrate competence at this level to meet their program requirements. Transfer students are also strongly advised to include foreign language study as part of their associate of arts program.

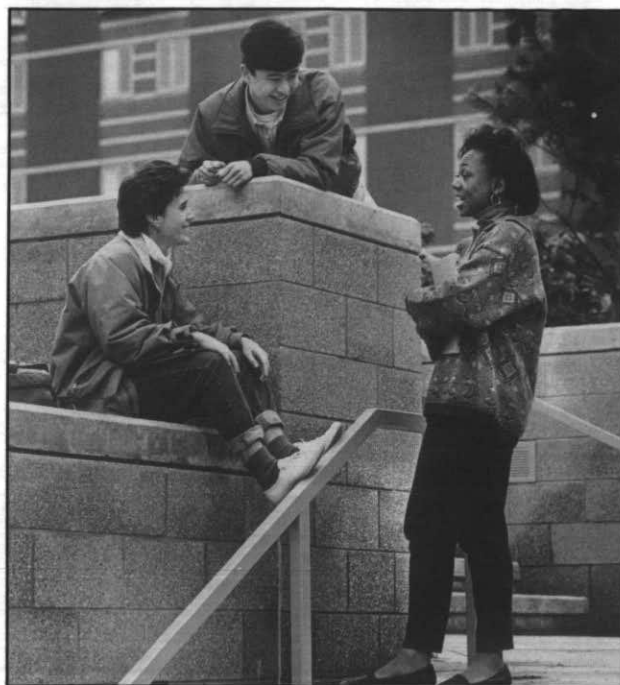
\*\*Electives may be reduced by requirements in other categories.

### Application

In the state of Washington, application forms for those wishing to enter as freshmen may be obtained by writing the Office of Admissions, Seattle University, Seattle, Washington 98122-4460 or from any high school counseling office in the state. Out-of-state applicants may obtain forms by writing to the Admissions Office.

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

1. Complete section I of the application for undergraduate admission and leave the entire form with your counselor to have the back page completed and forwarded directly to the Admissions Office.
2. Submit a non-refundable application fee of \$30 to the Admissions Office, payable to Seattle University.
3. Have your high school transcript and transcripts of any post-secondary course work you have completed sent to the Admissions Office. **ONLY OFFICIAL TRANSCRIPTS ARE ACCEPTABLE.** Official transcripts must arrive in the Admissions Office in a sealed envelope from the issuing institution.



4. Have your scores from one of the following examinations sent to the Admissions Office:

Scholastic Aptitude Test (SAT)  
American College Testing Program (ACT)

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

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

### Advanced Placement

(Policies 75-16 and 75-17)

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

## Early Admission

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

## Early Decision Plan

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

## Placement Examinations

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

## Probationary Admission

Freshman students admitted on probation will be placed in the pre-major program. Probation students must achieve regular status by the end of the freshman year or be subject to dismissal from the university. Transfer students on probation will be placed in the school of their major area of study.

## 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:

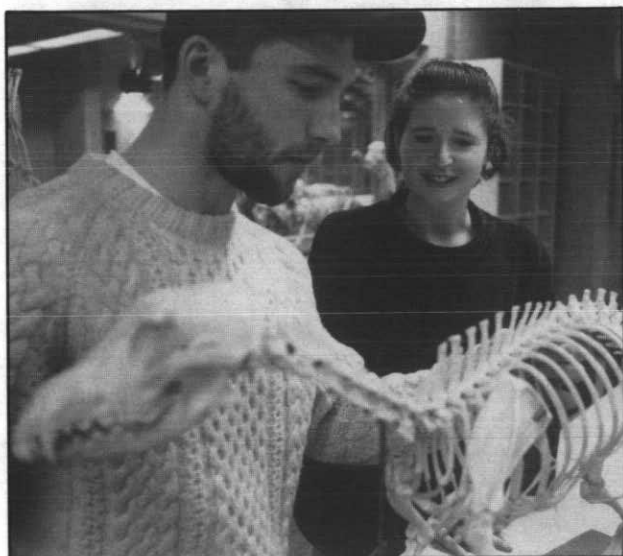
1. Submit to the Admissions Office an application for admission, an application fee of \$30 payable to Seattle University and one official copy of a transcript from each postsecondary institution previously attended. Failure to furnish complete previous post-secondary records when applying for admission or readmission 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 post-secondary work attempted prior to transfer. Courses completed at 1.0 (or D) are acceptable for transfer, to fill core or free electives, but cannot fill major requirements in many departments. No transfer applicant will be admitted with a grade point average below 2.00.
3. Transfer applicants who have completed less than one full year (45 quarter or 30 semester hours of transferable credit) at another postsecondary institution must fulfill secondary school unit requirements for admission to the freshman class. In such cases, an official copy of the high school transcript must also be submitted.

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

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

### (Policies 77-1 and 79-1)

For the purpose of guidance and registration, the academic evaluation unit in the Registrar's Office 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 provost and the dean of the appropriate school. (See Transfer of Credit from Other Institutions for additional information.)





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### Audit Students

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

### International Students

(Policy 76-6)

Specific admission requirements and procedures for all international students are listed on the university's international student application form. These criteria differ from those applied to United States citizens. International applicants should read carefully the international student application.

### Permanent Resident Students

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

### Special Students

(Policy 75-25)

The special student designation may be granted to students who do not meet the standard admission requirements. This is a temporary status and is available for undergraduate courses only with the approval of the dean of the school or college. Special students are not eligible for a degree until they have met all requirements for admission to that school and have been granted regular status.

### Transitional Students

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

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

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

### Elderaudit

Persons age 60 and over may audit classes on a space-available basis with the permission of the instructor and the department chair. Details may be obtained at the Registrar's Office.



### Financial Aid

#### Financing Your Education

Seattle University offers a variety of strategies and resources to lower the cost of a university education. All families are urged to complete a financial aid form regardless of their income level. Our financial aid professionals will then have the information necessary to discuss all options available for parents and students. The financial aid form is the common form with which students may apply for all campus-based programs (Perkins Loan, Nursing Student Loan Program, Nursing Scholarship Program, Supplemental Educational Opportunity Grants, college work-study) and at the same time apply for the Pell Grant, the Washington State Need Grant and the Stafford Student Loan. After filing the financial aid form the student will receive an acknowledgement from the College Scholarship Service and later a student aid report for the Pell Grant Program. When the student aid report is received it should be forwarded to the Financial Aid Office. The Financial Aid Office will help you uncover sources for financing your education. These sources include but are not limited to family, student, state government, federal government and private sources.

Although you must be admitted as a regular degree-seeking student to receive an award, you should apply for financial aid as soon after January 1 as possible.

You are expected to arrive on registration day with sufficient funds to cover any portion of tuition, room and board and other fees not covered by financial aid. If you were late in applying for a Stafford Student Loan, or if for some other reasons you foresee a shortage of funds at the time of registration, you should make arrangements to secure a short-term loan from a relative, employer or other funding source. All students should bring sufficient funds to allow them to eat and purchase classroom materials for the first week of school.

## Payment of Awards

All awards, except work study earnings, Stafford Student Loans, Washington State Need Grants and funds from outside agencies, are disbursed to students by means of a direct credit to their account. Each quarter, transfer is dependent upon the final approval of the director of Financial Aid. Each student must acknowledge receipt of the awards before they are credited to a student's account. Only when a student's file is complete can aid be transferred to the account.

## Types of Financial Aid

1. **Grant and Scholarship** — An award that does not require repayment.
2. **Loan** — Low interest loans which allow liberal repayment periods.
3. **Work Study** — An opportunity to work on or off campus while attending school.

## Application Procedure

1. Apply for admission to Seattle University as a degree-seeking student.
2. File a financial aid form (FAF) as soon as possible in January 1991 but no later than May 1, 1992 indicating that Seattle University should receive a copy.
3. A student aid report (SAR) will be generated from the information supplied on the financial aid form. Upon receipt of the SAR sign the appropriate areas and send it to the Financial Aid Office.
4. Upon receipt of an official award letter, students must notify the Financial Aid Office of their plans for enrollment and reserve their space in the class by submitting their advance deposit.

The preferred date for receipt of all materials to the Financial Aid Office is March 1, 1991. Meeting this date 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. However, we will continue processing on a rolling basis while funds are available.

Priority consideration is given to students who meet these preference dates. 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 March 1, 1991.

All students applying for financial aid for fall quarter, including students who are currently enrolled, are best served by having their applications complete by March 1. Students applying for other quarters should contact the Financial Aid Office to determine the deadline. Continuing students must reapply for financial aid each year.

Students and parents are advised to make a file for each application year and to retain copies of all materials submitted. Copies of IRS 1040s for parents and students are required each year.

## Eligibility for Federal Student Aid

Applicants for a Pell Grant, Perkins Loan, Supplemental Educational Opportunity Grant, college work study, Stafford Student Loan (SSL), Parent Loan, Supplemental Loan, or any other federal aid must meet the following criteria:

1. Must be a U.S. citizen, national or permanent resident.
2. Be attending at least half-time and enrolled in a regular degree-seeking program.
3. Must maintain satisfactory progress in the course of study. Satisfactory progress for undergraduates means that a student must earn 36 credit hours each academic year in order to *continue* to receive financial aid in the future. (Do not confuse this requirement with minimum hours required each quarter to receive aid for that particular quarter.)

Satisfactory progress is explained in more detail in a brochure available at the Financial Aid Office. In addition, a student must maintain good standing, which means the student must have a minimum cumulative GPA of 2.0 after his/her second year of postsecondary attendance. The following standards are applied to all undergraduate full-time federal aid recipients:

| Number of Hours Completed | Grade Point Average | Years to Complete |
|---------------------------|---------------------|-------------------|
| 0- 36                     | N/A                 | 1                 |
| 37- 72                    | 2.0                 | 2                 |
| 73-108                    | 2.0                 | 3                 |
| 109-144                   | 2.0                 | 4                 |
| 145-180                   | 2.0                 | 5                 |
| 181-225                   | 2.0                 | 6                 |

If at the end of the spring quarter, the director of financial aid determines that a student has not met the standards, the student will be required to attend summer session without the benefit of student assistance. The student will remain ineligible for assistance until the standard has been met. The GPA standard must be met at Seattle University since credits at other colleges and universities do not alter the Seattle University grade point average. Students who do not meet the hour standard may make up the credits elsewhere with permission from the Financial Aid Office. The requirement to attend summer session may be waived or financial aid continued in spite of non-compliance with eligibility standards, if a student's written appeal to the financial aid committee is granted.

4. Must not be in default on a student loan or obligated to pay a refund on a previous federal aid program.
5. Must establish need by filing a needs analysis application with College Scholarship Service.
6. Must be an undergraduate student who has not previously received a bachelor's degree. Graduate students may receive aid from the loan programs and work programs only.

*continued on next page*

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7. With the exception of the Stafford Loan (eligibility may be eliminated effective July 1, 1990) must not be a member of a religious community, society or order who by direction or with permission of the community, society or order is pursuing a course of study at Seattle University and who receives support and maintenance from the community, society or order in an allowance or in kind.

### Programs

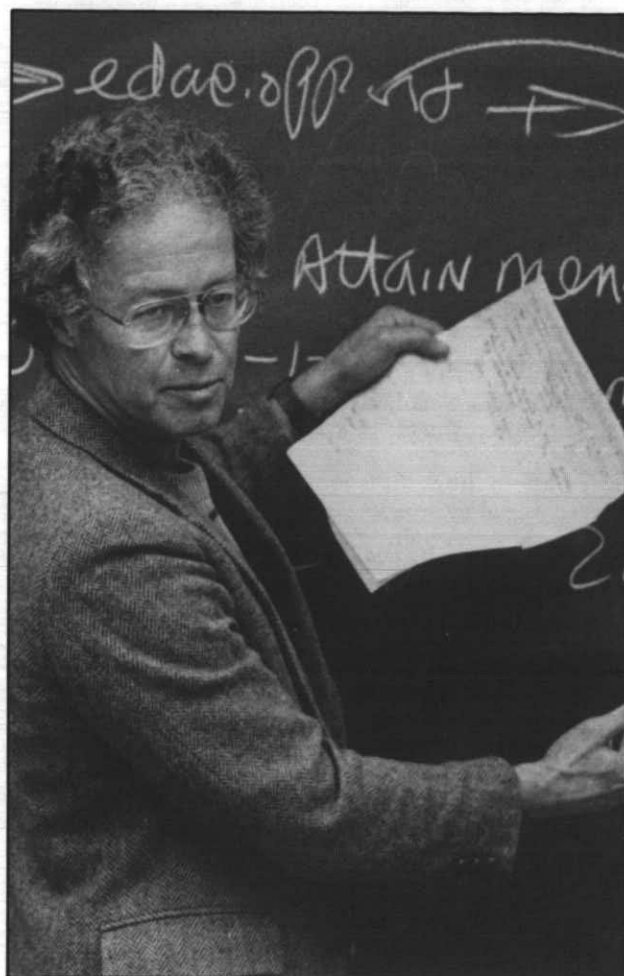
A financial aid package may include assistance from any one or more of the following sources (it is our policy that students receive the larger of any multiple scholarships):

Sullivan Leadership Awards, Presidential Leadership Awards, and Seattle University Leadership Awards are awarded by the Sullivan Leadership Award Committee through an in-person competition. The scholarship competition is named for William J. Sullivan, SJ, president of Seattle University, who has established as one of our primary goals the preparation of our students for leadership roles in society. Students nominated by the secondary school administration are required to submit separate application materials. There are various tiers of competition culminating with an interview and speech. Awards during the 1990-91 academic year added \$275 to \$825 to existing awards or provided an award of \$10,000. Awards are renewable with appropriate leadership activities, 45 credit hours, a 3.0 cumulative grade point average, and the submission of a renewal application. Students must also attend full time for each quarter the award is received.

Presidential and Trustee Scholarships based on achievement are available to students with superior academic ability. The Admissions Office will nominate students at the time the admission decision is made. Scholarships ranged from \$1,821 to \$5,610 in 1990-91. Students must attend full time to receive the award for any quarter. Each award is for one academic year but is renewable with the completion of 45 credit hours per academic year and a 3.0 cumulative grade point average.

Regents MRC Scholarships are awarded to full-time students participating in the Matteo Ricci Program who have demonstrated above average academic ability. These awards are automatically renewed for the second year. Renewal for the third year requires the completion of 90 credit hours and a 3.0 cumulative grade point average. Renewal for the fourth year requires completion of 45 credits for the previous year and a 3.0 cumulative grade point average.

Regents Awards were as high as \$2,424 in 1990-91 to qualified black students attending full time. Although the award decision is not based on financial need, completion of the financial aid form is required and is a part of the application procedure. An essay is also required. Renewal requirements include the completion of 36 credit hours per academic year and a 2.0 cumulative grade point average.



Seattle University scholarships and awards may also be awarded in various forms through the Honors Program, University Sports, Residential Life, ROTC, Associated Students of Seattle University (student government), Institute for Theological Studies and the *Spectator* (student newspaper). The Financial Aid Office applies these awards to student accounts and is required to monitor their interrelationship with any other assistance which we may offer. The honors program offers scholarship assistance, which replaces any other scholarship offer. University Sports may offer talent awards, athletic grants and room grants (all require submission of the financial aid form, regardless of need). Residential Life provides awards for work as resident assistants. Our ROTC program offers incentive awards and room grants to some of the exemplary students who are also receiving a federal ROTC scholarship. Students who are elected to certain positions in the Associated Students of Seattle University receive compensation for services in the form of a direct credit to their account. The Institute for Theological Studies makes awards to students with exceptional circumstances. The editor of the *Spectator* and some of the staff receive direct credits to their accounts for service.



## Scholarships and Grants

Seattle University offers special awards in recognition of outstanding achievement. Students apply for these scholarships by submitting a financial aid form. All applicants for financial aid are considered for these awards.

## Restricted Scholarships

Aetna Life and Casualty Foundation Scholarship  
 Alpac Corporation Scholarship Program  
 Arthur Andersen Scholarship Fund for Asian Americans  
 Dorothy Blystad Memorial Scholarship Fund  
 Boeing Company Corporate Scholarship  
 Ben B. Cheney Scholarship  
 John and Betty Cherberg Scholarship Fund  
 Chevron Awards  
 Continental Mills  
 Continental Mills, Inc. Dean's Fund—Business  
 Louella Cook Scholarship  
 Dijulio Naylor Scholarship  
 Emard Scholarship  
 Farmers Insurance Group Scholarships  
 First Interstate Bank of Washington Scholarship  
 Future Teacher Scholarship  
 Geneva Foundation Drama Scholarship  
 GTE Minority Student Engineering Scholarship  
 Saul and Dayee G. Haas Foundation Award Program  
 Archbishop Hunthausen Scholarship  
 Investors Guaranty Life Insurance Aid-To-Education ITS Scholarship  
 Duff Kennedy Scholarship  
 Harold A. Lemon Memorial Fund  
 Lockwood Foundation Scholarships  
 Theiline Pigott McCone Memorial Scholarship  
 Nursing Conditional Scholarship  
 Ohio State Life Insurance Company Scholarship  
 Pacific Coca-Cola/Thrifty Stores Awards of Excellence  
 Paul Douglas Teacher Scholarship  
 ROTC Scholarships  
 Jimmy Santoro Athletic Scholarship  
 Science Scholarship  
 Security Pacific Bank of Washington  
 Tillie and Alfred Shemanski Scholarships  
 Tamaki Foundation Scholarship  
 Barbara A. Trachte Honors Scholarship  
 Washington Mutual Great Teachers Minority Merit Awards  
 Washington State Automobile Association Achievement Award  
 Bill Zuvela Business Scholarship

## Endowed Scholarships

**Jack and Patricia Baird Endowed Scholarship Fund** was established in 1990 through a generous donation from the Bairds. It supports talented students with financial need who are physically challenged or differently abled.

**Fr. Gerald Beezer Scholarship Fund** was established in 1978 in memory of Edward P. Beezer. It is a renewable award for science, chemistry or pre-med majors.

**Blume Family ITS Scholarship Fund** was established in 1961 and has had additional family member donations. Students with financial need in the ITS program are selected by the director of ITS.

**Tim Brandt - Guy Marsh Honors Scholarship** was established in 1988 for an outstanding student in honors with an interest in theology and a minimum GPA of 3.5. Selection is made by the director of the Honors Program.

**Alphonse and Mary Brenner and John Brenner Scholarship** was established in 1973 as a one-year nonrenewable scholarship for a Catholic freshman with financial need from the Yakima Diocese.

**Alma and Gill Centioli Scholarship** was established in 1984 to provide annual scholarships to students preparing for spiritual service to others. Selection is made by the director of ITS.

**Sigmond and Theresa Chapin Memorial Scholarship** was established in 1981 as a renewable fund for deserving students with financial need as selected by the faculty.

**Woodrow R. Clevinger Scholarship** was established in 1976 to memorialize Professor Clevinger, who taught marketing in the School of Business, by recognizing an outstanding junior business student. The recipient is chosen annually in April by committee.

**William J. Codd, SJ, Memorial Scholarship** was established in 1980 for an education student in the final year of studies. Selected by the dean of the School of Education and committee.

**Diane Cothrin Fund** was established as a renewable scholarship based on need to help juniors and seniors of any major as selected by the Financial Aid Office.

**John R. Dijulio Scholarship Fund** was established in 1982 for meritorious undergraduate students with financial need.

**John C. Erickson Memorial Scholarship Fund** was established to honor outstanding junior civil engineering students with financial need.

**Blanche Ernst Memorial Scholarship** was established in 1986 through a gift from the Blanche Ernst Trust for students with financial need.

**Alice Fisher Scholarship Fund** was established in 1971 to honor Alice Fisher, on her retirement, by the faculty of the School of Nursing. Junior or senior nursing students with financial need are eligible.

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**C. Pearl Fleenor Scholarship** was established in 1981 as a renewable award to support an outstanding undergraduate business student with financial need.

**Agnes Handley Memorial Scholarship** is awarded to students based on need, academic performance, leadership, and school and community involvement.

**Hearst Foundation Scholarship** was established in 1982 by the William Randolph Hearst Fund for meritorious journalism students with financial need.

**Igoe Scholarship** was established as a renewable fund for students of any major with financial need.

**Henry T. Ivers Memorial Scholarship** was established in 1979 as a memorial to the former regent and 1925 graduate. Recipients are selected based on merit and financial need from any undergraduate major.

**Richard and Kathie Ann Jones Charitable Trust Scholarship** was established in 1983 as a nonrenewable fund for deserving juniors with financial need of any major not affiliated with the Bank of California.

**Dr. Harry Kinerk Memorial Scholarship** was established through the estate of this math faculty member and his brother Louis. Recipients are selected based on financial need from the fields of science and engineering.

**Jeremiah F. Lavell Journalism Scholarship** was established in 1990 through a bequest. A committee will select junior journalism majors to receive the award in their senior year.

**William F. LeRoux, SJ, ITS Scholarship** is awarded by the director of ITS to a master of divinity student maintaining a 3.25 GPA.

**Joseph A. Maguire, SJ, Scholarship** was established by Jack and Edna Maguire of Wenatchee in honor of Father Maguire, SJ. Recipients are selected from the Albers School of Business and Economics based on financial need.

**McCleary Scholarship in Education** was established in 1985 by Martha McLellan in memory of her father, William McCleary, for students with financial need in the School of Education.

**McGoldrick Alumni Scholarship** was established to encourage allegiance to Seattle University "by generations." Eligible students must be admitted, have a 3.0 GPA, be involved in extra curricular activities, and have at least one parent who attended Seattle University for at least one year. Applications are secured through Alumni Relations Office. Students must reapply each year.

**McLellan Scholarship in Nursing** was established by Martha McLellan in memory of her husband, Lawrence McLellan, for meritorious students in the School of Nursing with financial need.

**Medak/Bishop Endowment Scholarship** was established to help fund meritorious students of any major with financial need.

**Michels Family Scholarship for International Studies/Endowed Scholarship Fund** was established to provide partial scholarships for participants in our French-in-France program. Recipients are selected from applications by the Foreign Language Department.

**George R. Murphy Engineering Scholarship** was established to honor the memory of George R. Murphy by assisting meritorious students with financial need in the School of Engineering.

**Naef Scholars Program** was established through a gift from the Sue M. Naef estate. Recipients are selected by committee from juniors and seniors with a GPA of 3.4 or greater. Juniors are eligible to be funded in their senior year.

**Nelson Scholarship** was established through the John J. and Margaret E. Nelson Memorial Fund for worthy students with financial need studying engineering, nursing or pre-medicine.

**Paul Pigott Memorial Scholarship** was established through the estate of Paul Pigott for a freshman with financial need.

**Mary C. Pirrung Fund for Masters Candidate in Reading** was established in 1985 to provide funding to a masters candidate in reading. Applications are secured through School of Education.

**Stuart Stephen Reed Scholarship** was established in 1990 through the Anita M. Reed estate to provide funding for a worthy engineering or pre-medical student with financial need.

**Fr. James B. Reichmann Scholarship** was established to honor a junior or senior philosophy student with outstanding scholastic ability by the Department of Philosophy.

**Albert A. Schafer Memorial Scholarship** was established in 1961 through the estate of Albert A. Schafer. Recipients are selected based on financial need and academic achievement.

**Seattle University Guild Endowment Scholarship** was established through fund raising activities by the Seattle University Guild. The guild is currently inactive, but six past members serve on a selection committee to review and select recipients based on academic achievement, community involvement and financial need. Applications for this nonrenewable fund are available at the Financial Aid Office after January 1.

**Paul B. Shorett Memorial Scholarship** was established from the Paul B. Shorett Trust through Metropolitan Savings for students with financial need majoring in science and engineering.

**Friendly Sons of St. Patrick Scholarship Fund** was established in 1981 to recognize students of Irish-American heritage. Selection is made by the officers of Friendly Sons of St. Patrick based on financial need, GPA, and an essay on heritage.

**William J. Sullivan, SJ, Leadership Awards** were established to support full scholarships to entering freshmen who demonstrate effective leadership through a competition. Funding is provided through gifts from Mary Alice Romano and Mrs. John A. McCone. Selection is made through committee from worthy Washington applicants and is renewable yearly for four years as long as the student maintains leadership potential, involvement and continues to reside in the residence halls.

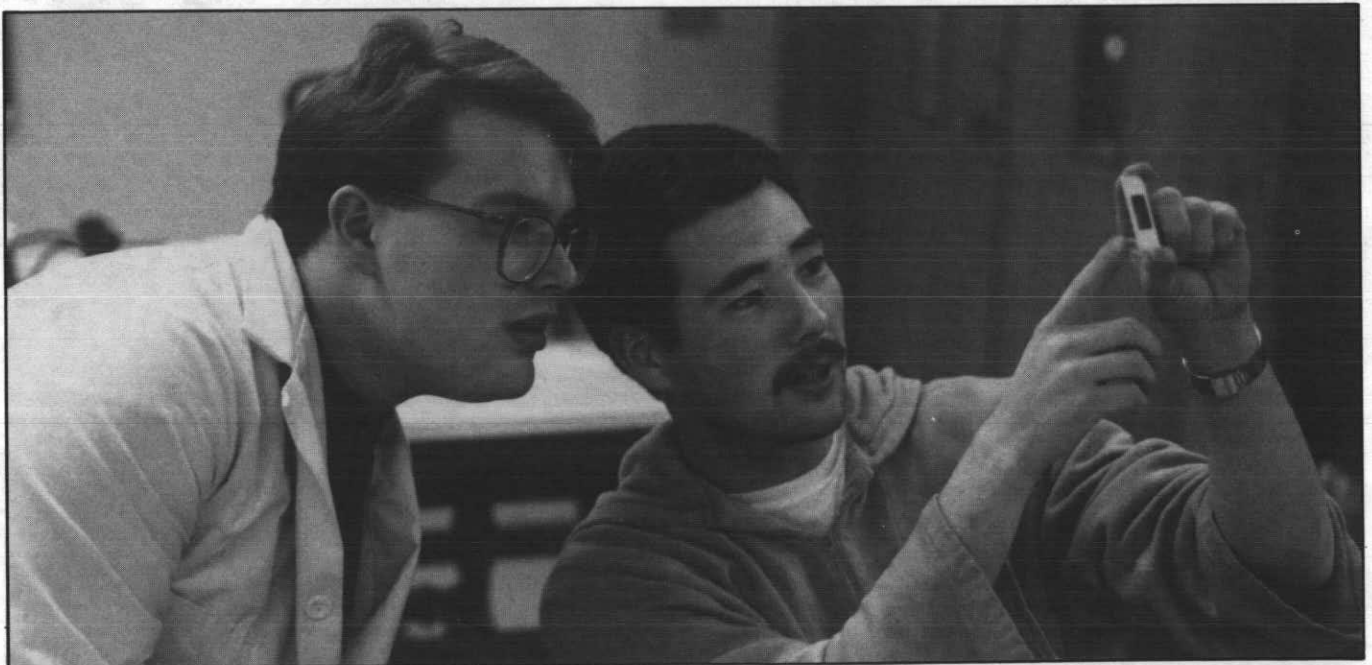
**G. Robert Truex Scholarship** was established as a memorial by the family of G. Robert Truex, who worked for Security Pacific Bank. The recipient is selected by the Financial Aid Office and the Office of Minority Affairs from minority students majoring in business.

**Frank A. Valente Scholarship** was established to honor the memory of Dr. Valente for students with financial need majoring in physics.

**Jerry J. Ward Memorial Scholarship Fund** was established originally from a gift of the Jerry J. Ward estate and has had regular contributions from his son, Richard Ward, M.D., '72. Recipients are selected from any major based on merit and financial need.

**Frank and Anne West Science Scholarship** was established in 1987 as a renewable fund for science majors based on financial need and merit.

**Ronald Wilby Endowed Scholarship For International Business** was established in 1989 to honor Professor Ronald Wilby, formerly an international business faculty member of the Albers School of Business and Economics. The international business faculty select from worthy junior and senior applicants.





## 20 About Seattle University

### 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. The student must be a United States citizen, 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.

### Perkins Loan

Perkins Loan is a long-term loan based on financial need. Eligible students may borrow a total of \$9,000 for undergraduate education or \$18,000 for combined undergraduate and graduate education. Repayment begins six months after the student graduates, drops to less than half-time or leaves school. The annual interest fee is 5 percent and repayment may extend 10 years, but payments may not be less than \$30 per month. The Perkins Loan repayment program also includes limited deferment provisions and cancellation features.

### Stafford Student Loan

A Stafford Student Loan 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. Stafford Student Loans are guaranteed by the Washington Student Loan Guarantee Association or equivalent agency.

Students applying for Stafford Student Loans must qualify on the basis of financial need and must be enrolled at least half-time. The student's financial need for the loan will be determined through the use of the College Scholarship Service's financial aid form. The determination of financial need for the loan will be calculated by Seattle University and reported on the student's Stafford Student Loan application form. All first-time recipients are required to have an entrance interview before receiving their first check. All checks when signed must first be applied to the student's account. Any credit balance will be refunded to the student within four hours. Credit balances may not remain on the account without a written request from the student.

Annual loan limits are \$2,625 to \$4,000 for undergraduate students and \$7,500 for graduate students. Students may borrow up to \$17,250 during their undergraduate years. Graduate and professional students may borrow \$54,750 for their undergraduate and graduate career.

All Stafford Student Loans will be charged a 5 percent loan origination fee by the lender, as well as a guarantee fee of up to 3 percent. An amount up to 8 percent of the student's Stafford Student Loan is used by the federal government to offset the interest charged on the student's loan while the student is enrolled. With the exception of the origination and guarantee fees, the student does not have to pay any other interest charges while enrolled as a full-time student.

Repayment of the loan begins six months after the student ceases to be at least a half-time student. Repayment is generally monthly, with interest at 8 percent per year on the unpaid balance beginning at the time of repayment for the first four years. At the fifth year of repayment the interest rate rises to 10 percent for the remainder of the repayment period. If the student is a previous borrower the terms of the old note will remain in effect.

Students are required to make payments of at least \$50 per month. Early application for the Stafford 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.

### Nursing Student Loan

Nursing Student Loan is a long-term loan based on financial need. Eligible students may borrow up to \$2,500 for each of their first two academic years and \$4,000 per year for junior and senior years. However, the maximum that may be borrowed under this program is \$10,000. Repayment begins nine months after the student drops to less than half-time, leaves school or changes to a non-medical major. The annual interest is 5 percent and repayment may extend 10 years. Payments may not be less than \$15 per month and will usually be \$30. The NSL program also has limited deferment provisions.



### Gene E. Lynn Rural Nursing Endowment Fund

The Federal Nursing Student Loan Program is available for Seattle University students through the generosity of Gene E. Lynn, who, in conjunction with the university, provides matching funds to participate in the program.

### Government Grants

Grants 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.

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

The **Pell Grant Program** is a federal aid program intended to be the floor in financial assistance. Eligibility is based upon a family's financial resources and a rationing formula published by the government. Eligible students received grants as large as \$2,300 last year.

**Washington State Need Grant (WSNG)** is a grant designed to assist needy and/or disadvantaged Washington state residents in obtaining postsecondary education. Selection is made by the higher education coordinating board from nominations submitted by the university. Theology majors are not eligible. Students with baccalaureate degrees are not eligible to receive WSNG funds.

### ROTC Grants Army/Air Force/Navy - Marines

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-, three- and four-year merit scholarships covering \$7,000 or 80 percent, whichever is greater, of tuition and fees, textbook allowance, and a \$100 per month tax-free subsistence allowance. Room and board grants are also available to scholarship students. An annual subsistence stipend of \$100 per month is paid to all advanced course students. Write to: Professor of Military Science, Seattle University, Broadway and Madison, Seattle, WA 98122-4460 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, DU-30 University of Washington, Seattle, WA 98195. See the Military Science section under College of Arts and Sciences for additional information.

The United States Navy awards scholarships to selected students enrolled in the Navy ROTC programs. Write to Professor of Naval Science, DU-40 University of Washington, Seattle, WA 98195. Navy scholarships are similar to Army/ Air Force scholarships offered above, however 100 percent of tuition, books and academic fees are covered.

### Veterans, Widows and War Orphans Education 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 counselor in the Registrar's 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 wages 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 wages earned during the academic year under the work study program are not yet available at the time of fall quarter registration. Therefore, bills due at that time must be paid with other money.

**Work Study** eligible students are not required to work, nor is employment guaranteed. The Seattle University Career Development Office assists students in obtaining employment on or off campus.

**Federal College Work Study Program** provides part-time employment in on-campus positions for students with established financial need.

**Washington State Work Study Program** provides part-time employment in positions with employers other than Seattle University for students who qualify under a state established need formula.

### Student Placement Center

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



## 22 About Seattle University

### Costs of Attending Seattle University Tuition Rates 1991-92

Regular Courses (fall, winter,  
spring) .....\$238 per credit hour

|   |          |
|---|----------|
| Full-Time Student   |          |
| Annual Tuition .....                                      | \$10,710 |
| 45 credit hours per year (15 credit<br>hours per quarter) |          |

Addiction/Drug Studies Certificate .....\$207 per credit hour  
Military Science 311, 312, 313,  
412, 413, 419 .....\$238 per credit hour  
Auditors Tuition .....\$ 75 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 1991-92 (Usually per course)

Private Music Lessons .....\$56  
Computer Laboratory Courses .....\$51  
Science and Engineering Laboratory Courses .....\$51  
Psychology 385, 401, 402 .....\$51  
Education 460 .....\$39  
Nursing 200 .....\$39  
Nursing 302, 303, 319, 329, 339, 349, 385, 411, 413, 423  
(per credit hour) .....\$23

#### Fees — Other (Non-Refundable) 1991-92

Application — graduate .....\$40  
Application — undergraduate .....\$30  
Application — transitional students .....\$30  
Late registration/Payment (See next column)  
Matriculation — undergraduate and graduate .....\$60  
Credit by Examination — per credit hour .....\$60  
Validation of Field Experience — per credit hour .....\$60  
Removal of Incomplete — per course .....\$30  
Graduation — undergraduate and graduate .....\$60  
Certificate fee .....\$60

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

#### Residence Charges 1991-92

Double Occupancy .....\$2,760 for academic year  
\$920 per quarter  
Single Occupancy .....\$3,708 for academic year  
\$1,236 per quarter  
Deposit .....\$100

#### Board

Alternate a la carte meal plans are available, ranging in price from \$1,021 to \$1,491. 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 Residential Life, 296-6274.

### 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. International students will automatically be charged insurance. An insurance waiver can be obtained from the International Student Center upon proof of insurance coverage. 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 academic calendar published in this bulletin unless the student has formally withdrawn prior to that date. Payments made after that date are subject to the late registration/payment 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.

#### Late Registration/Late Payment

A one-time handling fee of \$40 and a charge of 1.5 percent on any balance due at the end of the month will be charged if tuition and fees are not paid in full as of the date classes begin, noted on the academic calendar. Late fees will 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)

|                        |             |
|------------------------|-------------|
| 2-5 class days .....   | 100 percent |
| 6-10 class days .....  | 75 percent  |
| 11-15 class days ..... | 60 percent  |
| 16-20 class days ..... | 40 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). 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.



## Academic Regulations Program of Study

Students, with the help of their academic advisers, are responsible for satisfactory completion of their program of study.

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 Registrar's Office.

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

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

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

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

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

## Academic Conduct

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

## 24 About Seattle University

### 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 is listed in the About Seattle University section of this bulletin.

**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 Alumni Relations Office.)

**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 Registrar's Office.

**Credit Hour** — The unit by which the university measures course work. One credit hour is awarded for a class meeting 50 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 and 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 eight 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 multiplied by the credit value for each course) divided by credits attempted.

**Cumulative GPA** — The grade point average based on all Seattle University work. Transfer credit is not included in the cumulative GPA.

**Major GPA** — The grade point 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 six credits. For graduate students, eight credits is a full-time load, four 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** — The special student designation may be granted to students who do not meet the standard admission requirements. This is a temporary status and is available for undergraduate courses only with the approval of the dean of the school or college.

**School** — An academic division within the university in which academic departments reside.

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

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

**Transfer Student** — One who is admitted to Seattle University having previously completed work at another college or university.

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

**Withdrawal** — Official notification to the university by a student that he or she will not complete a course. Withdrawals are filed with the registrar.

## Attendance Requirement

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

## Change of Major

To transfer from one school of the university to another, or from one major to another, a student must obtain a change of major form from the registrar, notify the former department by obtaining the chairperson's signature and present the change of major form to the new department chairperson 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

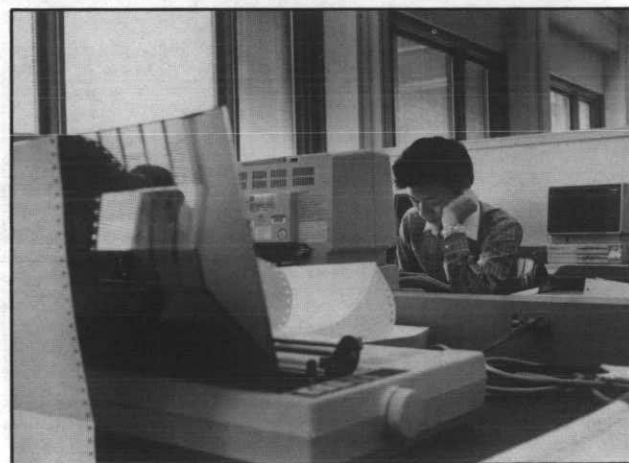
(Policy 82-2)

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>Fifth 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>Transitional</b> | non-matriculated students registering for one or two quarters only  |
| <b>Auditors</b>     | non-matriculated students registering for audit only  |





## 26 About Seattle University

### Commencement With Deficiencies

(Policy 83-1)

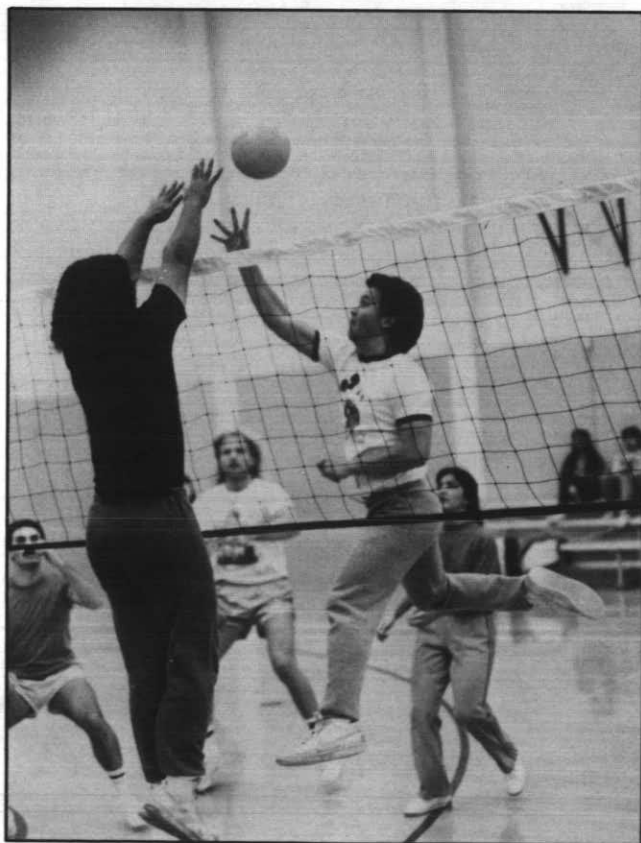
Undergraduate students who have not completed all degree requirements may participate in commencement exercises under the following conditions:

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

### Concurrent Enrollment at Two Colleges

(Policy 75-6)

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



### 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 credit has previously been earned.
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.
9. Students who wish to qualify for credit by examination must apply to the dean, registrar and controller for approval.
10. No graduate credit is given by examination.
11. Nursing students who are graduates of hospital diploma programs may, under special circumstances, earn credit by examination for courses specified in Policy 85-1.
12. The grade will be posted CR (credit) or NC (no credit) and will have no effect on the grade point average. The minimum achievement level for receiving credit will be 'C'. Core requirements may be satisfied through credit by exam.

### Credit Load

The normal load for undergraduates is 15 credits per quarter. No student may carry an excess of 18 credit hours without permission from the dean of the school, except in the School of Science and Engineering, where 21 is the maximum.

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

### 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.

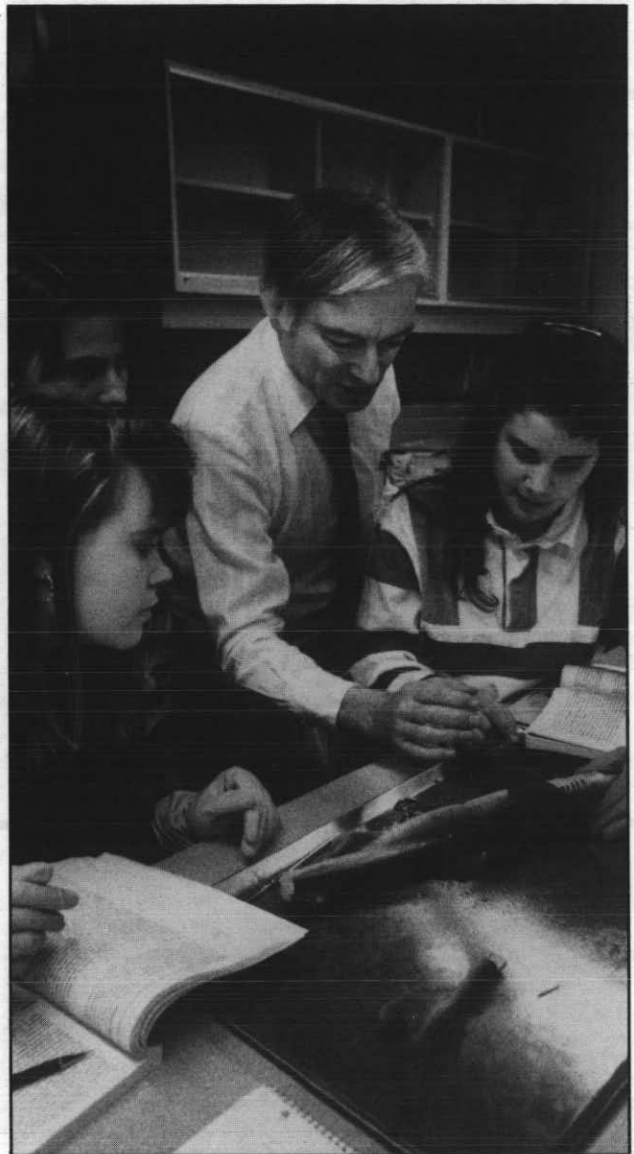
### Forgiveness Policy

(Policy 77-6)

Former Seattle University 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 eight years, former Seattle University undergraduate students may apply for forgiveness at the time of readmission or during the first quarter resumed at Seattle University. For further information consult the Registrar's Office.

### 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 chairperson and dean of the school. Errors in grades must be reported within six months of date of issue of grade reports.



## 28 About Seattle University

### Grading System

Effective in fall 1988 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, P, Q, R, S, W, Y or YW have no quality point value.

**CR Credit** — Grade assigned in a course which is designated by the department to be only graded CR/E. Minimum acceptable performance is D-. Failure to meet that minimum results in a grade of E, which is reflected in the grade point average. Satisfactory performance results in credit completion but does not affect the grade point average.

— Also grade assigned in a course through credit by examination. Students who pass the exam with an achievement level of C or better will have a CR posted to the record and credit is granted. Performance below the level of C results in an NC and no credit is granted. Neither CR nor NC will affect the grade point average.



**I Incomplete** — A temporary grade indicating that work in the course was acceptable, although a critical portion of it was not completed because of illness or other serious circumstances beyond the student's control. The I grade may not be used for the convenience of the faculty member or student. When the instructor assigns an I grade, a NOTICE OF INCOMPLETE GRADE FORM must be filed with the dean. 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 to have the final grade posted to the transcript. 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).

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 or on the academic transcript to indicate work in progress.

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

#### N Grades Received

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

**NC No Credit** — grade assigned when credit by examination has been attempted and student did not achieve acceptable performance level of at least C. There is no effect on the grade point average.

**P Pass** — grade assigned when student passes a course after electing the pass/fail grading option. A maximum of 10 credits may be selected for this option and the P grade has no effect on the grade point average. Failure to achieve at the minimum D- level results in a grade of E, which will affect the grade point average.

**Q A suspended grade** — for courses at the 600 level only, in which work is not scheduled for completion until after the quarter closes. Because of the nature of these courses, which often extend beyond a year, no four-quarter time limit is required.

**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.



## Grading – Alternative Modes Pass/Fail Option (P/E)

Undergraduate students may elect a pass/fail option in free elective courses only, and under the following conditions:

1. Student must elect the pass/fail option at the time of registration and may change to or from P/E only during the drop/add period.
2. Ten quarter credits graded P/E, regardless of number of courses, is the maximum acceptable toward a bachelor's degree.
3. The P/E grading option is not allowed for major requirements or university core. Should the student elect a course P/E and then change majors so that the course would be required, the student's dean will make final determination as to applicability of the credit toward graduation.
4. Only one P/E course may be selected in a given quarter.
5. No graduate courses (500-699) are open to P/E grading. Courses elected as P/E will appear on the student's permanent record and will be graded:

P (Pass) – minimum passing grade equivalent to D–

E (Fail)

Courses in which a P grade is given will be counted as completed credits but will be excluded from computation of the grade point average. An E, or failing grade, will be reflected in the grade point average and the course will not be counted as completed.

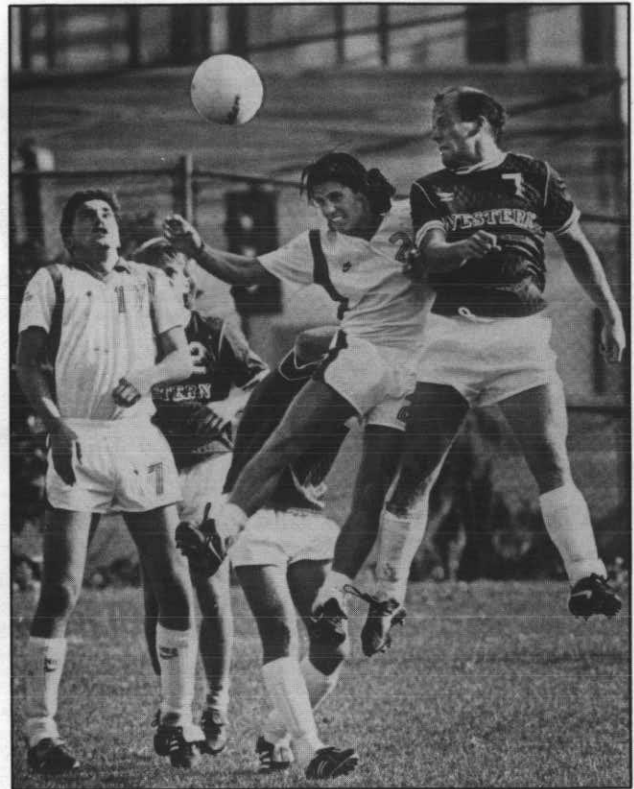
A minimum of 90 credits graded A through D– must be completed at Seattle University to qualify for graduation with honors. Courses graded P/E do not count toward this total of 90.

## Mandatory Credit/Fail (CR/E)

Music practice courses, some field experiences, internships and independent study in the School of Business and Economics and other courses so designated by individual departments are only graded credit (CR) or fail (E). When passed with the minimum acceptable standard of D– or above, the course will be graded CR and credit will be granted. There will be no effect on the grade point average. Should the student fail to satisfy the instructor's minimal expectations, the course will be graded E and will be included in the computation of the grade point. To qualify for graduation with honors, a minimum of 90 credits must be completed at Seattle University graded A through D–. Credits from mandatory CR/E courses will not count toward the 90 minimum.

## Credit/No Credit (CR/NC)

The CR/NC grading mode is reserved for credit by examination. Minimum achievement level for receiving credit is C. Neither CR nor NC affects the grade point average. See Credit By Examination section.



## 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 report.

## 30 About Seattle University

### Majors

Major requirements within each department or school are outlined in this bulletin under departmental requirements or degree requirements.

### Minors

(Policy 84-1)

Departments or schools offering undergraduate minors outline specific requirements in this bulletin under departmental requirements or degree requirements. Students wishing to have a minor posted to their academic records must file a request for minor form, which outlines the composition of the minor, with the registrar. Minors are granted with the following conditions:

1. Minors will be posted to a student's record concurrent only with a first undergraduate degree.
2. Minors cannot be earned within the 135 credit MRC II program.
3. A minor cannot be earned using courses which comprise the major in the liberal studies degree.
4. The bulletin under which the student receives an undergraduate degree will stipulate course work for a minor.
5. Minors must include at least 30 quarter credits, including a minimum of six courses.
6. 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.
7. No more than five quarter credits in a minor can be graded CR or P. 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.

### Probation and Dismissal

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

A student who falls below the standard required for graduation 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 2.0 or the minimum required by a professional school. Probation may be continued for a second quarter if the cumulative grade point average continues below the standard of the particular school or college.

Students who have two quarters of poor scholarship at Seattle University, i.e., who earn 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 grades, may be subject to dismissal. Students dismissed for academic reasons may request reconsideration through the appropriate dean in accordance with the policy of the individual school.

### Readmission

(Policy 76-10)

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

Students who have been absent from the university for one year or more will be held to degree requirements in effect at the time of readmission.

Students readmitted to the university in fall 1990 and following who had completed the old core curriculum before taking a leave of absence, may graduate under that old core plan, even though they have been away from the university for more than one calendar year. Other students who return to complete their degrees after more than one year's absence will complete the university core curriculum as outlined in this bulletin.

### 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. 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

All 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 to complete every course for which they register. If it is necessary to add or drop a course, the student must complete the appropriate touch-tone registration transaction by 4 p.m. on the fifth class day of each term. Failure to officially withdraw from a course will result in a grade of E on the student's academic record.

## Repeating a Course (Policy 77-2)

An undergraduate student who receives a grade of C- or below in a course may repeat the course. Some schools and major departments require that students repeat a required course under some conditions. The grade earned the second time will be posted to the permanent record. The grade earned the second time will be used in computing the cumulative grade point average, although course credits will be counted only once toward a degree. The original grade will remain on the record. No student will be allowed to register for any single required course more than three times, including registrations resulting in grades of NC, I and W.

If credit has been granted for a course taken at another institution and then the course is repeated at Seattle University, the transfer credit is revoked and the Seattle University 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.

The student must notify the registrar of the repeat by filing a notification of repeated course form.

## Transcripts (Policy 76-3)

Students may obtain official transcripts by submitting a written request to the Registrar's Office. No official transcript will be released for students with a financial obligation to the university.

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

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

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

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

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

|                               |            |
|-------------------------------|------------|
| Courses completed summer term | December 1 |
| Courses completed fall term   | March 1    |
| Courses completed winter term | May 1      |
| Courses completed spring term | August 1   |
2. Work graded D (1.0) or higher will be allowed for transfer except for departmental requirements in the Schools of Arts and Sciences, Business and Economics, Engineering, and Nursing, where C (2.0) is the minimum.

3. Credit transferred from two-year colleges may be applied to university freshman and sophomore years only. Transfer of such credit may not exceed 90 quarter credits.
4. No credit is transferable from a community college after junior level (90 quarter credits).
5. For admission with advanced standing, no more than 135 quarter credits will be accepted toward a bachelor's degree requiring four years of college study. All transfer students must take at least two courses in their major field of study at Seattle University and meet philosophy and theology requirements. Consult the core curriculum section for a listing of required courses in philosophy and religious studies.
6. The transferable associate of arts degree granted by a Washington community college will bring certain benefits to the student who has completed the degree prior to first admission to Seattle University. The student will be admitted with junior status, with 90 credits, and will have fulfilled freshman and sophomore university core requirements except for philosophy, religious studies and requirements of professional programs.
7. The final 45 credits of the degree must be completed at Seattle University.
8. Credit earned through extension courses may be transferred if the course was sponsored for degree credit by an academic department of a regionally accredited institution. 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.
9. Credits more than 10 years old will be reviewed to determine applicability of credit to the major.
10. Since the Seattle University grade point reflects only work done at this university, the grade point average cannot be improved by repeating elsewhere a course failed at Seattle University.
11. Credits from unaccredited and newly accredited schools and non-traditional programs are subject to additional review prior to being transferred. See Policy 79-1 for additional information.
12. Credits and degrees from branches of degree-granting institutions which reside outside of their regional accrediting bodies are subject to review per Policy 79-1.
13. Credits may be granted for appropriate military schooling in accordance with Policy 75-26.



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### Withdrawal

The Registrar's Office must be officially notified by the student when he/she withdraws from any course. 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. Failure to officially withdraw from a course will result in a grade of E on the student's academic record.

The official withdrawal is completed only when the approved form 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.

### Academic Progress

Seattle University recognizes that students progress at different rates and their time to degree completion is often dictated by individual circumstances. However, all students (except those enrolled in the Matteo Ricci College) must complete a minimum of 180 credit hours of approved course work to be awarded a baccalaureate degree. Note that some departments require more than 180 credits total.

### 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 two quarters preceding their final registration. A receipt for the graduation fee must be presented to obtain the necessary application forms.

### Application For a Certificate

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



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

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

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

1. Core curriculum requirements and specific requirements of the college or school from which the student expects to graduate must be fulfilled. A minimum overall grade point average of 2.00 must be achieved and a GPA of 2.00 is required in departmental requirements of the student's 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 freshman 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 the core curriculum section 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. With specific permission from the dean and registrar, senior residency may be waived for an approved study abroad program.
5. All degree requirements must be completed within 10 years of the date on which the college work was begun.
6. Financial obligations toward the university must be satisfied.
7. Students working for a second baccalaureate degree, either consecutively or concurrently, must complete a minimum of 45 credits beyond the requirements of the first baccalaureate degree and complete all specific requirements of the new program or the new college. These 45 credits must be completed in residence at Seattle University.

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

## Honors at Graduation

(Policies 75-12 and 75-21)

Graduation with honors requires completion of a minimum of 90 credits in residence at Seattle University in courses graded A through D. Should a student elect the P/E option for any one course or take a credit by examination as part of the 90 credit minimum, honors eligibility is forfeited. In programs where CR/E 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 fewer than 80 graded credits. Petitions for honors under this condition must be filed with the dean and the registrar six weeks prior to the anticipated completion date.

For students who matriculated prior to fall 1986 or who graduated prior to August 1988:

|                 |      |
|-----------------|------|
| Cum Laude       | 3.40 |
| Magna Cum Laude | 3.65 |
| Summa Cum Laude | 3.90 |

For students who matriculated fall 1986 or after, and who graduate August 1988 or later:

|                 |  |
|-----------------|--|
| Cum Laude       | 3.50 and at least 90 SU<br>graded credits  |
| Magna Cum Laude | 3.70 and at least 115 SU<br>graded credits |
| Summa Cum Laude | 3.90 and at least 135 SU<br>graded credits |



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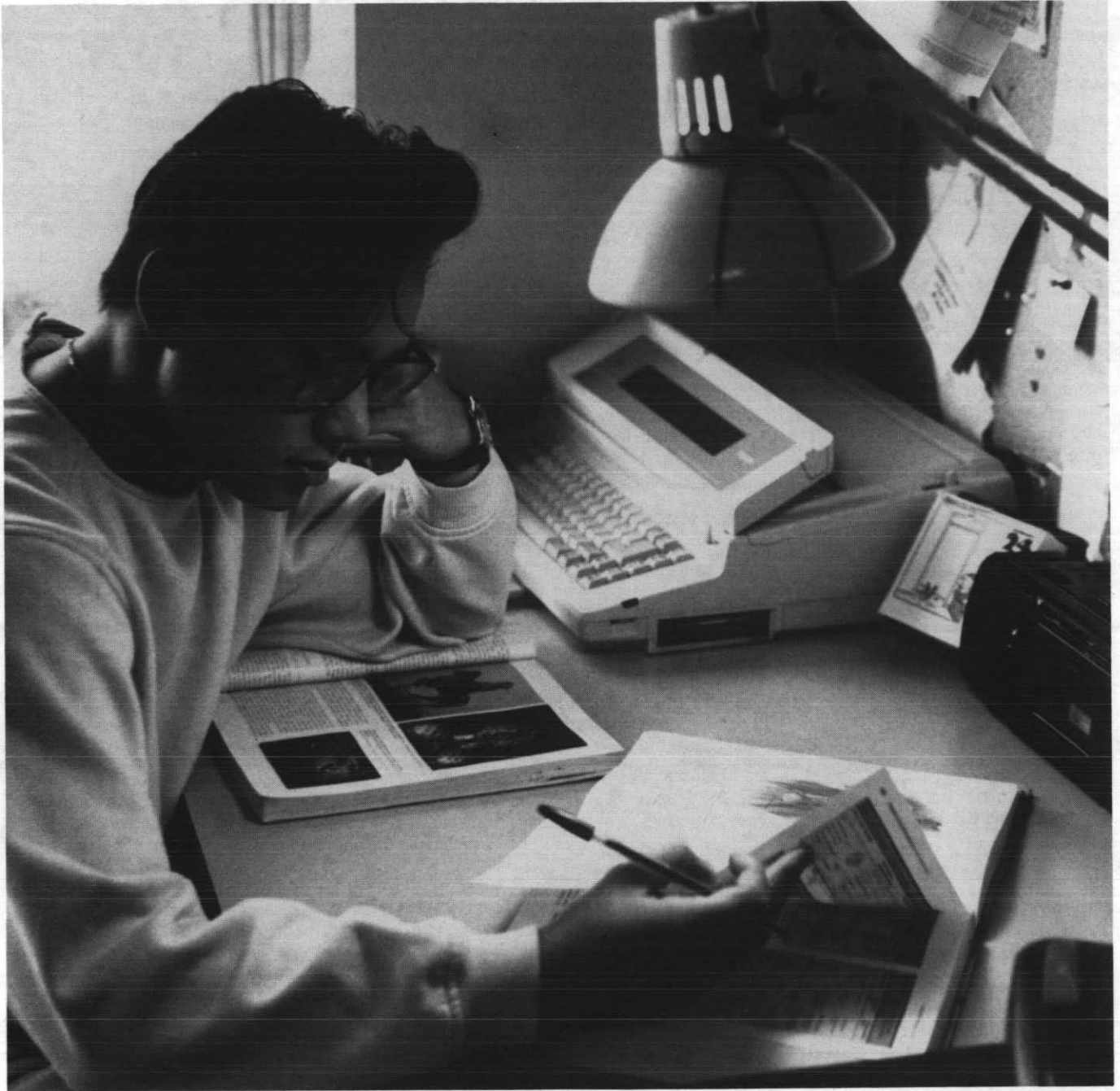
### Special Awards

The President's Award is given 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

|      |  |
|------|--|
| ACC  | Accounting   |
| ADD  | Addiction Studies                                  |
| ART  | Art  |
| BL   | Biology  |
| BUSA | Business Administration                            |
| CEE  | Civil and Environmental Engineering                |
| CH   | Chemistry  |
| CJ   | Criminal Justice                                   |
| COMC | Communication                                      |
| CSC  | Computer Science                                   |
| DR   | Drama  |
| EC   | Economics  |
| ED   | Education  |
| EE   | Electrical Engineering                             |
| EN   | English  |
| SE   | Software Engineering                               |
| FA   | Fine Arts  |
| FI   | Finance  |
| FL   | Foreign Language                                   |
| FR   | French   |
| GK   | Greek  |
| GR   | German   |
| HS   | History  |
| HU   | Humanities (Honors)                                |
| HUM  | Humanities (Matteo Ricci College)                  |
| IB   | International Business                             |
| ISC  | Interdisciplinary Science<br>(See General Science) |
| ISS  | Interdisciplinary Social Science                   |
| JA   | Japanese   |
| COMJ | Journalism and Mass Communication                  |
| LS   | Liberal Studies                                    |
| LT   | Latin  |
| ME   | Mechanical Engineering                             |
| MGMT | Management   |
| MKTG | Marketing  |
| MS   | Military Science                                   |
| MT   | Mathematics  |
| MU   | Music  |
| N    | Nursing  |
| PH   | Physics  |
| PL   | Philosophy   |
| PLS  | Political Science                                  |
| PSY  | Psychology   |
| PUB  | Public Administration                              |
| RS   | Theology and Religious Studies                     |
| SC   | Sociology  |
| SP   | Spanish  |
| US   | Diagnostic Ultrasound                              |





*Seattle University*

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**Core  
Curriculum**

## The Seattle University Core Curriculum

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

John Topel, SJ, Assistant to the President for Jesuit Identity

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

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

This university core curriculum has several distinctive characteristics:

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

The university core curriculum provides this ordered experience in three phases.

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

- A. Foundational habits — facility in asking the right questions, in critical and creative thinking, in writing and speaking skills, and in mathematical literacy.
- B. Foundations of culture — familiarity with the basic ways of knowing through a study of Western civilization, primarily in its history, literature, science and fine arts.

**Phase Two** (Person in Society) helps a student to expand horizons by confronting major modern issues. Here the student learns to interpret and to make judgments through

the methods used in the human sciences, philosophy, and religious studies. Building on the foundational skills and awareness of literature, history, science, and fine arts (from Phase One), the student delves into the issues and questions raised by economics, political science, psychology and sociology. Along with this study, he or she also discovers the philosophical and theological assumptions which underlie the patterns of human experience in society today.

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

How do these parts of the core curriculum fit together? Since many of the courses are prepared by teams of teachers, the courses connect with one another and build in sequence so that the student gets a sense of putting things together. In Phase One, the courses in writing and critical thinking, as well as the courses in history and literature, are connected and taught in clusters or sequences of 10 credits each. The same connections are made in Phase Two between the philosophy of the person and the first social science course. Finally, the entire curriculum begins with an integrated freshman year and ends with an interdisciplinary course and a senior synthesis in the final year.

## The University Core Curriculum

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

The following three-phased core curriculum is required of (a) all first-year students matriculating in 1987-88 or later; (b) all transfer students with freshman standing (less than 45 credits completed) matriculating in 1989-90 or later; and (c) all transfer students with sophomore standing (45-89 credits) matriculating in 1990-91 or later.

Beginning in 1991-92, transfer students who matriculate with 90 or more credits are required to take the following modified new core curriculum:

**I Prerequisite Courses:** All of Phase One (except PL 110), and Social Science I and II courses from Phase Two. These courses may be taken at Seattle University or by transferring equivalent credits. A transferable Washington state associate arts degree fulfills these prerequisite courses.

**II Bridge Courses:** To be taken only at Seattle University:

PL 220 or PL 220-T 5 credits  
RS 200-T or RS 300-level course 5 credits

Consult philosophy and theology departmental descriptions for specific requirements for entering these bridge courses.

**III Essential Phase Three Courses:** To be taken only at Seattle University:

Ethics 5 credits  
Interdisciplinary Course 3-5 credits  
Senior Synthesis 3 credits

Consult each major for specific guidelines for courses that fulfill these essential Phase Three requirements.

The two sequences in Phase One must normally be completed before a student may take courses in Phase Two. All of Phase Two must be completed before a student begins Phase Three. Exceptions to taking the core curriculum in sequence or in phases must have permission of the dean of the College of Arts and Sciences or the director of the university core curriculum.

## Phase One: Foundations of Wisdom

**Writing/Thinking Sequence** ..... 10 credits  
EN 110 Freshman English:

Effective Thinking and Writing 5 credits

PL 110 Introduction to  
Philosophy and Critical Thinking 5 credits

These two courses are to be taken in sequence in a 10-credit block during the fall and winter quarters of the freshman year.

**History/Literature Sequence** ..... 10 credits

HS 120 Introduction to Western Civilization 5 credits

EN 120 Masterpieces of Literature 5 credits

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

**Mathematics** ..... 5 credits

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

**Science** ..... 5 credits

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

**Fine Arts** ..... 5 credits

FA 120 Experiencing the Arts 5 credits

## Phase Two: Studies of Person in Society

**Study of Person Sequence** ..... 10 credits

PL 220 Philosophy of the Human Person 5 credits

**Social Science I** ..... 5 credits

Select one: PSY 120, SC 120, EC 120, PLS 120, ISS 120  
These two courses are normally to be taken in sequence or in a cluster in a 10-credit block.

**Social Science II** ..... 5 credits

Any five-credit course from among the following courses, as long as the discipline chosen is different from Social Science I taken in the preceding sequence:

EC 271 Principles of Economics: Macro 5 credits

PSY 210 Personality Adjustment 5 credits

PSY 220 Individual and Society 5 credits

SC 222 Social Psychology 5 credits

SC 210 American Society and Culture 5 credits

SC 230 Cultural Anthropology 5 credits

PLS 205 American National Government 5 credits

PLS 231 Diversity and Change 5 credits

PLS 253 Intro to Political Philosophy 5 credits

PLS 260 Intro to Global Politics 5 credits

Students who major in one of the social science disciplines must take both the required core curriculum social science courses outside of their major department.

**Theology and Religious**

**Studies Phase II** ..... 5 credits

Any approved five-credit course selected from RS 200-299.



## 38 Core Curriculum

### Phase Three: Responsibility and Service

**ETHICS .....5 credits**

Students have the option to select one of the following:

|        |                             |           |
|--------|-----------------------------|-----------|
| PL 312 | Social Ethics               | 5 credits |
| PL 345 | Ethics                      | 5 credits |
| PL 351 | Business Ethics             | 5 credits |
| PL 352 | Health Care Ethics          | 5 credits |
| PL 353 | Engineering Ethics          | 5 credits |
| PL 354 | Ethics and Criminal Justice | 5 credits |
| PL 358 | Communication Ethics        | 5 credits |

#### Theology and Religious

**Studies Phase III .....5 credits**

Any approved five-credit course selected from RS 300-399.

**Interdisciplinary Course .....3-5 credits**

Any three to five credits which deal with a contemporary issue from a multidisciplinary perspective. A list of approved interdisciplinary courses will be published each quarter and will be numbered 480.

**Senior Synthesis .....3 credits**

Any three-credit course or project approved by the student's major department as fulfilling the objectives of the senior synthesis requirement.



*Seattle University*

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**College of  
Arts and Sciences**

## 40 Arts and Sciences

### College of Arts and Sciences

James L. Stark, Acting Dean

#### Objectives

The College of Arts and Sciences, the oldest and 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 full and productive lives. 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 human history.

The college aims at developing not only depth in some one area of knowledge, but also the breadth of learning and understanding 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 aesthetic 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 Communication, Criminal Justice, English, Fine Arts, Foreign Languages, History, Military Science, Philosophy, Political Science/Public Administration, Psychology, Sociology, Theology and Religious Studies.

The program divisions are Addiction Studies, Honors, International Studies, Liberal Studies, Prelaw and Premajor. A certificate program is offered in addiction studies.

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. Some departments list further requirements for admission into certain major programs. Concerning these, the respective departmental sections in this bulletin should be consulted.

#### Degrees Offered

Bachelor of Arts with a major in: art, communication, drama, English, foreign languages, history, international studies, liberal studies, philosophy, political science, psychology, sociology and theology and religious studies.

Bachelor of Criminal Justice

Bachelor of Public Administration

#### General Program Requirements

Students in the College of Arts and Sciences must satisfy the core curriculum requirements of the university given in this bulletin. An additional requirement of a second five-credit course in history chosen from either HS 221 or 231 is also required of all students.

Effective fall quarter 1991, each student must complete a foreign language III course or demonstrate competence to at least that level. It is strongly recommended that students fulfill this program requirement as soon as possible in their programs.

A minimum cumulative GPA of 2.5 must be obtained in the major courses taken at Seattle University for degrees in the College of Arts and Sciences.

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.

#### Premajor

Premajor is a freshman and sophomore program for students who wish to explore academic programs and careers before committing themselves to a major program. See Premajor section for more information.

#### 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.



## Addiction Studies Programs

Linda Roise, M.A., Director

### Objectives

Addiction to alcohol and other drugs is the nation's major public health problem, with implications for family, business and industry, traffic safety, and the physical, mental and spiritual health of millions of persons. The objective of these courses is to provide a strong background for work in treatment and rehabilitation, in education and prevention, in industry or in referral centers. They also supplement the training of degreed professionals as well as students preparing to work in psychiatry or psychology, nursing, social work, rehabilitation, criminal justice, or allied fields.

### Degree Program

**Bachelor of Arts** with major in psychology and a specialty in alcohol/drug studies includes the certificate in alcohol/drug studies and may also include the advanced certificate. The certificate in alcohol/drug studies may also be a part of the bachelor's degree in criminal justice.

**Master's degrees** with a specialty in alcohol/drug studies may be earned in rehabilitation or counseling; field experiences must be done under the appropriate graduate programs instead of ADD 407-408, but will also count for the certificate.

### Certificate in Alcohol/Drug Studies

This certificate program fulfills the academic requirements for professional certification as a chemical dependency counselor I (CCDC I) in the state of Washington. It will be granted upon successful completion of 25 credits, which must include the following courses: ADD 400 (or PSY 490), 401, 402, 407, 408, 412, 414, 418, 424, 425, with a 2.50 minimum GPA.

Certificate candidates should seek regular admission status; others may register as transitional students. The certificate in alcohol/drug studies is a combination of classroom instruction (19 credits) and supervised field experience (six credits) under experienced counselors. A certificate program should be completed within three years.

### Advanced Certificate in Alcohol/Drug Studies

This certificate fulfills the academic requirements of professional certification as a chemical dependency counselor II (CCDC II), and certified chemical dependency counselor III (CCDC III), in the state of Washington. An advanced certificate in alcohol/drug studies is granted upon completion of 16 credits beyond the 25 credits applied to the above certificate. Courses must include ADD 405, 411, 426, 427, 428, and six additional elective credits in approved alcohol or drug-related courses, with a minimum GPA of 3.00.

### Addiction Studies Courses

**ADD 400 Survey of Alcoholism (Symposium)** 3 credits  
History, scope, physiological, social, psychological and family aspects of alcohol problems. Drunk driving. Progression, symptoms, types of alcoholics. Nature of addiction disease: causality, treatment and prevention. This course will satisfy the core interdisciplinary requirement.

**ADD 401 Pharmacology/Physiology of Alcohol Use** 2 credits  
Ingestion, absorption, metabolism. Behavioral effects of different blood levels. Damage to brain, liver and other organs. Pre- or corequisite: ADD 400.

**ADD 402 Counseling — Alcohol and Drugs** 4 credits  
Legal and ethical responsibilities of alcohol/drug counselors. Patient-counselor relationships, principles and techniques. Intake and intervention vs. long-range therapy. Directive vs. non-directive counseling, motivation, confrontation. Role-playing, video-tape playback. Prerequisite: ADD 400.

**ADD 403 Personal and Social Rehabilitation** 2 credits  
Motivation and personality reconstruction in the recovering person. Post-detoxication vs long-range sobriety; relapses; the dry drunk. Spiritual aspects of rehabilitation. Alcoholics Anonymous. Family and social adjustments. Al-anon and Ala-teen. Prerequisite: ADD 400.

**ADD 404 Agency Administration** 2 credits  
Personnel policies and practices, budgeting, financing, office management, public relations, personnel ethics. Informational and educational policies and techniques. Relations with school systems, courts, other professions. Prerequisite: ADD 400.

**ADD 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: ADD 400.

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

**ADD 407 Field Experience I** 3 credits  
Supervised work in an approved agency, clinic, rehabilitation center, referral center. Oral and written reports by student required. Prerequisites: ADD 400 and 402.

**ADD 408 Field Experience II** 3 credits  
Supervised work in an approved agency, clinic, rehabilitation center, referral center. Oral and written reports by student required. Prerequisite: ADD 407. Must be done in a setting different from the one used to fulfill ADD 407 requirements.

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

**ADD 411 Advanced Counseling** 2 credits  
Instruction and supervised practice in techniques of special value in counseling alcoholics and other drug addicts. Video equipment used. Two and one-half hours per week. Prerequisite: ADD 402.

**ADD 412 Group Dynamics in Treatment** 2 credits  
Role playing as a means to development of self awareness; dynamics of group interaction; introduction to psychodrama. Applications to addiction treatment. Three hours per week. Prerequisite: ADD 402.

**ADD 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: ADD 400 or equivalent.

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**ADD 414 Case Management and Assessment 2 credits**  
Stresses procedures and skills used in alcoholism referral and treatment agencies. Intake interview techniques, client evaluation, case-writing, pre-sentence report, record-keeping and confidentiality. Prerequisite: ADD 402.

**ADD 415 Modes of Therapy in Treatment 2 credits**  
Various therapies commonly used in the counseling of addicts and their spouses. Theory, principles and application. Prerequisite: ADD 407.

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

**ADD 417 Employee Assistance Programs 2 credits**  
EAP's offer assistance and referral services to all employees troubled by alcoholism, emotional distress, family crises or other problems. Policies implementing programs; training supervisors; evaluating cost-effectiveness. Prerequisite: ADD 400.

**ADD 418 Addiction and The Family 2 credits**  
Study of the family system; its function, purpose and survival mechanisms. The process of family addiction; the disease and its dysfunction. Short-term vs. long-term recovery goals. The intervention process; analysis and realistic goals. Prerequisite: ADD 402.

**ADD 419 Advanced Physiology and Pharmacology of Alcohol and Other Drugs 2 credits**  
An advanced course on current research and thought regarding effects of alcohol on body tissues. Fetal alcohol syndrome, brain, liver, and other damage. Prerequisite: ADD 401.

**ADD 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 Addiction Studies, and permission of program director.

**ADD 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/drug studies, and permission.

**ADD 422 Alcoholics Anonymous as a Resource for Professionals 1-2 credits**  
History, structure, traditions and program of AA. Psychology of the 12 Steps. Use of 12 Step programs as a resource for treatment professionals.

**ADD 424 Drug Abuse 1: 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: ADD 400.

**ADD 425 Drug Abuse 2: 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. Prerequisite: ADD 401.

**ADD 426 Addiction and Mental Illness 2 credits**  
Dual diagnosis: when psychiatric disorders coexist with addiction. Psychiatric terminology, clinical symptoms of mental illness; use of DSM-III-R in differential diagnosis; treatment and referral. Prerequisite: ADD 402.

**ADD 427 Intervention Techniques 2 credits**  
Theory and practice of intervention when a patient is unable to recognize the need for treatment. Emphasis on framework, preparation, process and referral; legal and ethical implications. Prerequisite: ADD 402.

**ADD 428 Ethics for Addiction Professionals 2 credits**  
Common problems of counselors and administrators: rights of patients, confidentiality, discrimination, incompetence, fees, personal relationships with patients, inter- and intra-professional relationships. Cooperation with AA other 12 Step groups. Prerequisite: ADD 400.

|                |                       |                    |
|----------------|-----------------------|--------------------|
| <b>ADD 491</b> | <b>Special Topics</b> | <b>1-5 credits</b> |
| <b>ADD 492</b> | <b>Special Topics</b> | <b>1-5 credits</b> |
| <b>ADD 493</b> | <b>Special Topics</b> | <b>1-5 credits</b> |

## Communication

Sharon James, Ph.D., Chairperson

### Objectives

The Communication Department provides courses designed to give students an awareness of the role of communication in human society, as well as practical experience in developing their own talents in oral, written and visual communication.

The department offers two majors, both leading to a bachelor of arts degree. One major is in communication studies. The other is in journalism and mass communication. Within the journalism and mass communication major, students may specialize in either of two areas: news-editorial journalism (for print and broadcast media) or public relations. The department also offers minors in either communication studies or journalism and mass communication.

The communication studies courses aim to provide students with a heightened awareness of oral and visual communication as they occur in a variety of contexts, including interpersonal communication, small group communication, and organizational communication. The communication studies courses offer a blend of theoretical understanding and practical experience.

The journalism and mass communication courses aim at developing a student's competence in gathering and disseminating stories through the mass media, using reporting, writing, and graphics skills. Journalism and mass communication majors can emphasize preparation for either journalistic careers in the print or broadcast media, or public relations careers for government or organizations.

### General Program Requirements

Students majoring in either communication studies or journalism and mass communication must satisfy the university core curriculum requirements. All students must complete the general program requirements of the college as found in this bulletin.

All majors must receive a minimum grade average of 2.5 in communication studies or journalism and mass communication courses to be applied toward the major.

Students majoring in journalism and mass communication should acquire sufficient background in political science and economics, such as is provided by the core offerings. Students selecting the public relations track within the journalism and mass communication major are also encouraged to take a mathematics for business course for which they are qualified (MT 118 or MT 130) to fulfill their mathematics requirement during phase one of the core. Students lacking the recommended core background should consult with the journalism and mass communications adviser before enrolling in advanced COMJ courses (300- or 400-level). Preparatory work may be required as a condition for admission to advanced COMJ courses. In addition to completing the necessary course work, majors who intend to pursue careers in journalism or public relations are expected to gain actual experience and to build a portfolio of work by participating in student media and in off-campus internships.

Majors in both communication studies and journalism and mass communications are urged to use their electives and adjunct course requirements to establish minors or substantial depth in other fields. Particularly recommended for communication studies majors are: English, psychology, sociology, journalism and mass communication and business. Especially recommended for journalism and mass communication majors are: political science, economics, history, business or one of the sciences. Students pursuing minors should plan their course schedules with their advisers as early as possible to ensure that all necessary requirements can be met.

### Teacher Education

As of fall 1990 the teacher preparation program is a graduate level program only. Those students planning to become elementary teachers or secondary journalism or speech teachers must complete a bachelor's degree prior to beginning the teacher preparation program. They should discuss their major with their communications adviser to ensure that they are enrolled in the appropriate courses. A 24-credit second endorsement is available in journalism or speech. Students planning to become teachers must contact the School of Education for advising.



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### Departmental Requirements

**Bachelor of Arts, Communication Studies** — 60 credits, of which 10 also count toward requirements fulfilling the university core curriculum (PL 358, Communication Ethics, and COMC 490, Images and Choices, Senior Synthesis).

|  |           |
|--|-----------|
| COMC 200 Media, Society and the Individual                     | 5 credits |
| COMC 230 Public Speaking                                       | 5 credits |
| COMC 260 Interpersonal Communication                           | 5 credits |
| COMC 290 Dynamics of Communication                             | 5 credits |
| COMC 331 Persuasion  | 5 credits |
| COMC 361/2 Small Group Communication                           | 5 credits |
| COMC 383 Organizational Communication                          | 5 credits |
| COMC 431 Communication and Motives: Advanced Rhetorical Theory | 5 credits |
| COMC 490 Images and Choices                                    | 5 credits |
| COMC 300 or 400 level elective                                 | 5 credits |

#### Advanced Writing Elective:

|                                   |           |
|-----------------------------------|-----------|
| COMJ or English course, 300 level | 5 credits |
| PL 358 Communication Ethics       | 5 credits |

**Bachelor of Arts, Journalism and Mass Communication** — 65 credits, of which 10 also count toward requirements fulfilling the university core curriculum (PL 358, Communication Ethics, and COMC 490, Images and Choices, Senior Synthesis).

|  |           |
|--|-----------|
| COMC 200 Media, Society and the Individual | 5 credits |
| COMJ 210 Media Writing I                   | 5 credits |
| COMJ 220 Media Writing II                  | 5 credits |
| COMJ 280-282, 380, 381                     |           |
| Practicum I - V                            | 5 credits |

or

|                                    |           |
|------------------------------------|-----------|
| COMJ 496-8 Internship              |           |
| COMC 290 Dynamics of Communication | 5 credits |

Three advanced writing courses chosen from:

|                              |            |
|------------------------------|------------|
| COMJ 300, 305, 310, 315, 320 | 15 credits |
|------------------------------|------------|

One advanced editing course chosen from:

|  |           |
|--|-----------|
| COMJ 330 or 335                                | 5 credits |
| COMJ 360 Communication Rights and Law          | 5 credits |
| PL 358 Communication Ethics                    | 5 credits |
| COMJ 490 Images and Choices (Senior Synthesis) | 5 credits |
| COMJ Electives 300/400 level                   | 5 credits |

### Journalism Track

Students concentrating in news-editorial journalism, print or electronic, **must** take COMJ 300 to meet one of their three advanced writing requirements. Students emphasizing electronic journalism **must** also complete at least one approved course in public speaking; this course does not count as COMJ credit but may count toward fulfillment of the student's conjunct course requirements or university electives.

### Public Relations Track

Students concentrating in public relations **must** take COMJ 310 to meet one of their three advanced writing requirements as well as COMJ 370 as their elective within the major. Students in public relations **must** also complete at least one approved course in public speaking and at least one approved course in marketing. These courses do not count as COMJ credit but may count toward fulfillment of the student's conjunct course requirements or university electives.

### Requirements for Minors

The Department of Communication offers two minors, one in communication studies and one in journalism and mass communication. Each requires the completion of 30 credits.

#### The Minor in Communication Studies

|  |           |
|--|-----------|
| COMC 200 Media, Society and the Individual | 5 credits |
| COMC 230 Public Speaking                   | 5 credits |
| COMC 260 Interpersonal Communication       | 5 credits |
| COMC 290 Dynamics of Communication         | 5 credits |
| COMC 361/2 Small Group Communication       | 5 credits |
| COMC 300 or 400 level elective             | 5 credits |

#### The Minor in Journalism and Mass Communications

|  |           |
|--|-----------|
| COMC 200 Media, Society and the Individual | 5 credits |
| COMJ 210 Media Writing I                   | 5 credits |
| COMJ 220 Media Writing II                  | 5 credits |

At least one advanced writing course, chosen from:

|                                       |           |
|---------------------------------------|-----------|
| COMJ 300, 305, 310, 315, or 320       | 5 credits |
| COMJ 360 Communication Rights and Law | 5 credits |
| COMJ 300 or 400 level elective        | 5 credits |

### Conjunct Requirements for All Communication Majors

The Department of Communication requires all majors to complete 10 credits of courses in certain areas beyond those required by the university core curriculum or the major. Five of the credits must be in communication-related courses outside the major. Such courses could include but are not limited to communication performance oriented offerings in drama, English, foreign language, psychology, sociology or business. Students majoring in communication studies may select courses from the mass communication program to fulfill the requirement but are encouraged to take communication-related classes outside the department. Likewise, students in mass communication may select courses in communication studies to fulfill the requirement but are encouraged to select communication-related classes outside the department.

Five of the credits must also be upper division, 300 or 400 level courses. These credits may count toward the establishment of a minor. Classes must be approved by adviser or department chair.

### Communication Studies

**COMC 200 Media, Society and the Individual** 5 credits  
Examination of the relationship between media and the individual in society; impact of mass communications upon interpersonal communications; development of the mass media and theories of its role; issues raised by the creation of "information societies."

**COMC 230 Public Speaking** 5 credits  
Theory and practice of constructing, presenting and analyzing speeches. Emphasis on audience adaptation and the development of critical listening skills. Performance-oriented course.

**COMC 260 Interpersonal Communication** 5 credits  
Communication theory and its application between two or more people. Development of knowledge, skills and insights into interpersonal communication effectiveness.

**COMC 290 Dynamics of Communication** 5 credits  
Theoretical approaches to understanding the process of communication as it occurs in both interpersonal and media settings. Emphasis on models and methodologies of communication. Overview of the communication discipline and rhetorical tradition. Prerequisite: One lower division course in communication studies.

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

**COMC 331 Persuasion** 5 credits  
Basic concepts of persuasion, including definition, nature, functions and ethics of persuasion. Focus on processes of change and systems of thought, symbol and action in interpersonal and public arenas. Prerequisite: COMC 290 or permission of instructor.

**COMC 361/2 Small Group Communication** 5 credits  
Experiential-based course designed to improve communication skills and increase awareness of various communication styles in a variety of small group settings. Focus on small group theory, problem solving group behavior, individual communication styles, listening skills, nonverbal behavior, congruent messages. Prerequisite: junior or senior standing and COMC 290 or equivalent as approved by department chair.

**COMC 383 Organizational Communication** 5 credits  
Theories and processes of communication in organizations, including analysis of communication styles and modes in organizations, communication variables and strategies, coping with organizational situations. Prerequisite: COMC 290 or equivalent as approved by department chair.

**COMC 384 Conflict Resolution** 5 credits  
Theory and techniques of conflict resolution and the application of theory to situational contexts. Focus placed on styles of resolving conflicts, situational appropriateness and effectiveness of styles, mediation theory and games theory. Prerequisites: COMC 290 and junior level standing.

**COMC 431 Communication and Motives:  
Advanced Rhetorical Theory** 5 credits  
Advanced study of issues that have been prominent throughout the history and development of the theory, practice and criticism of rhetoric (the potency of thought in expression). Organized by a thematic exploration of the nature, function and scope of rhetoric as it responds and is related to various realms of inquiry and professional human endeavor. Prerequisites: COMC 200, COMC 230, 290, 331 and senior standing.

**COMC 460 Communication and  
Social Behavior** 5 credits  
Advanced study of communication theory and its relation to the formation of self and society. Emphasis is placed on theories of symbolic interaction, meaning, semantics, and psycholinguistics. Prerequisites: COMC 290 and senior standing.

**COMC 490 Images and Choices** 5 credits  
Develops the students' understanding and skill in interpreting and using visual images. Demonstrates how our society communicates, persuades, informs, identifies and bonds through the use of visual images. Prerequisites: COMC 200, COMC 290, and senior level standing.

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

**COMC 496 Independent Study/Internship** 1-5 credits  
**COMC 497 Independent Study/Internship** 1-5 credits  
**COMC 498 Independent Study/Internship** 1-5 credits

**PL 358 Communication Ethics**  
Will be developed in cooperation with the Philosophy Department, to be offered as part of the university core curriculum.

**PL 358 Communication Ethics** 5 credits  
Ethical responsibilities of the communicator, in both interpersonal and media settings. Critical examination of ethical codes in establishing relationships and conducting communication in a democratic society. Topics covered include: lying, withholding information, conflicts of interest, objectivity, service to audiences. Prerequisites: At least one of the following: COMC 200, COMJ 210, COMC 260 or COMC 290.

## Journalism and Mass Communications

**COMJ 210 Media Writing I** 5 credits  
Narrative choices and styles common to the non-fiction mass media; using description and dialogue to effectively convey news and information; targeting stories for media audiences; writing with computers and on deadline; basic information gathering, using interviewing and library sources.

**COMJ 220 Media Writing II** 5 credits  
Techniques of writing and editing news and feature stories for the print media. Practice in writing, source development and coverage of beats. Prerequisite: COMJ 210.

**COMJ 240 Introduction to Still Photography** 5 credits  
Introduction to the basic theory, techniques and history of black-and-white still photography. Emphasis on use of the camera as an effective tool of communication. Students must have use of adjustable 35 mm camera. Lab fee.

**COMJ 280-282 Practicum I, II, III** 1,1,1 credit  
Supervised on-campus practice in writing and editing stories for media audiences.

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

**COMJ 300 Reporting Public Affairs** 5 credits  
Reporting methods used to gather information as well as monitor power and decision-making in American society, including document research, power structure research, and survey methods; the role of the journalist and ethical responsibilities; examination of specialties within media reporting, including business, environmental and legal reporting. Advanced writing techniques for in-depth stories. Prerequisite: COMJ 220.

**COMJ 305 Broadcast Writing** 5 credits  
Techniques of writing news and features for the electronic media. Writing for sound and pictures. Broadcast media style considerations. Prerequisite: COMJ 210.

**COMJ 310 Public Relations/  
Writing and Research** 5 credits  
Introduction to research for public relations, including data base use, survey methods, marketing research. Techniques of special project writing: annual reports, media packages. Prerequisite: COMJ 210 and COMJ 370.

**COMJ 315 Magazine and Feature Writing** 5 credits  
Techniques of writing non-fiction articles for magazines; shaping stories for particular magazine markets and audiences; differences in writing for newspapers and magazines; aspects of freelancing. Prerequisite: For COMJ majors, COMJ 220. For non-COMJ majors, EN 110 and permission of instructor.

**COMJ 320 Persuasive and Critical Writing** 5 credits  
Principles of persuasive writing for a media audience; constructing editorials, opinion columns and critical reviews; study of classical and contemporary models. Prerequisite: EN 110, junior standing.

**COMJ 330 Graphics and Editing:  
Print Media** 5 credits  
Techniques of communicating visually in the print media of newspapers, magazines, and newsletters. Fundamentals of visual literacy, typography, layout and design. Ethical issues facing the visual communicator. Prerequisite: junior or senior standing.

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### COMJ 335 Production and Editing: Electronic Media

5 credits

Production and editing techniques for video. Ethical issues facing the electronic media editor as technical choices are made. This course provides a general knowledge of production equipment and techniques for the communication student, not a detailed training of production technicians. Prerequisite: COMJ 305.

### COMJ 340 Advanced Still Photography

5 credits

Photographic "seeing" and printing technique. Individual projects emphasizing advanced topics in black-and-white photography. Ethical issues confronting photographers. Students must have use of adjustable 35 mm camera. Lab fee. Prerequisite: COMJ 240 or equivalent.

### COMJ 360 Communication Rights and Law

5 credits

Philosophy and law of freedom of expression in the United States; judicial and legislative approaches defining the right to communicate. The impact of technology on legal freedoms. Study of specific legal issues such as libel, the right to privacy, regulation of pornography, the right to gather information. Prerequisite: junior or senior standing.

### COMJ 370 Public Relations:

#### Cases and Strategies

5 credits

Public relations as a management function; policies, procedures and problems; program analysis and case study. Ethical issues confronting public relations professionals. Prerequisite: junior or senior standing.

### COMJ 380-381 Practicum IV, V

1,1 credit

Supervised work in writing, editing or graphics on campus media. Prerequisite: COMJ 280-2.

### COMJ 391-393 Communications and Justice

#### Special Topics

1-5 credits

Special courses examining the role of mass communications, journalism and the news media in promoting or hindering peace and the empowerment of people. Offerings vary, but may include: The mass media; war and peace; journalism and empowerment; terrorism, media and the law; communications and international development.

### COMJ 425 History of Mass Communications

5 credits

Examination of the history of mass communications with an emphasis on the relationship of communication to the manner in which societies construe reality and channel power. The evolution of the concept of "news" and its changing structure; significant historical figures and institutions in the development of mass media. Prerequisite: junior or senior standing.

### COMJ 430 Advanced Graphic Communication

5 credits

Designing graphic strategies for projects and organizations; advanced layout principles and techniques. Prerequisite: COMJ 330.

### COMJ 435 Advanced Television Production

5 credits

Open only to journalism and mass communication majors who have taken COMJ 305 and COMJ 335. Preparation and presentation of news broadcasts including reporting, scripting, shooting visuals and tape editing. Student video packages will be submitted to public access cable channel.

### COMJ 491 Special Topics

1-5 credits

### COMJ 492 Special Topics

1-5 credits

### COMJ 493 Special Topics

1-5 credits

### COMJ 496 Independent Study/Internship

1-5 credits

### COMJ 497 Independent Study/Internship

1-5 credits

### COMJ 498 Independent Study/Internship

1-5 credits

Special projects in mass communications. Internships in the mass media. For senior majors only. Permission of instructor and department chair required.

## Criminal Justice

Michael M. Kelliher, SJ, D.Crim., Chairperson

### Objectives

The objective of the Criminal Justice Department is to give students an overview of the entire system, and then consider the component parts of that system. Course clusters are offered in the areas of research and planning, criminal law, enforcement, the offender, the victim and corrections. Field placements crown this effort by placing senior students in agencies related to their special interests in order that they might test their acquired knowledge in a professional setting and situation.

The Criminal Justice Department is designed to accommodate entering freshmen, transfer students and professionals. For professionals, especially corrections and police officers, we offer courses which may not have been covered in their academy training.

The driving spirit and philosophy of the Criminal Justice Department is one which reflects the basic foundation of Jesuit education — reflection and action. We seek to develop a spirit of inquiry in students which asks "why not?" of things not tried. The department offers a facility for thinking critically and reflectively about the issues of justice and law, and the systems that deal with the offender and victim in our complex and ever-evolving society.

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

### Degree Offered

Bachelor of Criminal Justice

### General Program Requirements

Candidates must satisfy the university core curriculum requirements and must complete the general program requirements of the College of Arts and Sciences as found in this bulletin.

### Degree Requirements

**Bachelor of Criminal Justice** - 60 credits in criminal justice, which must include CJ 110 as a prerequisite and the required criminal justice courses 200, 209, 300, 312 and 318.

### Minor in Criminal Justice

Consists of 35 credits in criminal justice, which must include CJ 110 as a prerequisite, and CJ 200 and 318.

### Criminal Justice Courses

#### CJ 110 Introduction to Criminal Justice

5 credits

A survey of criminal justice processes from arrest through release, the relationships of police, prosecutor, defense, the courts and prison, as each integrates into a system. CJ 110 or equivalent is required for all majors.



**CJ 200 Deviant Behavior 5 credits**  
An overview of what American society generally regards as deviant behavior. Emphasis is placed on the results of stigmatization and the acceptance of low self-esteem. Biological, psychological and sociological models of deviancy will be discussed. CJ 200 is required for all majors. Also offered as SC 319.

**CJ 209 Criminological Theories 5 credits**  
A study of the theories from anthropology, biology, criminology, economics, political science, psychology and sociology, which are used to explain deviant and criminal behavior. CJ 209 is required for all majors.

**CJ 211 Juvenile Offenders 5 credits**  
An examination of the contemporary continuum of juvenile offenses, ranging from truancy to the drug scene. Juvenile crime as distinguished from adult crime will be discussed, as well as the interaction between the two.

**CJ 213 Juvenile Corrections 5 credits**  
An explanation of the complex problems involved in juvenile corrections, including probation, institutional care and aftercare.

**CJ 215 Careers in Criminal Justice 5 credits**  
An overview of the career choices for women and men in the field of criminal justice. Pertinent social and cultural barriers will be assessed — especially for career women in this field. Legal issues will be defined and evaluated; and career challenges and goals of successful people working in the criminal justice field will be examined.

**CJ 218 Criminal Justice Research Methods 5 credits**  
A review of statistical procedures and an introduction to the use of the computer in research. Introductory students will acquire knowledge of the basics of criminal justice research, as well as learn how to evaluate and think critically about the techniques of data collection, analysis and presentation.

**CJ 291 Special topics 1-5 credits**  
**CJ 292 Special Topics 1-5 credits**  
**CJ 293 Special Topics 1-5 credits**

**CJ 300 Society and Justice 5 credits**  
An analysis of the meaning of justice in Western culture, and its relationship to the criminal justice system. CJ 300 is required for all majors.

**CJ 303 Juvenile Justice Systems 5 credits**  
Examination and study of contemporary police-juvenile operations. Theory and examination of the juvenile justice system. Relationship between the juvenile officer, crime prevention and community relations.

**CJ 306 Police and the Community 5 credits**  
The role of the 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.

**CJ 309 Community Corrections 5 credits**  
A study of community reintegration, community treatment centers, graduated release, and the use of volunteers and offenders as manpower sources, including current models of probation and parole.

**CJ 312 Criminal Law 5 credits**  
Study of criminal law processes from detention to appeal. State and federal rules of criminal procedure. Understanding of policies, due process, self-incrimination, right to counsel, and other Constitutional issues. CJ 312 is required for all majors.

**CJ 315 Criminal Procedure 5 credits**  
A review of U.S. Supreme Court rulings on search and seizure, due process, self-incrimination, right to counsel, and other Constitutional issues.

**CJ 317 The Criminal Trial 5 credits**  
An examination of the positive and negative aspects of the criminal trial from the perspective of the judge, prosecutor, defense attorney, defendant, witnesses and jurors.

**CJ 318 The Punishment Response 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. CJ 318 is required for all majors.

**CJ 321 Polygraph 5 credits**  
An introduction to the science of polygraph — including the history, validity and reliability, use in courts, techniques and ethics.

**CJ 324 Comparative Criminal Justice Systems 5 credits**  
Comparative analysis of criminal justice systems in the U.S. and selected foreign countries; emphasis on the organizational aspects and processes.

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

**CJ 400 Victimology 5 credits**  
A survey of the victim-offender relationship, including the origin and scope of victimology, the victim and society, the victim and the administration of justice and the social reaction to victimization.

**CJ 402 White Collar Crime 5 credits**  
A comprehensive overview of criminal activity in the upper echelons of American society; e.g., corporate offenses, consumer fraud, misuse of computers, illegal practice in the professions and political deviance.

**CJ 404 Career Offenders 5 credits**  
An analysis of professional crime and organized crime from the viewpoint of the sociology of work; the criminal's utilization of technological change and the response of the criminal justice system.

**CJ 406 Female Offenders 5 credits**  
A study of the classical and contemporary accounts of the etiology of female crime, patterns of female criminal behavior and the role and treatment of women in the criminal justice system.

**CJ 408 Violent Offenders 5 credits**  
A study of the history and theory of violence, including profiles of violent offenders in the United States. An analysis of the violent mind and legal implications.

**CJ 410 Sexual Deviance and the Law 5 credits**  
Analysis of definition, problems, formal, legal and social constraints, and the criminal justice system's reaction to deviants.

**CJ 412 Adult Corrections 5 credits**  
A study of the post-arrest treatment methods applied to adult offenders. An in-depth look at the history, philosophy and detention practices of adult prisons.

**CJ 451 Criminal Justice Administration 5 credits**  
Examination of police, courts and corrections from organizational perspectives. Issues of management and leadership applied to the administration of justice.

**CJ 452 Criminal Justice Planning 5 credits**  
Introduction to planning concepts and methods, with application to both the criminal justice system and its operational agencies. Special focus on crime trends that affect the future.

**CJ 454 Criminal Justice Public Policies 5 credits**  
Analysis of public policies designed to prevent and respond to crime. Critical examination of the controversies, interests and values that compete in the development of criminal justice policy.

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### **CJ 456 The Computer and the Criminal Justice System 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. Prerequisite: An introductory course in statistics, upper division standing and permission. Also offered as PSY 385.

### **CJ 458 Field Experience I 5 credits**

### **CJ 459 Field Experience II 5 credits**

Direct observation, supervised practical experience and academic study in a selected law enforcement agency of organization in the criminal justice system. Prerequisite: upper division standing and permission.

### **CJ 461 Senior Seminar 3-5 credits**

### **CJ 480 Interdisciplinary Core Course 3-5 credits**

Title and content change each term.

### **CJ 491 Special Topics 1-5 credits**

### **CJ 492 Special Topics 1-5 credits**

### **CJ 493 Special Topics 1-5 credits**

Prerequisite: upper division standing and permission.

### **CJ 496 Independent Study 1-5 credits**

### **CJ 497 Independent Study 1-5 credits**

### **CJ 498 Independent Study 1-5 credits**

Prerequisite: upper division standing and permission.

## **Economics**

**Barbara M. Yates, Ph.D., Chairperson**

### **Objectives**

The courses in economics are designed to acquaint students with the economy in which they live 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 efficient allocation of resources, 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 Albers School of Business and Economics section for detailed information on degree program and the minor in economics.)

## English

Stephen C. Rowan, Ph.D., Chairperson

### Objectives

Interpreting texts requires the integration of many kinds of knowledge and the development of a wide variety of skills. In addition to what is known from disciplines such as history, psychology, philosophy and religious studies, the reader needs, for example, imaginative awareness, critical and analytical powers of interpretation and the ability to respond with sensitivity. Responding with texts of one's own requires skills of invention, arrangement, control of tone and mastery of style.

The English Department offers to its majors a program for learning how to understand, appreciate and use effectively the rich resources of the English language. Through its service to the core curriculum, the department helps all students to achieve these ends in some way.

The department thus contributes to the university's mission of developing persons through a liberal education, at the same time that it prepares its majors and others for service in many professions; among these are: the law, social work, business, communications, teaching, politics and foreign service.

### Degree Offered

Bachelor of Arts

### General Program Requirements

Students majoring in English must satisfy the university core curriculum as given in this bulletin, as well as the general program requirements of the College of Arts and Sciences. English majors or minors may petition to fulfill the core's level one literature requirement (EN 120) by taking EN 255 Literary Studies I. If granted, this exception will be allowed even if the student transfers to another major.

### Policy for Honors Students

Graduates of the Honors Program who have completed all of the literature classes in that program may earn an English major by taking 30 credit hours of elective courses in English at the 300 or 400 level. They may earn an English minor by taking five more credit hours in English at the 300 or 400 level.

### Departmental Requirements

**English Major:** 50 credits of English, which must include the following courses: EN 255, 256, 257 and EN 470; one directed elective from each of three areas: Biblical/classical OR comparative; medieval/renaissance; 18-19th century studies. The remaining 15 credits must be taken on the 300-400 level.

**Note:** a required course may not be used to satisfy two requirements simultaneously. Moreover, requirements of the core (for example, EN 110, EN 120, interdisciplinary courses and senior synthesis) do not satisfy requirements for the English major.

### Teacher Education

As of fall 1990 the teacher preparation program is a graduate level program only. Students planning to teach at the elementary or secondary school level must complete a bachelor's degree prior to beginning the teacher preparation program. For further information, contact the School of Education.

### Second Endorsement for Teaching English

According to the Washington Administrative Code, teachers must meet minimum standards in a subject area in order to be qualified for a second endorsement in that subject area. The standards for English are:

24 quarter hours in the following subject areas:

1. American literature
2. English literature
3. Comparative literature
4. Linguistics or structure of language
5. Writing/composition

### Explanation of the Code for Courses

Courses that fulfill requirements for the English major, the core curriculum, and the second endorsement for teaching English are designated by the following code:

- A — American;
- BC — Biblical/Classical and Comparative;
- Co — Core;
- E — 18-19th Century Studies;
- L — Language;
- MR — Medieval/Renaissance;
- P — Pedagogy;
- S — Seminar;
- W — Writing.

### English Minor

To receive a minor in English, a student must take 25 credits beyond EN 110 and 120. At least two of these courses must be EN 255, 256. The rest must be taken from the 300-400 levels.

### Bachelor of Arts

Suggested program sequence

#### Freshman year

- English 110/Philosophy 110 Sequence ..... 10 credits
- English 120 (or 255) ..... 5 credits
- Fine Arts 120 ..... 5 credits
- \*Foreign Language or Electives ..... as required
- History 120 ..... 5 credits
- Mathematics Core ..... 5 credits

\*Demonstrate competence in Language III

#### Sophomore year

- English 255, 256, 257 ..... 15 credits
- Lab Science Core ..... 5 credits
- Philosophy 220/Social Science I Sequence ..... 10 credits
- Social Science II ..... 5 credits
- Theology and Religious Studies Phase II ..... 5 credits
- History 221 or 231 ..... 5 credits



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### Junior year

|  |            |
|--|------------|
| Ethics .....                                     | 5 credits  |
| Theology/Religious Studies Phase III .....       | 5 credits  |
| Classical/Biblical or Comparative elective ..... | 5 credits  |
| Medieval/Renaissance elective .....              | 5 credits  |
| 18-19th Century Studies elective .....           | 5 credits  |
| University electives .....                       | 20 credits |

**Note:** Students intending to be teachers are advised to take a course in Language (EN 201 or 400) and Pedagogy (EN 410).

### Senior year

|  |            |
|--|------------|
| Seminar/upper division electives ..... | 20 credits |
| University electives .....             | 15 credits |
| Interdisciplinary Course (Core) .....  | 5 credits  |
| Senior Synthesis (Core) .....          | 5 credits  |

## English Courses

### EN 101 Basic Writing 5 credits

Instruction and practice in basic writing skills with emphasis on generating, organizing and developing ideas in paragraphs and short essays. Emphasis, also, on control of sentence structure, punctuation and standard usage. Through focus on the writing process, the course aims to increase students' self-confidence as writers. Counts toward graduation, but does not satisfy core writing requirements. W

### EN 110 Freshman English 5 credits

Focuses on reading and writing as creative, interpretive and argumentative acts. Seeks to develop the rhetorical skills of invention, arrangement, style and correctness, needed for college success. W and Co.

### EN 120 Masterpieces of Literature 5 credits

A study of narrative, drama and poetry. The student will learn to appreciate how these literary forms embody metaphoric, poetic and mythic ways of knowing; through writing assignments, the student will also learn how to respond to literature. Co

### EN 191 Special Topics 1-5 credits

### EN 192 Special Topics 1-5 credits

### EN 193 Special Topics 1-5 credits

### EN 201 Advanced Grammar and Vocabulary 5 credits

A study of traditional English grammar as it relates to issues of usage, punctuation, structural correctness and rhetorical effect in standard written English. A study of the formation, meaning and nuances of words, with attention to questions of usage and accuracy. L

### EN 202 Advanced Grammar 3 credits

### EN 203 Vocabulary 2 credits

### EN 255 Literary Studies I: Forms of a Text 5 credits

### EN 256 Literary Studies II: Cultural Contexts 5 credits

### EN 257 Literary Studies III: Texts and Versions 5 credits

An introduction to the principles of literary interpretation through the study of classical and contemporary texts. Through writing and library assignments, students learn the resources for understanding, evaluating and responding critically, imaginatively and effectively to literary works. I. 255; An introduction to figurative ways of knowing such as metaphor, to the "formal" elements of narrative such as plot, character, setting and point of view, and to generic forms such as tragedy and comedy; open to all students. II. 256; The study of texts in the context of their times and as the works of authors. Prerequisite: EN 255; III. The study of texts as sources of one another or as different voices addressing a common theme. Prerequisites: EN 255 and 256. All three courses are required of English majors.

### EN 291 Special Topics 1-5 credits

### EN 292 Special Topics 1-5 credits

### EN 293 Special Topics 1-5 credits

### EN 305 Writing Fiction 5 credits

Students will learn the theory, techniques and practice of writing short stories by using their imaginations actively in order to present life and characters through fiction. W

### EN 308 Advanced Writing: Argument and Persuasion 5 credits

Argumentative writing for a public forum on issues of policy or other socially significant issues. Study of the rhetoric of argumentation with attention to the use of evidence, the internal logic of argument, and the appeal to an audience's sympathies. Development of a flexible prose style that can be adapted to a variety of rhetorical situations and audiences. Prerequisite: EN 110 and junior standing or EN 210 (Intermediate Writing). W

### EN 316 Writing Poetry 5 credits

Study and practice in the modes and techniques of poetic composition. W

### EN 317 Mythology 5 credits

The study of the myths of ancient Greece as well as other cultures in order to understand their significance and meaning in the original cultural context and their enduring, archetypal implications. BC

### EN 319 Children's Literature 5 credits

Historical contexts and interpretations of folk and fairy tales as well as the study of traditional and contemporary modes of narrative for young readers. The course includes interpretive and creative writing assignments.

### EN 320 The Bible as Literature 5 credits

A study of the Jewish and Christian scriptures with emphasis on their status as texts which engage and shape a reader's response. Possible works to be studied include: *Genesis*, *Exodus*, *1 and 2 Samuel*, *Job*, *Isaiah*, the Gospels of Mark and John, *Romans*, and *Revelation*. BC

### EN 323 Glory and Grandeur: The Literature of Greece and Rome 5 credits

A study of the literature, art and philosophy of Greece and Rome, with special emphasis on Greece. Works studied may include such works as *The Odyssey*, *Agamemnon*, *Oedipus Rex*, *Antigone*, *The Trojan Women*, *Lysistrata*, selected dialogues of Plato, Aristotle's *Poetics*, *The Aeneid* and selected plays by Plautus. BC

### EN 326 Dante's Divine Comedy 5 credits

A study of *The Divine Comedy: Inferno, Purgatorio, and Paradiso*, with emphasis on both its peculiarly medieval synthesis of thought and on its contemporary appeal as a "classic." MR

### EN 328 Chaucer 5 credits

A study of Chaucer's *Canterbury Tales* and other works such as his short poems or the *Troilus*. The emphasis is on Chaucer's craft as a storyteller, his creative use of sources, and the range of his wit. MR

### EN 330 Shakespeare 5 credits

A study of selected plays of Shakespeare with special attention to his craft as a playwright and to contemporary approaches of criticism. MR

### EN 331 Shakespeare in Performance 5 credits

A study of Shakespeare's plays with emphasis on versions available both on film and in the theatre, especially those presented in Seattle and at the Ashland Festival. Emphasis, too, on student performance of the plays. Students will have the option of attending plays at Ashland or of doing an alternative project. MR



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**EN 423 Irish Literature** 5 credits  
A study of major figures of the Irish Renaissance and their cultural background in the late 19th century; writers such as Yeats, Joyce, O'Casey and Synge will be studied.

**EN 425 The Russian Novel** 5 credits  
Historical influences on the development of the form and content of the Russian novel from the Classical period of Soviet literature. Representatives of the Classical period include Tolstoy and Dostoevsky; representatives of the post-revolutionary period include Gladkov, Bulgakov, Pasternak, Solzhenitsyn and Trifonov. BC

**EN 427 Eastern Literature** 5 credits  
An introduction to the literatures of China and Japan with a strong emphasis on the influence of Eastern religions and philosophies on the aesthetic forms. The historical significance of dynastic rule and the influences of Western literature and culture on the literary output of the 19th and 20th centuries is also highlighted. BC

**EN 430 Japanese Drama** 5 credits  
A study of the development of the major Japanese theatrical forms, together with a comparative examination of Greek and Elizabethan tragedy. BC

**EN 435 Short Story Literature** 5 credits  
A study of the elements and historical development of the short story in its variety of types and emphases.

**EN 440 Women and the Creative Imagination** 5 credits  
Through theoretical texts, literature, art and films, this course explores the creative imagination of women as well as the perceptions by which women have been defined and define themselves.

**EN 470 Seminar** 5 credits  
The close study of a major author, a cultural period or a literary genre or theme. Topics will include such authors as Hopkins and Joyce; periods such as Medieval and Modern; genres such as satire; and themes such as existentialism. Topics for each year are available through the English Department. Required of English majors. Class size will be limited. Prerequisite: permission of the chairperson. S

**EN 480 Interdisciplinary Course** 3-5 credits  
The exploration of contemporary issues and problems by means of several disciplines, including language and literature. Topics will include *language and propaganda*, *love and marriage* and *literature and society*. Topics for each year are available through the English Department. Co

**EN 490 Literary Theory** 5 credits  
Depending on the instructor, the course examines the texts of historical and contemporary critical theory and their influence on the writing and reading of literature. Other issues, such as the nature of art, beauty and literature or the relationship between a society and its literature may also be discussed. Recommended especially for students preparing for advanced study.

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

**EN 495 Senior Synthesis** 5 credits  
Through the study of a selected theme, the learning of a liberal education, especially through literature, is applied to questions which prepare students for leadership and professional service. Themes such as *points of transition* or *freedom and community* will be offered in different years. Level Three. Core option. Open to all qualified students. Co

**EN 496 Independent Study**  
**EN 497 Independent Study**  
**EN 498 Independent Study**

## Fine Arts

**William J. Dore, M.A., Chairperson**

### Objectives

Through its degree programs and its service to the university, the Fine Arts Department provides a unique "living out" of the central values of a liberal education. Its students, through individual courses and major curricula, receive significant training in both the theory and practice of the arts. Consciously avoiding the one-dimensional formation of either a strictly conservatory or an exclusively academic model of arts education, each major offers students a distinctive opportunity to integrate serious reflections and intense participation, providing a well-rounded experience of each discipline.

### Degree Offered

**Bachelor of Arts**

### General Program Requirements

Students majoring in fine arts must satisfy the university core curriculum requirements, as given in this bulletin, and must complete the general program requirements of the College of Arts and Sciences.

### Departmental Requirements

#### Bachelor of Arts — Major in Art

60 credits which must include FA 101, Art 221, 222, 223, 231, 232, 233, 311, 312, 321, 334, 346, 351, 499; plus 11 credits of art electives. In addition, majors choose a concentration (track) totaling 10 credits in printing (Art 335, 336, 434, and 435); or painting (Art 347, 348, 446, and 447); or sculpture (Art 351, 353, 451, and 452).

#### Bachelor of Arts — Major in Drama

65 credits which must include FA 102, DR 100, 210, 222, 264, 265, 266, 267, 330, 331, 332, 354, 355, 356, 420, 470, plus 10 credits of drama electives. In addition, if following a performance track; DR 215, 221, 422; if following a production track; DR 280, 364, 366. All majors must fulfill a participation requirement each quarter by working in some area on every show.

**Non Major Students** — As elective choices, courses through the 300 level are open to students in other fields. Many complement the work in other majors (e.g. art history on and of the following: English, history, philosophy, or religious studies) and the department cordially welcomes all members of the school community. Prerequisites, however, should be noted where they exist.

### Teacher Education

As of fall 1990 the teacher preparation program is a graduate level program only. Students planning to become elementary teachers or secondary art or drama teachers must first complete a bachelor's degree and must contact the School of Education for advising. Second endorsements are also available in art and drama.



### Undergraduate Minor in Studio Art

30 credits which include FA 101, Art 311 or Art 312, and 20 credits in consultation with an art adviser.

### Undergraduate Minor in Art History

30 hours of art history including Art 311, 312 and five credits of independent study/methods.

### Undergraduate Minor in Drama Production or Performance

30 credits which include FA 102, DR 210, and 20 credits in consultation with a drama adviser.

### Undergraduate Minor in Music

30 credits: MU 101, 102, 103, 201, 202, 203, plus six credits in music ensemble and six credits in music lessons in any combination of lessons.

## Fine Arts Sequence

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

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

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

**FA 120 Experiencing the Arts** 5 credits  
Aesthetics-based exploration of the arts, focused on enhancing ability to experience and make decisions about aesthetic qualities in man-made and natural objects and events in the environment. Interdisciplinary in art, music and drama. Lectures and practical experience. Core requirements for freshmen.

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

## Art Courses

**ART 221 Drawing (Emphasis - Line)** 2 credits  
**ART 222 Drawing (Emphasis - Value)** 2 credits  
**ART 223 Drawing (Emphasis - Composition)** 2 credits

**ART 231 Design (Emphasis - Value)** 2 credits  
**ART 232 Design (Emphasis - Color Theory)** 2 credits  
**ART 233 Design (Emphasis - Three-Dimensions)** 2 credits

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

**ART 311 Art History (Prehistoric through Gothic)** 5 credits

**ART 312 Art History (Renaissance through 20th Century)** 5 credits

**ART 313 Art History (Non-Western Art)** 5 credits

**ART 321 Advanced Drawing** 3 credits  
Study of the human form, special problems in group composition. Prerequisite: ART 221, 222, 223, or permission of instructor. Maximum nine credits.

**ART 334 Printmaking (Emphasis - Relief)** 2 credits  
Prerequisites: ART 221 and 231 or permission of instructor.

**ART 335 Printmaking (Emphasis - Stencil)** 2 credits  
Prerequisite: ART 334 or permission of instructor.

**ART 336 Printmaking (Emphasis - Planographic)** 2 credits  
Prerequisite: ART 335 or permission of instructor.

**ART 346 Painting** 2 credits  
Prerequisites: ART 221 and 231 or permission of instructor.

**ART 347 Painting** 2 credits  
Prerequisite: ART 346 or permission of instructor.

**ART 348 Painting** 2 credits  
Prerequisite: ART 347 or permission of instructor.

**ART 351 Sculpture** 2 credits  
Prerequisites: ART 221 and 233, or permission of instructor.

**ART 352 Sculpture** 2 credits  
Prerequisite: ART 351 or permission of instructor.

**ART 353 Sculpture** 2 credits  
Prerequisite: ART 352 or permission of instructor.

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

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

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

**ART 434 Advanced Printmaking** 3 credits  
The principles and practices of rendering in graphic media; complex composition; advanced problems. Prerequisite: ART 336 or permission of instructor.

**ART 435 Advanced Printmaking** 3 credits  
Prerequisite: ART 434

**ART 436 Advanced Printmaking** 3 credits  
Prerequisite: ART 435

**ART 446 Advanced Painting** 3 credits  
Experimental research toward the development of a creative and personalized idiom. Synthesis and research. Prerequisite: ART 348 or permission of instructor.

**ART 447 Advanced Painting** 3 credits  
Prerequisite: ART 446

**ART 448 Advanced Painting** 3 credits  
Prerequisite: ART 447

**ART 451 Advanced Sculpture** 3 credits  
Prerequisite: ART 353 or permission of instructor.

**ART 452 Advanced Sculpture** 3 credits  
Prerequisite: ART 451

**ART 453 Advanced Sculpture** 3 credits

**ART 480 Interdisciplinary Core Course** 3-5 credits  
Title and content change each term.

**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  
Prerequisite: Advanced standing in art and permission of instructor.

**ART 499 Senior Thesis and Exhibit** 3 credits  
Designed for graduating art majors, a summation of a body of work accomplished during their studies, evaluation through discussion. Public exhibition of work. Compilation of a professional portfolio and resume.

## Drama Courses

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**DR 470 Theatre Organization and Management** 2 credits  
Establishing and operating a theatre, including planning, budgeting, accounting, staffing, production selection, promotion, ticket sales and fund raising. Offered every other year.

**DR 480 Interdisciplinary Core Course** 3-5 credits  
Title and content change each term.

**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

This program offers to Seattle University students an opportunity to gain insights and skills in four aspects of the field: the experience of ensemble participation, the achievement of performance skills, the knowledge of pathways in music history, and the application of creativity in composition and arranging. There is a private music lesson fee. (See cost page). All courses which may be taken more than once are indicated with an asterisk (\*) next to the credits.

**MU 101 Music Basics 1** 3 credits  
Examination of the elements of music. The study of melody and creative writing. No prerequisites. Fall quarter only.

**MU 102 Music Basics 2** 3 credits  
Chording and accompaniment. The study of chord types and progressions used in songs. Applicable to both popular and classical music. Winter quarter only.

**MU 103 Music Basics 3** 3 credits  
A practical approach to arranging harmonized melodies for various vocal and instrumental ensembles. Spring quarter only.

|  |                                  |                     |
|--|----------------------------------|---------------------|
| <b>MU 110</b>  | <b>Piano Lessons</b>             | <b>*1-2 credits</b> |
| Mandatory CR/E; maximum 12 credits.  |                                  |                     |
| <b>MU 111</b>  | <b>Voice Lessons</b>             | <b>*1-2 credits</b> |
| Mandatory CR/E; maximum 12 credits. Prerequisite: MU 140 or permission of instructor.  |                                  |                     |
| <b>MU 118</b>  | <b>String Instrument Lessons</b> | <b>*1-2 credits</b> |
| Violin, viola, cello, contrabass. Mandatory CR/E; maximum 12 credits.  |                                  |                     |
| <b>MU 119</b>  | <b>Wind Instrument Lessons</b>   | <b>*1-2 credits</b> |
| Flute, clarinet, saxophone, oboe, bassoon. Mandatory CR/E; maximum 12 credits.   |                                  |                     |
| <b>MU 123</b>  | <b>Classical Guitar Lessons</b>  | <b>*1-2 credits</b> |
| Mandatory CR/E; maximum 12 credits.  |                                  |                     |
| <b>MU 124</b>  | <b>Brass Instrument Lessons</b>  | <b>*1-2 credits</b> |
| Trumpet, French horn, trombone. Mandatory CR/E; maximum 12 credits.  |                                  |                     |
| <b>MU 125</b>  | <b>Organ Lessons</b>             | <b>*1-2 credits</b> |
| Mandatory CR/E; maximum 12 credits.  |                                  |                     |
| <b>MU 129</b>  | <b>Percussion Lessons</b>        | <b>*1-2 credits</b> |
| Mandatory CR/E; 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>Instrumental Ensemble</b>     | <b>*1 credit</b>    |
| Maximum 12 credits.  |                                  |                     |
| <b>MU 140</b>  | <b>Beginning Voice Class</b>     | <b>1 credit</b>     |
| <b>MU 141</b>  | <b>Beginning Guitar Class</b>    | <b>*1 credit</b>    |
| Maximum three credits.   |                                  |                     |
| <b>MU 201</b>  | <b>Music History 1</b>           | <b>3 credits</b>    |
| <b>MU 202</b>  | <b>Music History 2</b>           | <b>3 credits</b>    |
| <b>MU 203</b>  | <b>Music History 3</b>           | <b>3 credits</b>    |
| Topical studies in music history announced on a yearly basis. Quarterly topics will range from history of jazz, Amadeus, Beethoven symphonies, opera, to history of popular music. |                                  |                     |
| <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/E, maximum 12 credits.  |                                  |                     |
| <b>MU 311</b>  | <b>Voice Lessons</b>             | <b>*1-2 credits</b> |
| Mandatory CR/E, maximum 12 credits.  |                                  |                     |
| <b>MU 318</b>  | <b>String Instrument Lessons</b> | <b>*1-2 credits</b> |
| Mandatory CR/E, maximum 12 credits.  |                                  |                     |
| <b>MU 319</b>  | <b>Wind Instrument Lessons</b>   | <b>*1-2 credits</b> |
| Mandatory CR/E, maximum 12 credits.  |                                  |                     |
| <b>MU 323</b>  | <b>Classical Guitar Lessons</b>  | <b>*1-2 credits</b> |
| Mandatory CR/E, maximum 12 credits.  |                                  |                     |
| <b>MU 324</b>  | <b>Brass Instrument Lessons</b>  | <b>*1-2 credits</b> |
| Mandatory CR/E, maximum 12 credits.  |                                  |                     |
| <b>MU 325</b>  | <b>Organ Lessons</b>             | <b>*1-2 credits</b> |
| Mandatory CR/E, maximum 12 credits.  |                                  |                     |
| <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 480</b>                       | <b>Interdisciplinary Core Course</b> | <b>3-5 credits</b> |
| Title and content change each term. |                                      |                    |
| <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> |



## 56 Arts and Sciences

### Foreign Languages

James L. Stark, D.A., Chairperson

#### Objectives

The foreign language programs in French, German, Japanese, 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 multidisciplinary courses and programs.

#### Degree Offered

Bachelor of Arts

#### General Program Requirements

Students majoring in a foreign language must satisfy the university core curriculum requirements, as given in this bulletin. All students must complete the general program requirements of the College of Arts and Sciences.

#### 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.

##### Teacher Education

Those students planning to become elementary or secondary foreign language teachers should major in one of the following languages: French, German, or Spanish. A 24 credit second endorsement is also available in each of these languages. Students planning to become teachers must contact the School of Education for advising.

##### 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.

##### International Studies:

A foreign languages concentration is also offered as an option in the international studies major. Please see International Studies section.

**The Reading Program** (sequence of two courses: FR 105, FR 106) prepares the student to translate 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 in some languages during the summer and fall 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.

#### Study Abroad

The foreign languages department offers French-in-France in Grenoble, France. In an intensive program, students may complete a full college year of French language on campus fall term, with winter and spring spent abroad studying language, culture and civilization under the direction of Seattle University faculty.

The university also has established reciprocal exchange programs with international universities. Before attending Karl Franzens Universität in Graz, Austria, a student must have at least two years of college-level German, because all coursework will be in German. An exchange program with the comparative culture faculty at Sophia University in Tokyo, Japan, allows direct enrollment with one year of previous Japanese language. While continuing language study, students take other coursework in English. Students from any major may apply for these programs which allow continued enrollment and financial aid benefits at Seattle University.

## 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 20 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 international 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

Suggested program sequence.

### Freshman Year

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

### Sophomore Year

|  |            |
|--|------------|
| Philosophy 220/Social Science I Sequence ..... | 10 credits |
| Lab Science Core .....                         | 5 credits  |
| Social Science Core II .....                   | 5 credits  |
| Theology and Religious Studies Phase II .....  | 5 credits  |
| Major Language 215, 225, 235 .....             | 15 credits |
| History 221 or 231 .....                       | 5 credits  |

### Junior Year

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

### Senior Year

|                                 |            |
|---------------------------------|------------|
| Senior Synthesis .....          | 3 credits  |
| Major Language .....            | 10 credits |
| Minor Language (Optional) ..... | 15 credits |
| Electives .....                 | 17 credits |

Total ..... 180 credits

## Modern Language Courses

### French Courses

|   |                     |           |
|---|---------------------|-----------|
| FR 105  | Reading French      | 5 credits |
| FR 106  | Reading French      | 5 credits |
| An intensive two-course program of study of written French for reading and translation with accuracy and comprehension. |                     |           |
| FR 115  | French Language I   | 5 credits |
| FR 125  | French Language II  | 5 credits |
| FR 135  | French Language III | 5 credits |
| FR 215  | French Language IV  | 5 credits |
| FR 225  | French Language V   | 5 credits |
| FR 235  | French Language VI  | 5 credits |

An intuitive approach to understanding, speaking, reading and writing French. These courses constitute a systematic, programmed study of the French language. All of the French language courses are taught in French.

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

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

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

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

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

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

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

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

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

### German Courses

|        |                     |           |
|--------|---------------------|-----------|
| GR 115 | German Language I   | 5 credits |
| GR 125 | German Language II  | 5 credits |
| GR 135 | German Language III | 5 credits |
| GR 215 | German Language IV  | 5 credits |
| GR 225 | German Language V   | 5 credits |
| GR 235 | German Language VI  | 5 credits |

An intuitive approach to understanding, speaking, reading, and writing in German. These courses constitute a systematic, programmed study of the German language. All German language courses are taught in German.

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

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

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

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

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### GR 431 German Literature and Culture, 19th Century 5 credits

An integrative study of the historical, philosophical and literary diversity of the German-speaking world as it manifests itself in the major literary works of the 19th century.

### GR 436 German Literature and Culture, 20th Century 5 credits

A survey of 20th century German literature and culture which reflects the social, political and intellectual trends of modern Germany.

### GR 440 German Classicism and Romanticism 5 credits

A study of the origins, characteristics and major literary expressions of these two important German literary movements.

### GR 446 Literary Trends of Modern Austria, West and East Germany 5 credits

A study of the current trends in modern literature in German-speaking countries.

### GR 450 Methodology of Teaching German 5 credits

An overview of the various methods and approaches currently being used to teach German.

### GR 452 Language Development/Modern German 5 credits

An in-depth study of modern German with emphasis on advanced vocabulary and grammar concepts. Analysis of contemporary works which reflect the changes taking place in modern Germany.

## Japanese Courses

### JA 115 Japanese Language I 5 credits

### JA 125 Japanese Language II 5 credits

### JA 135 Japanese Language III 5 credits

### JA 215 Japanese Language IV 5 credits

### JA 225 Japanese Language V 5 credits

### JA 235 Japanese Language VI 5 credits

An intuitive approach to understanding, speaking, reading, and writing in Japanese. These courses include practice in reading and writing, kanji, hiragana, and katakana.

## 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

### GR 102 Greek Language II 5 credits

### GR 103 Greek Language III 5 credits

Intensive study of Attic grammar with elementary reading and composition. Greek 103 includes reading selections from classical Attic and Koine (New Testament) authors.

### Latin Courses

### LT 101 Latin Language I 5 credits

### LT 102 Latin Language II 5 credits

### LT 103 Latin Language III 5 credits

Intensive study of grammar with elementary reading and composition. Latin 103 includes selections from classical authors.

## Foreign Language Courses – Special Topics/Independent Study In Any Language

### FL 191 Special Topics 1-5 credits

### FL 192 Special Topics 1-5 credits

### FL 193 Special Topics 1-5 credits

### FL 196 Independent Study 1-5 credits

### FL 197 Independent Study 1-5 credits

### FL 198 Independent Study 1-5 credits

### FL 291 Special Topics 1-5 credits

### FL 292 Special Topics 1-5 credits

### FL 293 Special Topics 1-5 credits

### FL 296 Independent Study 1-5 credits

### FL 297 Independent Study 1-5 credits

### FL 298 Independent Study 1-5 credits

### FL 391 Special Topics 1-5 credits

### FL 392 Special Topics 1-5 credits

### FL 393 Special Topics 1-5 credits

### FL 396 Independent Study 1-5 credits

### FL 397 Independent Study 1-5 credits

### FL 398 Independent Study 1-5 credits

### FL 491 Special Topics 1-5 credits

### FL 492 Special Topics 1-5 credits

### FL 493 Special Topics 1-5 credits

### FL 496 Independent Study 1-5 credits

### FL 497 Independent Study 1-5 credits

### FL 498 Independent Study 1-5 credits



## 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, folk lore, 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.

### Degree Offered

Bachelor of Arts

### General Program Requirements

Students in history must satisfy the university core curriculum requirements as given in this bulletin and must complete the general program requirements of the College of Arts and Sciences.

### Departmental Requirements

**Bachelor of Arts** — 60 credits including HS 120 and 221 (or equivalent), HS 300, 339 or 349 and HS 400. Of the remaining 35 credits, 25 are to be taken in a specific area (Western Europe, United States, Russia-China-Japan) and must include five credits of 400-level seminar.

**Undergraduate Minor** — The department offers two approaches to a minor in history:

**General Minor** — 35 credits of history of which HS 120, 221 and HS 300 are required. The remaining 20 hours to be taken with the approval of the student's adviser from either one or two areas of concentration.

**Minor in 20th Century Historical Studies** — 35 credits of history of which HS 120, 221 and HS 300 are required. The remaining 20 hours to be taken in history courses directly focused upon the 20th century and/or in those courses directly related to 20th century history.

### Teacher Education

As of fall 1990 the teacher preparation program is a graduate level program only. Students planning to become elementary teachers or secondary history or social studies teachers must complete a bachelor's degree prior to beginning the teacher preparation program. They should discuss their major with their history adviser to ensure that they are enrolled in the appropriate courses and must contact the School of Education for advising. Second endorsements are available in history (24 credits) and social studies (45 credits).

**International Studies** — A history concentration is also offered as an option in the international studies major. See International Studies section for details.

### History Courses

**HS 120 Introduction to Western Civilization 5 credits**  
Survey of the traditional societies of the Western world, their values, institutions and historical development from the ancient world to the 18th century.

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

**HS 221 Modern Western Civilization 5 credits**  
An analysis of the modernizing Western world of the 19th and 20th centuries, the spread of modernization to the non-West and the tension between traditional and modernizing societies as a global problem of the 20th century.

**HS 231 Survey of the United States 5 credits**  
A topical survey focusing on the United States as a model of the modern society and an analysis of the conflicts generated by competing traditional and modern value systems in American society.

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

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

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

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

**HS 303 Foundations of European Civilization 5 credits**  
The emergence of the Carolingian Empire and AngloSaxon 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 Renaissance Era 5 credits**  
A study and interpretation of the many facets of change which brought the Middle Ages to an end and began the distinctive modern developments in the West, 1350-1550.

**HS 309 Europe in the Reformation Era 5 credits**  
Study of the political responses by the "new monarchies" and the religious responses of the Christian churches to the new socio-economic conditions and cultural transformations of Western modernity, 1500-1660.

**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.

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- HS 317 Peace and War in Western Civilization** 5 credits  
Examination of major concepts regarding the nature of peace and war from classical times to the present. A review of efforts to define, achieve and insure peace in the Western tradition, social, political and philosophical-theological opposition to, or support for, war.
- HS 319 World Wars I and II** 5 credits  
An examination of the causes, course, and interrelationship of these two wars and their bitter legacy to the 20th century. Social, economic and political factors are examined, as are diplomatic and military leadership.
- HS 321 Modern France** 5 credits  
Development of cultural and political France from the 17th century to the present.
- HS 323 Tudor-Stuart England, 1450-1715** 5 credits  
A study of a traditional society whose monarchs guided the nation through modernizing and reforming political and religious changes in the 16th century, only to be challenged and defeated by the aristocracy, a capitalist economy and the House of Commons in the 17th century.
- HS 325 Modern England, 1715-Present** 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 20th century.
- 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 1920s, 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 342 American Ethnic Minorities** 5 credits  
A study of the reciprocal relationships between the dominant majority in the United States and some of its ethnic minorities; the experiences of those minorities; racist and ethnocentric thought and policies in selected periods of United States history.
- 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 347 U.S. Diplomatic History** 5 credits  
The development of the United States as a world power from the 1890s to the present with emphasis on the history of foreign relations.
- HS 349 Contemporary U.S. Since 1945** 5 credits  
An examination of the major changes in the period after the Second World War, with special emphasis on the development of American pluralism.
- 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 419 Great Historical Figures** 5 credits  
An analysis of a major historical figure in the context of his or her times. Considers the impact of an individual upon events as well as that of events upon the individual.
- 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 Confederate United States.
- HS 435 American Civil War and Reconstruction** 5 credits  
Political, social and economic aspects of the American Civil War and reconstruction.
- HS 480 Interdisciplinary Core Course** 3-5 credits  
Title and content may change each term.
- 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, SJ, 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 251. Completion of the Honors Program satisfies university core curriculum requirements, except those in mathematics, interdisciplinary course and senior synthesis. 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    | 4 credits |
| HU 103   | Humanities Seminar — Thought    | 4 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    | 3 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    | 4 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 251   | Humanities Seminar — Sociology  | 4 credits    |
| A study of 19th and 20th century sociological thought and its relevance to current issues: Marx, Dukheim, Weber and others.  |                                 |              |
| 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 480   | Interdisciplinary Core Courses  | 3-5 credits  |
| Title and content change each term.  |                                 |              |
| HU 499   | Humanities Senior Seminar       | 5 credits    |
| Reading and discussion of major synthetic literature in the humanities on selected topics. Prerequisite: approval of instructor.   |                                 |              |



## 62 Arts and Sciences

### Interdisciplinary Studies – Social Science

Bradley Scharf, Ph.D., Interim Coordinator

#### Objectives

Contemporary society is marked by many changes and controversies about how major institutions can best respond to emergent problems. Public engagement begins with moral awareness, but the path to effective action runs through systematic analysis of aggregate human behavior.

Interdisciplinary social science courses take students beyond common sense to the point where value choices meet studies of general causation. Students become involved in the definition of important issues, as well as in the actual practice of using empirical data to sort out alternative modes of action.

#### Interdisciplinary Social Science Courses

ISS 120 Social Science Inquiry 5 credits  
Major issues of contemporary societal life are explored with the resources of economics, political science and sociology. Focus on the constructive interplay of normative and empirical analysis. Correlates with Philosophy 220.

#### International Studies Objectives

The International Studies Program is an interdisciplinary program which permits a multifaceted focus on Asia, Europe and Latin America. The aim of the program is to provide Seattle University students with the opportunity to study their disciplinary concentration while examining the social, political, economic and cultural influences of a foreign country and how these influences affect that discipline. The perspectives acquired through this program will provide the student with an awareness and greater understanding of how one reacts not only to one's own cultural experiences, but also to the cultural values of another country. As a result of the student's studies and foreign experience, they will develop those qualities which will allow them to interact in an international setting.

#### Degree Offered

##### Bachelor of Arts

A concentration is selected from one of the four disciplines: economics, foreign language, history or political science.

#### Program Requirements

Students in international studies must satisfy the university core curriculum requirements as well as requirements of the College of Arts and Sciences. In fulfilling these requirements, students must incorporate the following courses, which serve as prerequisite to the international studies major and minor: Foreign Language 115 and 125 or equivalent; Economics 271 and 272; History 221.

#### Study Abroad

The International Studies Program will be offering university-approved study abroad opportunities, either through exchange, consortia, or independent programs. Each program will demonstrate high academic standards within an educational philosophy that insists upon theoretical and practical interaction within each cultural setting. An acceptable study abroad experience encompasses a minimum of 25 quarter credits or 15 semester credits and must be earned in courses taught in the local vernacular.

#### Major Requirements

Students must select one of the four disciplinary concentrations:

##### Economics Concentration

EC 372 National Income Analysis ..... 5 credits  
EC 374 Intermediate Price Theory ..... 5 credits  
Upper-division International Economics  
or Business ..... 15 credits  
(EC 376, 379, 472, 473  
or IB 386, FIN 446, MKTG 456)  
PLS 260 Introduction to Global Politics ..... 5 credits  
Upper-division political science  
(International or comparative) ..... 5 credits  
\*Upper-division history (non-U.S.) ..... 10 credits  
Foreign Language (215 or above) ..... 15 credits  
Approved elective ..... 5 credits  
Total ..... 65 credits

Prerequisite to the 300 level economics courses in the economics concentration: Math 134 or 130.

##### History Concentration

Upper-division history (non-U.S.) ..... 20 credits  
(271, 281, 313, 315, 317, 319, 321, 325, 327,  
347, 381, 387, 481)  
PLS 231 Diversity and Change ..... 5 credits  
PLS 260 Introduction to Global Politics ..... 5 credits  
Upper-division political science  
(International and comparative) ..... 10 credits  
Foreign Language (215 or above) ..... 15 credits  
Economics (376, 379, 472, 473) ..... 5 credits  
Approved elective ..... 5 credits  
Total ..... 65 credits

##### Language Concentration

Foreign Language (215 or above) ..... 25 credits  
PLS 231 Diversity and Change ..... 5 credits  
PLS 260 Introduction to Global Politics ..... 5 credits  
Upper-division political science  
(International or comparative) ..... 10 credits  
\*Upper-division history (non-U.S.) ..... 10 credits  
Economics (376, 379, 472, 473) ..... 5 credits  
Approved elective ..... 5 credits  
Total ..... 65 credits

### Politics Concentration

|   |            |
|---|------------|
| PLS 231 Diversity and Change .....  | 5 credits  |
| PLS 260 Introduction to Global Politics .....                             | 5 credits  |
| Upper-division political science<br>(International and comparative) ..... | 20 credits |
| *Upper-division history (non-U.S.) .....                                  | 10 credits |
| Foreign Language (215 or above) .....                                     | 15 credits |
| Economics (376, 379, 472, 473) .....                                      | 5 credits  |
| Approved elective .....   | 5 credits  |
| Total .....   | 65 credits |

### International Studies Minor

|  |            |
|--|------------|
| Political Science<br>(International and comparative) ..... | 10 credits |
| *Upper-division history (non-U.S.) .....                   | 10 credits |
| Economics (376, 379, 472, 473) .....                       | 5 credits  |
| Approved elective .....                                    | 5 credits  |
| Total .....  | 30 credits |

Courses from a student's major department may not count toward the international studies minor; in such cases, additional approved electives must be substituted.

Approved electives cannot be in disciplines represented within the chosen concentration.

Approval for major electives must be obtained from the director of the International Studies Department.

\*See history concentration for listing of courses.  
See departmental listings for course descriptions.

## Liberal Studies Program

Mary M. Ridge, B.A., Director

### Objectives

The study of the humanities, social sciences and sciences has long been recognized as the finest preparation for the challenges presented in a world requiring critical reflection, creativity, open-mindedness, and the courage of personal conviction. The Liberal Studies Program is designed for students with initiative and curiosity who want to use their skills and knowledge to make a worthwhile contribution to society through the wide array of opportunities open to persons who are thoughtful, articulate and liberally educated. Professions in the fields of government, law, education, business, communications and a wide range of cultural endeavors consistently require persons with both breadth of vision and breadth of knowledge.

The focus of each student's program is determined by the person's ultimate aspirations. With the guidance of the program director, the student examines the options available in the various disciplines that can be combined into a rich and coherent degree program. The program's interdisciplinary character contributes to the development of both perspective and judgment essential to success in all human endeavors.

The Liberal Studies Program also offers an excellent opportunity for students returning to higher education after a period of absence to complete a rigorous degree program. Work and life experience appropriate to the degree may be incorporated into course work arranged with and supervised by faculty in the relevant fields. Such courses will bring together the invaluable experiences of the world of work with the necessary disciplinary theory required of academic studies. All such course work will be guided by the relevant departmental regulations pertaining to the granting of independent study credit. A maximum of 10 credits of independent study may be taken within the Liberal Studies Program's upper division requirements of the humanities and social sciences.

This degree program is recommended for students who plan to teach at the elementary level. Specific courses are recommended by the School of Education for this major. Students planning to become teachers should inform the School of Education as soon as possible.

### Degree Offered

Bachelor of Arts

### General Program Requirements

Students must satisfy the university core curriculum requirements and the general program requirements of the College of Arts and Sciences. A cumulative grade point average of 2.50 within the Liberal Studies Program's requirements of the humanities, social sciences and science/mathematics is required for graduation.

## 64 Arts and Sciences

### Program Requirements

**Bachelor of Arts** — 60 credits of course work in addition to the core requirements. Forty credits must be at the upper division level, 25 of which must be taken at Seattle University. An adviser will assist the student in the development of a curricular plan that utilizes both required and elective courses. Courses must be taken in accord with the following distribution:

#### Humanities

English, History, Philosophy,  
Religious Studies and Fine Arts ..... 20 credits  
300/400 level, five of which must be a course in English composition/writing.

#### Social Sciences

Economics, Political Science, Psychology,  
Sociology, Communications, Public  
Administration and Criminal Justice ..... 15 credits  
300/400 level.

#### Sciences and Mathematics

Biology, Chemistry, Physics, General Science,  
Mathematics, Statistics, and Computer Science  
for which student is qualified ..... 15 credits  
Five of these credits must be in either mathematics, statistics, or computer science. The students must have 10 credits of sciences, either lower or upper division, in a single field.

Speech ..... 5 credits

#### Foreign Language

Proficiency to the intermediate level in a second language. This may be achieved by successfully completing Language III with a grade of 2.0 (C) or higher, or the equivalent from any accredited college or university.

Senior Project ..... 5 credits

In the senior year the student will work on a research thesis or project which builds on his or her studies. The student's faculty adviser must grant final approval of the project, based upon a written outline. The thematic content of the project is determined by the student's already approved academic program.

LS 490 Senior Project ..... 5 credits

The senior project is determined in conjunction with an adviser in the student's area of interest. While the project may involve a wide variety of activities, it will build upon the student's program of interdisciplinary studies.

### Military Science

Lt. Col. Steven H. Lodwig, M.B.A., Chairperson

#### Objectives

To prepare academically and physically qualified college women and men for the rigor and challenge of serving as officers 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 to three hours), three workshops (leadership labs) per quarter, and one overnight field exercise per quarter. Physical fitness of all cadets is closely monitored.

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

#### Financial Aid

Cadets receive financial aid in two forms: Two-, three-, and four-year scholarships are awarded annually. Scholarships pay \$7,000 or 80 percent, whichever is greater, of tuition and lab fee. Scholarships further provide a book allowance as well as a monthly allowance of \$100. The second type of assistance provides a \$100 per month allowance to all non-scholarship cadets in the advanced course.

#### Commissioning Requirements

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



## Basic Course

Suggested program sequence.

### Freshman year

MS 111, 112, and 119 or special topics ..... 6 credits

PME: English 110 or equivalent ..... 5 credits

Foreign Language 191, 192 and 193 ..... 5 credits  
(Scholarship cadets only)

CSC 113 Introduction to Computers  
and Application ..... 5 credits

### Sophomore year

MS 213, 214, 218 or special topics ..... 6 credits

PME: Course in either psychology, sociology,  
anthropology or ethics ..... 5 credits

MT 111 College Algebra ..... 5 credits

## Advanced Course:

### Junior year

MS 311, 312 and 313 ..... 9 credits

MS 314 or 315 (Advanced Camp) ..... 4 credits

### Senior year

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

Special topics or independent study courses may be substituted for courses listed above with the approval of the professor of military science.

## The Curriculum

The curriculum is designed to prepare students to become future leaders of the U.S. Army by developing their ability to demonstrate acceptable behavior in each of the following leadership dimensions: initiative, oral and written communications, judgment, decisiveness, sensitivity, technical competence, planning and organizing, administrative control, delegation and problem analysis. Behavioral development occurs through course work in the areas of professional military education (PME), military knowledge (MK), and military skills (MS).

PME courses are designed to develop students' ability to communicate appropriately in writing, understand the human aspects of command, become familiar with personal computer terminology, hardware and application software, develop the ability to understand and use basic mathematical models for problem solving and decision making and to become acquainted with the evolution of warfare and military theory with a particular emphasis on the place of military institutions in society.

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

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

## Military Science Basic Courses

**MS 111 Basic Officership I 2 credits**

An introduction to the officership environment, military science, key legislation, roles of active and reserve component units, and special programs associated with ROTC. Includes three leadership labs and one field training exercise. (fall)

**MS 112 Military Communication Skills 2 credits**

Development of written and oral communication skills for the military leader. Practical application through student participation, presentations and writing projects. Includes three leadership labs and one field training exercise. (spring)

**MS 119 Introduction to Military Operations 2 credits**

An introduction to the air and land warfare. Course will concentrate on the skills of the individual soldier and the squad. Includes weapons and fighting techniques in the offense and defense. Includes three leadership labs and one field training exercise. (winter)

**MS 213 Leadership Assessment 2 credits**

Through a series of classroom simulations, participants are evaluated on their potential as leaders and managers. Includes organizational behavior, leadership theories, management competencies, communication skills, physical fitness and the leadership assessment program (LAP). Includes three leadership labs and one field training exercise. (spring)

**MS 214 Military Ethics and Values 2 credits**

Through a series of films, books, essays and discussions the student is introduced to, and explores, military value sets and the ethics practiced within the profession of arms. Provides introduction to lifesaving techniques. Includes three leadership labs and one field training exercise. (winter)

**MS 217 Army Conditioning 1 credit**

A remedial physical fitness program for selected students to bring them up to the Army standard of physical fitness. Required prior to attendance at camps, air assault, airborne or Ranger schools. (spring)

**MS 218 Map Reading 2 credits**

An introduction to military map reading. Includes discussion of coordinates, azimuths, conversion, intersection/resection, interpretation of symbols and relief. Includes three leadership labs and one field training exercise. (fall)

**MS 291 Special Topics 1-5 credits**

**MS 292 Special Topics 1-5 credits**

**MS 293 Special Topics 1-5 credits**

**MS 296 Independent Study 1-5 credits**

## Military Science Advanced Courses

**MS 311 Advanced Officership III 3 credits**

An orientation on the competencies required of the small unit leader, manager. Includes lower-echelon organizations, tactics, deployment and communications. Permission of instructor. Includes three leadership labs and one field training exercise. (winter)

**MS 312 Land Navigation Competencies 3 credits**

Principles of land navigation using terrain analysis, map reading, aerial photograph interpretation, and the basics of orienteering. Permission of instructor. Includes three leadership labs and one field training exercise. (fall)

**MS 313 Officership/Leadership/Management 3 credits**

A survey course of leadership/management and motivational theories required of the small unit leader. Includes ethics and professionalism, human behavior and the decision-making process. Permission of instructor. Includes three leadership labs and one field training exercise. (spring)

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**MS 314 Advanced Camp** 4 credits  
Successful completion is a prerequisite to commissioning. During six weeks at Ft. Lewis, students are placed in a variety of roles and situations and practice their leadership and management competencies in the broader context of officership. Prerequisite: MS 311, 312, and 313. (summer)

**MS 315 Advanced Camp - Nursing** 4 credits  
Successful completion is a prerequisite to commissioning. During six weeks at various Army medical centers, 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. Prerequisites: MS 311, 312, and 313. (summer)

**MS 412 Professionalism and Responsibility** 3 credits  
A survey course which assists the student to come to grips with the concept of officership. Covers Army values, ethics, professionalism, responsibilities to self, subordinates and country, law of land warfare, and the resolution of ethical/value dilemmas. Permission of instructor. Includes three leadership labs and one field training exercise. (fall)

**MS 413 Contemporary Political and Social Issues** 3 credits  
The capstone course prior to commissioning, discusses the role of the officer and the institution in a rapidly changing world environment. Covers topics from national security, Third World nationalism, to the Soviet Union. Includes three leadership labs and one field training. (spring)

**MS 419 Military History** 5 credits  
A survey course intended to improve the student's understanding of the nature of war and the place of military institutions in society. Develops impact of leaders on the conduct of the battle. Major emphasis on the battles of the Revolutionary War, Civil War, WWI, WWII and Vietnam. Includes three leadership labs and one field training exercise. (winter)

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

## Aerospace Studies (Air Force ROTC) Col. Robert G. Lambert, P.A.S., Chairperson

### Objectives

Air Force ROTC is offered to Seattle University 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 '90s.

### General Program Requirements

All classes are taught at the University of Washington, Clark Hall, Room 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 98195-0001.

### 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 Course (POC)

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 48 hours of flight instruction.

### Scholarship

Four-, 3½-, three-, 2½-, and two-year scholarships are available for engineering and certain scientific majors. In addition, selected scholarships are available for pre-health profession majors, pilot, navigator, non-rated operations and missile launch officer candidates. Special one-year scholarships are available for nursing, electrical engineering, computer science and law students. Air Force ROTC scholarships pay for tuition, books, fees, and uniforms. In addition, scholarship winners receive \$100 subsistence per month. Students awarded scholarships from the Air Force Four Year Scholarship Board are eligible for a supplemental room grant. To take advantage of these scholarships students should apply directly to AFROTC Det 910, University of Washington, (DU-30) Seattle, WA 98195-0001, or call (206) 543-2360.

## Two-Year Program

To provide for those students who are unable to take the general military courses, a two-year professional officer course is available on a highly competitive basis. The two-year program is open to graduate students and other students who have two years remaining until graduation. Students in this program are required to attend a six-week field training course at an Air Force base during the summer preceding program entry. The student is paid during the six-week period.

## General Military Courses

|        |                       |          |
|--------|-----------------------|----------|
| AS 101 | Aerospace Studies 100 | 1 credit |
| AS 102 | Aerospace Studies 100 | 1 credit |
| AS 103 | Aerospace Studies 100 | 1 credit |

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 function of strategic offensive and defensive forces, general purpose forces and aerospace support forces are covered. One classroom hour and one hour of leadership laboratory per week.

|        |                       |           |
|--------|-----------------------|-----------|
| AS 211 | Aerospace Studies 200 | 2 credits |
| AS 212 | Aerospace Studies 200 | 2 credits |
| AS 213 | Aerospace Studies 200 | 2 credits |

Introduction to the study of air power. The course is developed from a historical perspective starting before the Wright brothers and continuing through the 1990s. 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.

## Professional Officer Courses

|        |                       |           |
|--------|-----------------------|-----------|
| AS 331 | Aerospace Studies 300 | 3 credits |
| AS 332 | Aerospace Studies 300 | 3 credits |
| AS 333 | Aerospace Studies 300 | 3 credits |

Study of Air Force leadership and management includes professional responsibilities, leadership theory functions and practices, management principles and functions, and problem solving. Three classroom hours and one hour of leadership laboratory per week. Prerequisite: permission of department.

|        |                       |           |
|--------|-----------------------|-----------|
| AS 431 | Aerospace Studies 400 | 4 credits |
| AS 432 | Aerospace Studies 400 | 4 credits |
| AS 433 | Aerospace Studies 400 | 4 credits |

Study of United States defense policy with respect to those political, economic and social constraints involved in its formulation and implementation. Includes an examination of the military professional, his/her role and civil-military relationship in a democratic society. Three classroom hours and one hour of leadership laboratory per week. Prerequisite: permission of department.

## Naval Science (Navy ROTC) Capt. R.J. Doll, P.N.S., Chairperson

### Objectives

Naval ROTC is offered to Seattle University students through an agreement with the University of Washington. The objective of Naval ROTC is to educate and train young men and women as officers in the United States Navy or Marine Corps. The single largest source of officers for the Navy and Marine Corps, NROTC provides citizen sailors and marines with a liberal educational background.

### General Program Requirements

All classes are taught at the University of Washington, in Clark Hall. All classes are open to all UW students and all Seattle University students via UW Extension. It is not necessary to be a member of the NROTC unit to take naval science classes.

### Commissioning Requirements

Students who successfully complete Naval ROTC, and receive an academic degree from Seattle University will be offered commissions as ensigns in the United States Navy, or as second lieutenants in the Marine Corps.

### Scholarships

Four-, three-, and two-year scholarships are available. Special nursing program scholarships are offered as well. Naval ROTC scholarships pay for 100 percent tuition, books and academic fees, as well as a \$100 tax-free subsistence payment each month. To take advantage of these scholarships, students should apply directly to NROTC Unit, University of Washington (DU-40), Seattle, WA 98195, or call (206) 543-0170.

## Two-Year Program

The program is open to college students who will complete their sophomore year or third year in a five-year curriculum. The two-year scholarship covers the final two years of college. When accepted, students attend the six-week Naval Science Institute during the summer between their sophomore and junior years to bring them up to date on the NROTC curriculum missed during their freshman and sophomore years.

### Course Descriptions

N SCI 111 The Naval Service (3) A  
General introduction to the Navy, its organization, missions, roles, tasks and operating methods. The relationship to the other services within the Department of Defense is emphasized.

N SCI 112, 113 Naval Ship Systems I, II (3,3) W,Sp  
Study of the varied ship systems operational in the Navy today, including the principles of characteristic propulsion systems and auxiliary machinery and the elements of ship stability and damage control. An introduction to nuclear propulsion, gas turbines and auxiliary power systems.



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### **N SCI 211 Naval Weapon Systems**

(3) A

Concept of naval weapons systems and the systems approach, the techniques of linear analysis of ballistics and weapons, the dynamics of basic components of weapons control systems. The tools are provided for understanding the basic principles that are involved in all modern naval weapon systems, gas turbines and auxiliary power systems.

### **N SCI 212, 213 Sea Power Practicum I, II**

(2,2) W,Sp

A comprehensive study of the role of sea power in the history of the United States, the current status of the various elements of the nation's sea power as they influence the development and implementation of national security policy, and the economic effects of the elements of sea power (the Navy, the merchant marine, port facilities, fisheries and oceanographic capabilities).

### **N SCI 311 Navigation**

(3) A

The science and practice of maritime coastal navigation, including visual fixing, dead reckoning, and piloting methods. Computation of tides and currents and nautical rules of the road.

### **N SCI 312 Celestial Navigation**

(3) W

Theory and practice of celestial navigation. The student performs the complete "day's work" of the ship's navigator.

### **N SCI 313 Naval Operations**

(3) Sp

Introduction to naval operations, the employment of naval forces, naval tactics, formulation of operations plans and orders, employment of detection equipment and meteorology.

### **N SCI 411 Psychology of Leadership**

(3) A

Introduction of the theory and techniques of naval leadership based on those principles of behavioral science that are pertinent to understanding individual and group behavior of adults. It introduces the student to the management process and the relationship of management functions to leadership. Acceptance of a traditional deep sense of moral responsibility on the part of the aspiring leader is stressed.

### **N SCI 412, 413 Naval Organization and Management I, II**

(3,3) W,Sp

Study of organization, systems and techniques employed in the Navy for management of its human, financial and material resources. Some of the work relates to the administration of discipline in the Navy under the Uniform Code of Military Justice. Emphasis is placed on the leadership and management role of the junior officer in the fleet.

## **Marine Corps Option Courses**

### **N SCI 321, 322, 323 Evolution of Warfare I, II, III**

(3,3,3) A,W

Introduction to the art of war, the evolution of warfare from the earliest recorded battles to the present day.

### **N SCI 421, 422 Amphibious Warfare I, II**

(3,3) A,W

Provide basic knowledge of evolution of amphibious warfare from premodern era to present. Strategic and tactical considerations in planning specific operations and amphibious landings.

### **N SCI 423 USMC Leadership and Administration of Justice**

(3) Sp

Concepts, objectives, characteristic qualities and practical techniques of leadership as exercised by the Marine Corps officer are studied. Emphasis is placed on the leadership and management role of the junior officer in the fleet marine forces.

## **Philosophy**

**James C. Risser, Ph.D., Chairperson**

### **Objectives**

The task of philosophy is to study the world and the person in terms of that which constitutes their inner-most unity and meaning. It seeks to discover those all-pervasive factors in the world which refuse to yield to the segregating tendencies of a fragmentary approach to knowledge and truth. It strives to introduce students to the language of universal communication whereby they might translate the complex manifold of human experience into relevant and creative meaning for themselves and for society. It raises such searching questions as: What is the meaning of human existence? What is the scope of human freedom? What is the basis of personal responsibility? Are values relative? How is truth established? How is knowledge distinguished from belief and mere opinion? What is the nature of rational argument? Can God's existence be rationally determined? What is the nature and origin of evil? What is the nature of reality?

The philosophy taught at Seattle University strives to raise these and similarly significant questions in an atmosphere conducive to facilitating the student's search for truth. It unashamedly recognizes its debt to the past, particularly to those philosophers who have presented a realist view of the person and the world compatible with the Judaeo-Christian vision of the universe. At the same time it realizes that to remain dynamically relevant to the contemporary age it must advance and grow and be ever open to new problems, new ideas, new contributions and new perspectives.

### **Degree Offered**

**Bachelor of Arts**

### **General Program Requirements**

Students in philosophy must satisfy the university core curriculum requirements as given in this bulletin, as well as requirements of the College of Arts and Sciences.

### **Departmental Requirements**

**Bachelor of Arts** — 55 credits of philosophy to be distributed as follows:

I Foundations: PL 110, 220, and 260 or 261

II Ethics: PL 345

III History and Traditions: PL 233, 441, 442, 449

IV Topics and Controversies: One course at the 300 level or above, plus any two courses at the 300 level or above from III or IV. Consult department brochure for rationale and description of categories, I, II, III, IV.

Honors Program students who have successfully completed their work at Seattle University are exempted from PL 220 and ethics, but need an additional 30 credits to complete the major: PL 260 or 261, 441, 449 and 15 credits of approved electives. They are credited with the following equivalents: HU 101=PL 110; HU 102/3=PL 442; HU 201=PL 233; HU 202=PL 355; HU 203=PL 365.

**Undergraduate Minor** — 30 credits of philosophy, which must include PL 110, 220, and 345. 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

Suggested program sequence.

### Freshman year

|   |            |
|---|------------|
| Writing/Thinking sequence<br>(English 110 and Philosophy 110) ..... | 10 credits |
| History/Literature sequence<br>(History 120/English 120) .....      | 10 credits |
| Philosophy 260 or 261 .....   | 5 credits  |
| Fine Arts 120 .....   | 5 credits  |
| Mathematics core option .....                                       | 5 credits  |
| Lab Science core option .....                                       | 5 credits  |
| Elective .....  | 5 credits  |

### Sophomore year

|   |            |
|---|------------|
| Study of Person sequence<br>(Philosophy 220 and Social Science I) .....             | 10 credits |
| Philosophy 233 .....  | 5 credits  |
| Philosophy course in fulfillment of "Topics<br>and Controversies" requirement ..... | 5 credits  |
| Social Science II .....   | 5 credits  |
| Theology and Religious Studies Phase II .....                                       | 5 credits  |
| History 221 or 231 .....  | 5 credits  |
| Electives .....   | 10 credits |

### Junior year

|   |            |
|---|------------|
| *Modern Language or Electives .....                     | 15 credits |
| Philosophy 345 .....                                    | 5 credits  |
| Philosophy seminars and upper<br>division courses ..... | 15 credits |
| Interdisciplinary course .....                          | 5 credits  |
| Electives .....   | 5 credits  |

*\*Demonstrate competence in Language III*

### Senior year

|   |            |
|---|------------|
| Philosophy seminars and upper<br>division courses ..... | 10 credits |
| Theology and Religious Studies Phase III .....          | 5 credits  |
| Senior Synthesis .....                                  | 3 credits  |
| Electives .....   | 27 credits |

Total ..... 180 credits

## Philosophy Courses

### PL 110 Introduction to Philosophy and Critical Thinking 5 credits

A combined historical and problematic approach to the nature of philosophical inquiry. Reflection upon fundamental philosophical problems provides the context for mastering basic tools of critical interpretation, logical reasoning, argumentative writing and responsible cognitive communication.

### PL 220 Philosophical Problems: The Human Person 5 credits

Critical examination of the nature and powers of the human person. Special emphasis on the human knowing process and the problems of human freedom and personal responsibility. Prerequisite: PL 110.

### PL 231 Introduction to Ancient Greek Philosophy 5 credits

Readings from source material of the philosophy of the ancient Greeks. Investigation of the topics, problems and doctrines of the pre-Socratics, Plato and Aristotle. Prerequisite: PL 220.

### PL 232 Introduction to Medieval Philosophy 5 credits

Synthesis of medieval philosophy in its historical perspective with a particular examination of the themes of Arabic, Scholastic and Nominalist metaphysics. Prerequisite: PL 220.

### PL 233 Introduction to Modern Philosophy 5 credits

Investigation of topics, problems and doctrines of selected authors from the 17th and 18th centuries. Prerequisite: PL 220.

### PL 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: PL 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: PL 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: PL 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: PL 220.

### PL 303 Philosophy of Natural Sciences 5 credits

Philosophical reflections on the historical development of the scientific view of the cosmos. Readings from significant sources. Prerequisite: PL 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: PL 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: PL 220.

### PL 310 Contemporary Ethical Theory 5 credits

This course will concern itself with the moral problems facing contemporary persons as manifest in such contemporaries as Hare, Heelter, McCormick as well as the developmental theories of Kohlberg. Prerequisite: PL 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: PL 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: PL 220.

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- 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: PL 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: PL 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: PL 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: PL 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: PL 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: PL 220.
- PL 341 Issues in Contemporary Philosophy** 5 credits  
A selected examination of some of the current debates within philosophy, e.g., hermeneutics, deconstruction and critical theory. Prerequisite: PL 220.
- PL 345 Ethics** 5 credits (250)  
General theory of moral behavior, ethics as a science, the purpose of human life and the means of attaining this goal. Applications of general ethical theory in specific instances. Prerequisite: PL 220.
- PL 351 Business Ethics** 5 credits (252)  
Application of general ethical theory to those problems directly related to the business world; employment practices, wages, advertising, honesty, strikes. Prerequisites: PL 220; EC 271.
- PL 352 Health Care Ethics** 5 credits (255)  
Application of general ethical theory to basic problems encountered in the medical profession; fees, professional secrecy, rights of patients, abortion, transplants, drugs. Prerequisite: PL 220.
- PL 353 Engineering Ethics** 5 credits (256)  
Application of ethical theories to problems faced by engineers; conflicts between responsibilities to employer and consumer; impact of engineering work on society; weapons, biomedical and nuclear engineering. Prerequisite: PL 220.
- PL 354 Ethics and Criminal Justice** 5 credits (257)  
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: PL 220.
- PL 355 19th Century Philosophy** 5 credits  
Readings from source material of the 19th century philosophers. Investigation of central topics, problems and teachings of selected authors from Hegel to Nietzsche. Prerequisite: PL 220.
- PL 358 Communication Ethics** 5 credits (258)  
Ethical responsibilities of the communicator, in both interpersonal and media settings. Critical examination of ethical codes in establishing relationships and conducting communication in a democratic society. Topics covered include: lying, withholding information, conflicts of interest, objectivity, service to audiences. Prerequisites: PL 220 and at least one of the following: COMJ 200, COMJ 210, COMC 260 or COMC 290.
- PL 360 20th Century Philosophy — The Analytic Tradition** 5 credits  
Readings from source material of 20th century analytic philosophers. Investigation of contemporary schools of logical positivism and linguistic analysis from Russell to Wittgenstein. Prerequisite: PL 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: PL 220.
- PL 362 Existentialism** 5 credits  
The themes of anxiety, despair, guilt and freedom in the writings of Kierkegaard, Nietzsche, Sartre, Camus, Jaspers and others. Prerequisite: PL 220.
- PL 364 American Philosophy** 5 credits  
Offers, at the discretion of the instructor, either a general overview of the history of the American philosophical tradition from Puritanism to the present or a focused study of a particular movement (e.g., Pragmatism) or theme (e.g., community) in that tradition. Prerequisite: PL 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: PL 220.
- PL 366 Process Philosophy** 5 credits  
Critical reflection on the philosophies of such thinkers as Bergson, Pierce, Whitehead and Hartshorne. Prerequisite: PL 220.
- PL 391 Special Topics** 1-5 credits  
**PL 392 Special Topics** 1-5 credits  
**PL 393 Special Topics** 1-5 credits
- 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: PL 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: PL 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: PL 220.
- PL 443 German Idealism** 5 credits  
Seminar investigation of writings by such thinkers as Kant, Fichte, Schelling and Hegel. Prerequisite: PL 220.
- PL 449 Major Figures in the Traditions** 5 credits  
Intensive, seminar examination of the work of a major philosopher. Prerequisite: PL 220.
- PL 480 Interdisciplinary Core Course** 3-5 credits  
Title and content may change each term.



|        |                |             |
|--------|----------------|-------------|
| 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: PL 220.

## Political Science/ Public Administration

**C. Bradley Scharf, Ph.D., Chairperson**

**James B. Hogan, Ph.D., BPA, Coordinator**

### Objectives

Politics is essential to the human condition. It is expressed in patterns of influence among individuals, in the actions of states in world affairs, and in collective efforts to achieve our most noble goals. The political science curriculum links moral issues to empirical analytic questions of political life and explores the realities of political behavior at local, state, national, and international levels. A political science major helps students prepare for careers in government, business, and education, and for graduate study or law school.

### Degrees Offered

Bachelor of Arts

Bachelor of Public Administration

### General Program Requirements

Students in political science must satisfy the university core curriculum requirements as given in this bulletin, and must complete the general program requirements of the College of Arts and Sciences. Macro-economics is required as partial fulfillment of the social science core. Political science majors are strongly encouraged to take additional courses in history, economics, and languages. Advisers may recommend electives in business, sociology, philosophy and writing. 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 at Seattle University regardless of number of credits and these courses must be from each of the four fields of the curriculum.

### Departmental Requirements

**Bachelor of Arts** — 60 credits of political science, which must include the four foundation courses (PLS 205, 231, 253, and 260) and at least one course from each of the four fields below:

American Government — 210, 301, 302, 304, 305, 308, 310, 406, 407.

Foreign Systems — 230, 330, 331, 338, 432, 448.

Political Theory — 352, 355, 356, 358, 359, 456.

International Politics — 358, 361, 362, 363, 365, 366, 448.

Each field also includes special topics.

A major grade average of 2.5 is required for graduation.

**Undergraduate Minor** — 30 credits, which must include three of the four foundation courses (PLS 205, 231, 253, 260).

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### International Studies

A politics concentration is also offered as an option in the International Studies major. Please see section on international studies.

### Teacher Education

As of fall 1990 the teacher preparation program is a graduate level program only. Students planning to become elementary teachers or secondary political science or social studies teachers must complete a bachelor's degree prior to beginning the teacher preparation program. They should discuss their major with their political science adviser to ensure that they are enrolled in the appropriate courses and must contact the School of Education for advising. Second endorsements are available in political science (24 credits) and social studies (45 studies).

### Bachelor of Arts

Suggested program sequence.

#### Freshman year

|  |             |
|--|-------------|
| English 110/Philosophy 110 sequence .....                          | 10 credits  |
| Fine Arts 120 .....  | 5 credits   |
| History 120/English 120 sequence .....                             | 10 credits  |
| Mathematics .....  | 5 credits   |
| Lab Science core option .....                                      | 5 credits   |
| Social Science I (PSY, SC, ISS) .....                              | 5 credits   |
| Political Science .....  | 5 credits   |
| Foreign Language - Demonstrate competence in<br>Language III ..... | as required |

#### Sophomore year

|                                  |            |
|----------------------------------|------------|
| Social Science II (EC 271) ..... | 5 credits  |
| Philosophy 220 .....             | 5 credits  |
| Political Science .....          | 20 credits |
| Ethics .....                     | 5 credits  |
| Religious Studies Phase II ..... | 5 credits  |
| History 221 or 231 .....         | 5 credits  |

#### Junior and Senior years

Religious Studies II, interdisciplinary course, senior synthesis and recommended electives in the junior and senior years vary widely, according to the student's career aspirations. Students who plan to attend law school should take accounting. All students should consider foreign languages, computer skills and business electives

|             |             |
|-------------|-------------|
| .....       | 90 credits  |
| Total ..... | 180 credits |

### Political Science Courses

**PLS 120 Politics and Society** 5 credits  
Politics as human conflict and cooperation. The social, economic, ideological and moral dimensions of politics. Politics as intellectual analysis and social action. Not for major credit.

**PLS 205 Introduction to American Politics** 5 credits  
(PLS 100)

Constitutional and historical foundations of the federal government. Processes and structures of American politics from conservative, radical, and reformist perspectives. Power, class and culture as elements affecting citizen participation and as shapers of economic and social policy.

**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 231 Diversity and Change** 5 credits  
Political diversity among contemporary nations. Methods of comparison. Testing theories of change in political economy and political sociology. Examples from capitalist, socialist and developing nations.

**PLS 253 Introduction to Political Theory** 5 credits  
Tenets and historical development of modern political ideologies, with a focus on liberalism, conservatism and democratic socialism. Theoretical and philosophical questions, such as political obligation and justice.

**PLS 260 Introduction to Global Politics** 5 credits  
Analysis of the international system, including the balance of power, imperialism, the global political economy, and international institutions. Major conflict themes in East-West, North-South, and West-West relations.

**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  
The constitutional context and historical development of the president's role in the American political system. Personality and leadership. Relations with the public, Congress, the media, and foreign governments.

**PLS 302 Government and the Economy** 5 credits  
Appropriate roles of government in the US economy, including taxation, spending, regulation, and economic and social planning. Contrasts with Japanese and European practices.

**PLS 304 Interests, Parties and Elections** 5 credits  
Popular participation, group influence, party organization, and electoral choice in the American political system.

**PLS 305 The Policy Process** 5 credits  
(PLS 481)

How public policies are enacted and implemented in the U.S. Constitutional, political, ideological, and socio-economic constraints on policy makers. The relationship between economic structure and the substance of public policy.

**PLS 308 The Judicial Process** 5 credits  
(PLS 208)

The role of law, courts and other legal institutions in American political life; courts as political actors; the social and political environment of law. The impact of law on public order and citizens' rights.

**PLS 310 Urban Politics and Public Policy** 5 credits  
Problems of large American cities with special emphasis on transportation, housing, public safety and planning. Fiscal problems of American cities; public school politics.

**PLS 330 The Soviet Union** 5 credits  
Roots and legacy of Stalinism, political and economic restructuring, ethnic conflict and federalism, social welfare, law and culture. Comparative analysis using theories of political change.

**PLS 331 German Politics and Society** 5 credits  
Post-war division and re-unification. Impacts on current political culture, social segments, regional diversity, interest groups and government structures. Germany as the fulcrum of European integration.

**PLS 338 African Politics** 5 credits  
Political order, state-building, and economic development in Sub-Saharan Black Africa. Theories of comparative social, economic, and political change. Historical and contemporary causes of famine, civil war, debt, U.S. and Soviet influence, and revolution in South Africa.

**PLS 352 Modern Political Thought** 5 credits  
Foundations of modern Western political thought, from the Renaissance to the French Revolution.

**PLS 355 Contemporary Political Thought** 5 credits  
Issues in modern and postmodern thought. Marxism and critical theory, Freud and modern identity, hermeneutics, poststructuralism, and feminism.

**PLS 356 American Political Thought** 5 credits  
Survey of American political thought, with special focus on the critical debates which marked turning points in our nation's history.

**PLS 358 Global Scarcity** 5 credits  
Examination of data on resource depletion and degradation of earth's ecosystems. Economic, political and moral implications of a sustainable society under conditions of scarcity.

**PLS 359 Topics in Political Philosophy** 5 credits  
In-depth analysis of an issue, theorist, or debate of contemporary relevance, including theories of justice, the future of liberalism, and the interpretation of political language.

**PLS 361 International Law** 5 credits  
Fundamentals of international law, states and international law; the individual in international law; creation, application and enforcement of international law.

**PLS 362 International Organization** 5 credits  
How states cooperate to form treaties, institutions and informal agreements. The United Nations and its specialized agencies, GATT, IMF, the World Bank, UNEP, and the Law of the Sea. Theories of institutionalization, integration, regimes and interdependence.

**PLS 363 Human Rights and World Order** 5 credits  
Examination of revolutions and ideas on human rights. Study of evolving civil, political, economic, social concepts of human rights in relation to a new world order of justice and peace.

**PLS 365 United States Foreign Policy** 5 credits  
The U.S. role in the international system. The sources of American foreign policy commitments in history, culture, social and economic conditions, and the process of government. Focus on U.S. relations with the Soviet Union, the Third World and Europe.

**PLS 366 North-South Conflict** 5 credits  
Third World states in conflict and collaboration with Western and Eastern bloc powers. Historical roots and current issues of debt, industrialization, guerilla insurgencies, nuclear weapons and terrorism. Application of international relations theory.

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

**PLS 406 Constitutional Law** 5 credits  
Growth, philosophy and development of the United States Constitution as reflected in decisions of the Supreme Court with emphasis on the role of the court in contemporary America. Prerequisite: junior or senior standing.

**PLS 407 The Supreme Court and the Bill of Rights** 5 credits  
Interpretation of the Bill of Rights by the Supreme Court and the impact on the individual and the states. Prerequisite: junior or senior standing.

**PLS 432 Welfare States** 5 credits  
(PLS 335)

Culture and politics of social planning in Sweden, Britain, US and other welfare states. Contrasting approaches to income distribution, education, health care and public assistance. Public goods and private choices. Empirical methods in comparative research.

**PLS 448 Hunger and Development** 5 credits  
The politics of famine and agricultural development in the poorest Third World countries. International and national actors are examined. Socialist and capitalist strategies of development. Seminar format with individual research projects: Prerequisite: PLS 260 or permission.

**PLS 456 The Human Prospect** 5 credits  
An examination of the political implications of the dangers of nuclear war and ecological suicide. Emphasis on discovering political strategies for preventing a world cataclysm.

**PLS 480 Interdisciplinary Core Course** 3-5 credits  
Title and content may change each term.

**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/E.

**PLS 494 Seminars** 2-5 credits  
**PLS 495 Seminars** 2-5 credits  
**PLS 496 Seminars** 2-5 credits

**PLS 497 Independent Study** 1-5 credits  
**PLS 498 Independent Study** 1-5 credits  
**PLS 499 Independent Study** 1-5 credits

## Public Administration

The bachelor of public administration (BPA) degree provides a broad understanding of how public business is transacted in both government service and private non-profit organizations. The curriculum blends liberal education with preprofessional training in public management and the analysis of public policy. Theory and practice are combined in coursework and internship opportunities.

Students in public administration must satisfy the university core curriculum requirements as given in this bulletin, as well as the general program requirements of the College of Arts and Sciences. EC 271 is required as the Social Science II selection in the core.

## Degree Requirements

65 credits, including 15 foundation credits (PLS 205, PLS 210, PUB 280);

40 specified upper-division credits (PLS 305, PUB 379, MGMT 382 or COMC 383, PUB 382, PUB 479, PUB 482, PUB 485, and PUB 488);

and 10 credits of approved electives in public administration, political science, business, communications, computer science.

## Public Administration Minor

30 credits, including PUB 280, PUB 379, PUB 382, MGMT 382 or COMC 383, PUB 479 and PUB 482.



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### Public Policy Minor

30 credits, including PUB 280, PLS 302, or PLS 432, PLS 305, PLS 310, PUB 382, and PUB 482.

### Public Administration Courses

**PUB 280 Introduction to Public Administration 5 credits**  
Tour of the multi-disciplinary nature of public administration. Role of public organizations in the American polity at the federal, state and local levels. Constitutional definition of administration. Exposure to daily workings of public agencies. Role of independent sector organizations.

|                               |                    |
|-------------------------------|--------------------|
| <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 379 Public Sector Analysis 5 credits**  
Economic theory of public and nonprofit organizations, including demand production and cost. Introduction to externalities, public goods, collective decision making, taxation, present value and discounting. Prerequisites: EC 271, PUB 280. Credit not granted for both PUB 379 and EC 471.

**PUB 382 Research Methods 5 credits (PLS 390)**  
Social science techniques in defining and executing public policy evaluation. Research design, data acquisition, basic quantitative skills, modes of effective research presentation. Prerequisite: PUB 280.

**PUB 479 Management Control 5 credits**  
Characteristics of the control structure in public and non-profit organizations, including financial reporting, output measurement, programming, budget preparation, performance monitoring and evaluation. Prerequisite: PUB 379.

**PUB 480 Interdisciplinary Core Courses 3-5 credits**  
Title and content may change each term.

**PUB 482 Research Application 5 credits**  
Participation in a mentored policy analysis project in which an issue is selected, analyzed and presented to a hypothetical public decision-making body. Prerequisites: PLS 305, PUB 382.

**PUB 485 Leadership in the Public Sector 5 credits**  
Causes and consequences of short-term thinking in major public policies, including the environment, the economy and education. Developing an ethical vision and implementing leadership strategies for the future.

**PUB 488 Internship 1-5 credits (PUB 495)**  
Supervised work experience in public service settings, assessed in light of academic course of study.

|                               |                    |
|-------------------------------|--------------------|
| <b>PUB 491 Special Topics</b> | <b>1-5 credits</b> |
| <b>PUB 492 Special Topics</b> | <b>1-5 credits</b> |
| <b>PUB 493 Special Topics</b> | <b>1-5 credits</b> |

|   |                    |
|---|--------------------|
| <b>PUB 497 Independent Study</b>          | <b>1-5 credits</b> |
| <b>PUB 498 Independent Study</b>          | <b>1-5 credits</b> |
| <b>PUB 499 Independent Study (Graded)</b> | <b>1-5 credits</b> |

### Prelaw

**David W. Arnesen, J.D., Adviser**

**Eric Olsen, M.A., Adviser**

**Richard Young, Ph.D., Adviser**

### Program

The best preparation and a requirement for entrance to many law schools is the completion of a four-year program for the bachelor's degree.

In advising prelaw students, Seattle University follows the recommendations of the Association of American Law Schools. These stress comprehension and expression in words, critical understanding of institutions and values with which the law deals, and creative power in thinking. These capacities may be developed through study in any of a number of departmental majors.

Entering students interested in law must declare a major in the field in which they are most interested and for which they are best suited. Those unable to make such a determination upon entrance will be enrolled in the liberal 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.

**Premajor Program****Betsey Barker Klein, B.A., Director****Objectives**

The college recognizes that many students come to Seattle University wishing to explore academic programs and careers before committing themselves to a major program. The premajor is intended to provide freshmen and sophomores with this opportunity while assuring they are well prepared for whatever direction they choose.

Each student is assigned an adviser who not only assists in arranging the student's program, but will aid in the process of making an academic and career decision.

**General Program Requirements**

The premajor program is for freshmen and sophomores only. Students must enroll in the core courses of phase I and phase II appropriate to their academic level. The college's entrance requirements in foreign language must be fulfilled immediately if not already satisfied. Remaining electives are chosen based upon the student's interest. Students may apply for admittance into a major or professional school at any time in their freshman or sophomore year, but must do so prior to the attainment of junior status.

**Psychology****Jan O. Rowe, 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**

Entry into the psychology major requires a 2.75 grade point average for incoming freshmen and a 2.5 grade point average for transfer students.

Students in psychology must satisfy the university core curriculum requirements as given in this bulletin and must complete the general program requirements of the College of Arts and Sciences.

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 P/E 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 cumulative GPA of 2.75 in order to maintain their eligibility in the major.

The psychology major may be combined with a specialty in addiction studies (see addiction studies section of this bulletin.) Students taking this specialty may count ADD 400 and 402 towards their psychology requirements.

**Departmental Requirements**

**Bachelor of Arts** — 50 credits of psychology, which must include PSY 120, 201, 301, 401, and 487-488.

**Bachelor of Science** — 50 credits of psychology, which must include PSY 120, 201, 202, 301, 330, 401, 402, 487-488 and a minimum of 40 credits of mathematics and physical science, which may include PSY 385, and any course which applies toward a mathematics or science major. 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.

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**Undergraduate Minor** — 30 credits of psychology, which must include PSY 120. Only five credits of independent study are permitted.

### Teacher Education

As of fall 1990 the teacher preparation program is a graduate level program only. Students planning to become elementary teachers or secondary psychology or social studies teachers must complete a bachelor's degree prior to beginning the teacher preparation program. They should discuss their major with their psychology adviser to ensure that they are enrolled in the appropriate courses and contact the School of Education for advising. Second endorsements are available in psychology (24 credits) and social studies (45 credits).

### Typical Program

#### Bachelor of Arts

The courses listed below pertain to the major only.

##### Freshman year

Psychology 120 ..... 5 credits

##### Sophomore year

Psychology 201 and  
Psychology elective(s) ..... 10-15 credits

##### Junior year

Psychology electives ..... 10-15 credits

##### Senior year

Psychology 301 and 401  
(May be taken in junior year) ..... 15 credits  
Psychology 487-488 and  
psychology electives ..... 10-15 credits

#### Bachelor of Science

##### Freshman year

Psychology 120 ..... 5 credits  
Mathematics/science electives ..... 10 credits

##### Sophomore year

Psychology 201 and psychology elective ..... 10 credits  
Psychology 202  
(May be taken in junior year) ..... 5 credits  
Mathematics/science elective ..... 10 credits

##### Junior year

Psychology 401 and psychology electives ..... 10 credits  
Mathematics/science electives ..... 10 credits

##### Senior year

Psychology 301, 330 and 401  
(May be taken in junior year) ..... 15 credits  
Psychology 487-488 and  
psychology elective ..... 5 credits  
Mathematics/science elective ..... 5 credits

### Psychology Courses

#### PSY 120 Introductory Psychology 5 credits

General introduction to the modes of inquiry of scientific psychology, including its nature, scope and method; organic, environmental and personal factors that influence human experience and behavior. Correlates with Philosophy 220. (fall, winter, spring)

#### PSY 201 Statistics I 5 credits

#### PSY 202 Statistics II 5 credits

I. Basic descriptive and inferential statistics; central tendency, variability, correlation and regression, probability, z and t tests, one way analysis 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, even numbered years)

#### PSY 210 Personality Adjustment 5 credits

The normal personality; self-knowledge and self-actualization; personality adjustment problems; various inadequate reactions, escape and defense mechanisms; positive mental health. (winter, spring)

#### PSY 220 Individual and Society 5 credits

How the individual shapes society by interacting with the various cultural institutions and how society, in turn, shapes the individual, especially during the growing up years. The psychological nature of individualism and how that nature is expressed in daily life. (winter)

#### 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 120. (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 120. (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 120 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 120 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 120 or equivalent. (fall)



**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 120. (winter)

**PSY 385 Computer Research Methods** 5 credits  
This non-programming course uses existing computer programs or program "packages" to solve statistical problems. The course consists of both lectures and laboratory experience at a computer terminal. Prerequisites: PSY 201 or any other elementary course in statistics. (winter; even-numbered years)

**PSY 401 Experimental Laboratory Psychology** 5 credits  
Introduction to the methods of natural sciences with an emphasis on the experimental method. Course includes psychophysics, perception, learning and memory and thinking and problem solving. Laboratory projects including one student-designed project and written laboratory reports. Three lecture and four laboratory hours per week. Prerequisites: PSY 100 and 201. (fall, spring)

**PSY 402 Experimental Psychology-Learning** 5 credits  
Principles of conditioning, instrumental learning, reinforcement, discrimination, punishment and fear. Human verbal learning, memory and forgetting. Biological aspects of human and animal learning addressed in the context of learning theory. Four lecture hours per week and an arranged lab in either human or animal learning depending on choice of student. Prerequisite: PSY 401. (winter, odd-numbered years)

**PSY 427 Introduction to Counseling** 5 credits  
Basic theory, principles and dynamics of the counselor-client relationship and the counseling process. Prerequisite: PSY 120.

**PSY 461 Theory and Experience of Group Dynamics** 5 credits  
Basic theory and principles of group dynamics. Experience of group dynamics in a group focusing on the interpersonal, gives a foundation for understanding theory.

**PSY 480 Interdisciplinary Core Course** 3-5 credits  
Title and content change each term.

**PSY 487 Senior Seminar I** 1 credit  
**PSY 488 Senior Seminar II** 4 credits  
Reading and discussion of current issues with respect to psychology as a mental health profession, and as a discipline with a particular content and diverse methodologies. Prerequisite: permission. (I. winter, II. spring; must be taken in same year)

**PSY 490 Symposium on Alcoholism** 2-5 credits  
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) Also offered as ADD 400.

**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

## Sociology

**David McCloskey, Ph.D., Chairperson**

### Objectives

As the basic social science, sociology raises the question: Why do people do what they do? Sociology offers an in-depth understanding of behavior in human groups ranging from families and small groups to communities and organizations to whole societies, cultures and civilizations.

Sociology studies the ecological foundations of society, major institutions and the social structure, the formation of self and personal identity, and symbolic systems in their cross-cultural and historical dimensions. Theory and research are integrated, enabling students to comprehend the main patterns and trends of past, present and future.

A sociology major or minor helps students prepare for careers in any field in which working with people is paramount, and for graduate study or law school. Particular emphasis is placed on the practical applications of sociological knowledge in the fields of social work, family-life studies and social research. Internships match theory with practice by providing opportunities for on-the-job training in selected sites.

### Degree Offered

Bachelor of Arts

### General Program Requirements

Students who major in sociology must satisfy the university core curriculum requirements as given in this bulletin and the general program requirements of the College of Arts and Sciences. Transfer students must complete a minimum of 25 credits in sociology at Seattle University.

### Departmental Requirements

**Bachelor of Arts — Major in Sociology — 60 credits**, which must include SC 120, and a selection of courses as indicated below from each of the five main areas of the sociology curriculum:

| Area  | Credits |
|---|---------|
| I. One course from Human Ecology: 202, 303, 306, 404, 408                       | 5       |
| II. Two courses from Institutions and Social Structure: 210, 215, 316, 319, 414 | 10      |
| III. One course from Self and Society: 222, 321, 323, 424                       | 5       |
| IV. One course from Cultural Systems: 230, 330, 333, 438                        | 5       |
| V. Two from Theory and Methods: one from 340 or 442; and one from 346, 348, 444 | 10      |

Students should select the remaining elective sociology courses in close consultation with departmental advisers. A minimum of 30 upper division credits will be required for graduation.

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**Bachelor of Arts — Major in Applied Sociology —** Students may elect to concentrate in one of three tracks in applied sociology: (A) applied social research, (B) family-life studies, (C) social work. Each track requires 65 credits. Sociology area requirements for those in tracks are the same as noted above except they choose only one course in area II. In addition to the sociology area requirements, those majoring in (A) must take SC 346, 348, 482 and PSY 385; (B) SC 210, 215, 321 and 462, and (C) SC 250, 353, 354 and 450. All track majors must take SC 488 Internship, five credits.

Students should consult closely with departmental advisers in choosing appropriate electives.

**Undergraduate Minor —** Minors in sociology must take 30 credits, including SC 120, and one course from each of the five main areas of the sociology curriculum outlined above. Transfer students must take at least 15 upper division credits at Seattle University for a minor.

**Teacher Education —** As of fall 1990 the teacher preparation program is a graduate level program only.

Those students planning to become elementary teachers or secondary sociology or social studies teachers must complete a bachelor's degree prior to beginning the teacher preparation program. They should discuss their major with their sociology adviser to ensure they are enrolled in the appropriate courses. Second endorsements are available in sociology (24 credits) and social studies (45 credits). Students planning to become teachers must contact the School of Education for advising.

### Bachelor of Arts

Suggested program sequence below pertains to major only.

#### Freshman Year

Sociology 120 ..... 5 credits

#### Sophomore Year

Area I Human Ecology ..... 5 credits

Area II Institutions and Social Structure ..... 10 credits

Sociology elective ..... 5 credits

#### Junior Year

Area III Self and Society ..... 5 credits

Area IV Cultural Systems ..... 5 credits

Area V Theory and Methods ..... 5 credits

Sociology electives or track ..... 10 credits

#### Senior Year

Area III, IV, or V ..... 5 credits

Sociology electives or track ..... 10 credits

Total .... 60 or 65 credits

### Sociology Courses

**SC 120 Introductory 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. Correlates with PL 220.

**SC 202 Human Ecology and Geography 5 credits**

Examination of basic human responses to nature. (1) Population dynamics, settlement patterns, resource usage, environmental impacts and the relation of these to ecological processes; (2) geographical location and spatial distribution of human activities in terms of natural and cultural regions. The significance of "place;" special focus on Pacific Northwest.

**SC 210 American Society and Culture 5 credits**

Exploration of the basic institutions and social structure of America. Analysis of main patterns and trends since WWII in population, environment, technology, economy, politics, family and class, interpreted as a transformation of post-industrial society. Reflection on origin and nature of American values and character structure (esp. Weber); problems and future prospects.

**SC 215 Family and Kinship 5 credits**

Analysis of the nature of family systems. Kinship as the primordial social bond, and the evolution of families in relation to changes in the larger social structure. Contemporary family types, dynamics, development, policy, etc.; changes in contemporary family and kinship relations.

**SC 222 Social Psychology 5 credits**

Inquiry into fundamental relations between the individual and society. Theoretical perspectives on interaction and communication, formation of personal identity through identification with models, internal organization of "self," formation and changes of perceptions, attitudes, beliefs and behaviors; small-group dynamics, collective behavior.

**SC 230 Cultural Anthropology 5 credits**

Study of the nature and dynamics of cultural processes, the evolution of human beings and cultures, and diversity of cultures. Analysis of the ecological, social and symbiotic lives of humans in a holistic way. Case studies and selected institutions and peoples. Evolution of major sociocultural systems; impacts of Westernization on native peoples today.

**SC 250 Introduction to Social Work 5 credits**

Historical development of social welfare practices and institutions. Theoretical bases underlying the structure and function of social welfare systems and services. Philosophy and methods used by professional social workers in meeting human needs.

**SC 303 Sociology of Community 5 credits**

Study of community as both an experience and a place; main focus on the life of the local community. Consideration of classical theories of Toennies and others; ecological, anthropological and sociological perspectives on community. Historical changes transforming communities in the modern world and America. Contemporary problems of community and innovative responses; community and regional development.

**SC 306 Population Dynamics 5 credits**

Analysis of basic demographic processes and principles; population in relation to environment and resources. Main demographic patterns and trends in history in relation to changes in social and economic organization. Contemporary dynamics, including the "demographic transition," over-population and "birth dearth."

**SC 316 Inequality and Stratification 5 credits**

Exploration of the nature and development of social inequality and societal stratification. Alternative theories of Marx, Weber, functionalists and others on the dynamics and evolution of stratification systems, especially the emergence of the modern class system, in relation to changes in social structure. Special focus on classes and elites in America, and contemporary changes.

**SC 317 Racial and Ethnic Relations 5 credits**  
Investigation of the social construction of "race" and "ethnicity" in comparative perspective, including the political and socio-historical factors affecting individual and group identities. Special attention paid to the economic and social-psychological dimensions of racism and domination.

**SC 319 Deviance and Social Control**  
Analysis of the nature and dynamics of norms and values, deviance and sanctions, and modes of social control. Theories of causes of deviant behavior, types of deviance, processes of becoming deviant, stigmatization; deviant groups and subcultures, deviance and race, ethnicity, gender and class differences; deviance, innovation and social change.

**SC 321 Socialization Through the Life-Cycle 5 credits**  
Study of the formation of personal identity throughout the human life-cycle. (1) socialization: emergence of the self through identification with models, agents and modes of socialization, resocialization; (2) life-stages: moral and cognitive development, sociology of childhood, youth, adulthood and old age. Changes in socialization patterns and life-stages in contemporary America.

**SC 323 Culture and Personality 5 credits**  
Exploration of cross-cultural differences in the organization of personality systems. Alternative theories of culture and character, formation of cognitive and moral structures, and changes in "selves" in relation to changes in larger social and historical contexts. Evolution of Western notions of "personhood," the modern "self" and development of American character structure.

**SC 300 Sociology/Anthropology of Religion 5 credits**  
Exploration of the nature and evolution of religion from a cross-cultural perspective. Theories of Durkheim, Marx, Weber and others on the nature and dynamics of religious beliefs, symbols, behaviors, organizations and movements; interrelations of religion, society, culture and self. Evolution of religious systems in relation to changes in social organization; contemporary religion and society.

**SC 333 Sociology/Anthropology of Law 5 credits**  
Exploration of the nature and dynamics of law from a cross-cultural perspective. Theories of custom and law, sources of legal forms and principles; legal institutions, classes and the state; deviance, law and social control; changes in legal systems in relation to changes in politics, economics, religion and society.

**SC 336 Sociology/Anthropology of Health and Medicine 5 credits**  
Exploration of the meanings of health, disease and modes of healing from a cross-cultural perspective. Changes in disease and mortality in relation to changes in social structure. Development of modern scientific medicine, professionalization, and the hospital system; critiques and alternative therapeutics; contemporary dilemmas and future prospects.

**SC 340 Classical Sociological Theory 5 credits**  
Examination of the classical theoretical tradition in sociology. Origins of sociology and the social sciences, contexts and changes in social organization, especially the "Twin Revolution" — Industrial and French; founders and schools. Development of sociological theory in the 19th and early 20th centuries: special focus on Marx, Durkheim and Weber; continuing significance of classical models today.

**SC 346 Social Statistics 5 credits**  
Exercises in basic descriptive and inferential statistics as used in the social sciences, including measures of central tendency and dispersion, parametric and non-parametric measures of correlation and association in higher-level analysis.

**SC 348 Quantitative Research Methods 5 credits**  
Research logic, strategy and design, nature of hypotheses and how to test them; operationalization of variables; instrumentation with tests for reliability and validity; sampling procedures; data gathering techniques; data processing and analysis with statistical techniques.

**SC 353 Ecological Foundations of Social Work 5 credits**  
Exploration of systems models, analysis and intervention in living systems as "nested ecologies;" the bases of social work practice from the micro-level of individual ecologies to the macro-level of cultural ecologies. Prerequisite: SC 250.

**SC 354 Social Work in Personal Ecologies 5 credits**  
Survey of the philosophy, practice and politics of the past, present and future of social work with the micro-level ecologies of individuals, families and small groups, with a focus on interviewing and intervention skills. Prerequisite: SC 353.

**SC 367 Marriage and Divorce 5 credits**  
History of marriage and divorce in American society; explanations of change in various social arenas — economic, political, religious, educational and familial.

**SC 368 Social Work with Families 5 credits**  
Behavioral dynamics in family systems, the reciprocal nature of relationships, and conceptual framework for individual and family therapy through study of treatment modalities.

**SC 371 Criminology 5 credits**  
A review of the theories of causes of criminal behavior; sociological explanations of criminal interactions, criminal systems and their functions.

**SC 372 Juvenile Delinquency 5 credits**  
Analysis of the offenses of juvenile offenders, as distinct from those of adult offenders, and sociological explanations of these behaviors with contemporary conceptual models.

**SC 391 Special Topics 1-5 credits**

**SC 392 Special Topics 1-5 credits**

**SC 393 Special Topics 1-5 credits**

**SC 404 Technology and Society 5 credits**  
The nature of technology as a cultural invention, and theoretical perspectives on the interaction between technology, society and self. Types of technologies and historical development of them in relation to social, economic, political and scientific changes. Special focus on the contemporary revolution in technology and its impact on everyday life. Problems and prospects for the future.

**SC 408 The Urban Revolution 5 credits**  
Nature and dynamics of the city. Theories of the city in history, and development of the Western city (Mumford, Pirenne, Marx, Weber, etc.); urbanization and industrialization; contemporary dynamics of urban regions in relation to social, technological, economic and political changes; the "megapolis." Special focus on the Third World, PNW, and Seattle and environs.

**SC 414 Social Movements 5 credits**  
The nature and dynamics of social movements. Alternative theories of types of movements, preconditions, modes of mobilization and organization, phases of development, the role of charismatic figures and groups, impacts on policy and culture. Case studies of significant historical, protest and contemporary movements.

**SC 421 Gender Roles 5 credits**  
Maleness/femaleness vs. masculinity/femininity; reflection of gender role changes in modern and traditional societies, perceptions and explanations of role changes in educational, economic, political, religious, marital and familial life in American society.



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|  |  |   |
|--|--|---|
| <p><b>SC 424 Sociology of Mental Illness</b> 5 credits<br/>The nature, dynamics and treatment of madness and insanity from a sociocultural perspective. Theoretical perspectives on the social causes of mental illness; class, gender and cultural differences; therapeutic approaches in cross-cultural and historical perspective. Changes in types and treatments of mental illness in relation to changes in society; contemporary definitions and treatment.</p>                           | <p><b>SC 496 Independent Study</b><br/><b>SC 497 Independent Study</b><br/><b>SC 498 Independent Study</b></p> | <p><b>1-5 credits</b><br/><b>1-5 credits</b><br/><b>1-5 credits</b></p> |
| <p><b>SC 430 Sociology of the Future</b> 5 credits<br/>Examination of the mainline patterns and trends of our time, and scenarios of the future; critiques and alternatives.</p>   |  |   |
| <p><b>SC 438 Anthropology of Pacific Northwest Peoples</b> 5 credits<br/>Study of the cultures of native peoples of the north Pacific coast and inter-mountain plateau. Overview of eras, and natural and cultural regions. Analysis of selected peoples in terms of ecology and economics, kinship, politics, status, mythology and ritual. Review of inter-tribal relations, native-white relations, and native-government relations. Contemporary changes, politics and future prospects.</p> |  |   |
| <p><b>SC 442 Contemporary Sociological Theory</b> 5 credits<br/>Examination of major theoretical perspectives in contemporary sociology. Development of sociological theory in the 20th century, especially since WW II; leading thinkers and schools. Exercises in theory construction, and the practical application of theories.</p>  |  |   |
| <p><b>SC 444 Qualitative Social Research</b> 5 credits<br/>Hands-on practical exercises in qualitative methods of social research: participant-observation field research, interviewing, ethnographic description, content analysis, document analysis and archival research, logic and methods of comparative and historical research.</p>  |  |   |
| <p><b>SC 450 Social Work in Public Ecologies</b> 5 credits<br/>Survey of the philosophy, practice and politics of the past, present and future of social work within mid-level ecologies or organizations, communities and political structures, and macro-ecologies of regions, nations and the planet, with a focus on appropriate intervention strategies at each level. Prerequisite: SC 354.</p>  |  |   |
| <p><b>SC 452 Social Work with Children and Youth</b> 5 credits<br/>A practice-oriented course focusing on methods of working with children and youth in social and interpersonal conflict situations at home, school and in the community.</p>   |  |   |
| <p><b>SC 456 Social Work with Adults and Aged</b> 5 credits<br/>Examines the history and current status of service to adults and aged. Current concepts about the aging process, and theoretical frameworks which attempt to explain or resolve the social problems of adults and aged are presented.</p>  |  |   |
| <p><b>SC 462 Ethnic Families of America</b> 5 credits<br/>Description and theoretical analysis of various ethnic groups in historical development of American society, and the impacts of their cultural perspectives on American family life.</p>   |  |   |
| <p><b>SC 480 Interdisciplinary Core Course</b> 3-5 credits<br/>Title and content change each term.</p>   |  |   |
| <p><b>SC 482 Evaluation Research</b> 5 credits<br/>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 346 and either 348 or 444.</p>   |  |   |
| <p><b>SC 488 Internship</b> 5-10 credits<br/>Practical work experience in a selected organization or supervised setting. Students are required to meet weekly on campus with other interns in a colloquium guided by a faculty member.</p>   |  |   |
| <p><b>SC 491 Special Topics</b> 1-5 credits<br/><b>SC 492 Special Topics</b> 1-5 credits<br/><b>SC 493 Special Topics</b> 1-5 credits</p>  |  |   |

## Theology and Religious Studies

Gary L. Chamberlain, Ph.D., Chairperson

### Objectives

Theology and religious studies contribute to the formation of students' personal growth by helping them develop attitudes, skills and knowledge to deal perceptively and critically with the religious dimension of human life, especially with the beliefs, practices and values of the Catholic Christian tradition. The department supplies two levels of courses for the university core curriculum. Phase II, religious experience courses (200 numbers on the bulletin course listings) aim at recognition and appreciation of the existence and function of the presence of the sacred in human experience and history; Phase III, theological reflection courses (300 numbers in the course listings) aim at enabling students to learn how to understand religious traditions.

Students must take a Phase II course before they can register for a Phase III course. Transfer students with more than 90 credits and no previous religious studies take a Phase II course.

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 — CORPUS) — See Graduate Bulletin

Master of Religious Education (Institute for Theological Studies — SUMORE) — See Graduate Bulletin

Master of Ministry (Institute for Theological Studies — SUMORE) — See Graduate Bulletin

### Program Requirements

Students who major in theology and religious studies must satisfy university core curriculum requirements as given in this bulletin, as well as the general program requirements of the College of Arts and Sciences. 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: Judaeo-Christian Origins (RS 200); one Christian scriptures course (RS 211, 217, 221); one additional scripture course on any level; one course from RS 230, 243, 252; two courses from RS 300, 303 or 307, 310, 317, 321; one course from RS 325, 334, 338, 341; one religious studies course (RS 263, 267, 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 Christian scriptures course; two courses from RS 300, 303 or 307, 310, 312, 317, 321; one course from RS 325, 334, 338, 341 and one from RS 263, 267, 275.

### Bachelor of Arts

Suggested program sequence.

#### Freshman year

|   |            |
|---|------------|
| English 110/Philosophy 110 sequence ..... | 10 credits |
| History 120/English 120 sequence .....    | 10 credits |
| *Foreign Language or Electives .....      | 15 credits |
| Fine Arts 120 .....                       | 5 credits  |
| Mathematics .....                         | 5 credits  |

*\*Demonstrate competence in Language III*

#### Sophomore year

|  |            |
|--|------------|
| Philosophy 220/Social Science I .....    | 10 credits |
| Social Science II .....                  | 5 credits  |
| Theology and Religious Studies 200 ..... | 5 credits  |
| Theology and Religious Studies .....     | 10 credits |
| History 221 or 231 .....                 | 5 credits  |
| Laboratory Science .....                 | 5 credits  |
| Electives .....                          | 5 credits  |

#### Junior year

|                                      |             |
|--------------------------------------|-------------|
| Ethics .....                         | 5 credits   |
| Interdisciplinary course .....       | 3-5 credits |
| Philosophy elective .....            | 5 credits   |
| Theology and Religious Studies ..... | 25 credits  |
| Electives .....                      | 5-7 credits |

#### Senior year

|   |            |
|---|------------|
| Social Science .....                              | 5 credits  |
| Theology and Religious Studies 460 .....          | 5 credits  |
| Theology and Religious Studies 421, 422, 423 .... | 15 credits |
| Electives .....                                   | 20 credits |

Total ..... 180 credits

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### Theology and Religious Studies Courses

**Note:** Courses numbered in the 200s are Phase II; those in the 300s are Phase III; those in the 400s are special courses for majors or minors and also occasionally offered electives for all. See core curriculum section.

### Phase II: Person in Society – Religious Experience

**RS 200 Judaeo-Christian Origins 5 credits**  
Examination of historical backgrounds and development of Israelite and Jewish religious experience and tradition; contribution to the foundations of belief in the Christ.

**RS 203 Prophets and Wisdom 5 credits**  
The function of the tradition's message in the former prophets in relation to the Torah is analyzed to serve as a basis for analyzing the thought of the latter prophets, culminating in II Isaiah's Suffering Servant poems, which lead into the major themes of the Wisdom Literature: unmerited suffering, the mystery of evil, the relation of wisdom and discipline.

**RS 211 The Gospel of Jesus Christ 5 credits**  
Examination of some New Testament writings in their religious and cultural context and in their literary origins 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**  
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**  
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**  
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 235 The Catholic Tradition 5 credits**  
Description of the historical roots and the characteristic set of beliefs, values, structures and practices that give rise to, shape and vitalize the continuing faith-life of Roman Catholics. Scriptural sources and life-effects of the tradition.

**RS 243 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 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 History of Religions 5 credits**  
Exploration of the basic human drive in religious experience; investigation of the why-where-when-how of the Holy and mysterious in Eastern religions and in Christianity; historical data and sources for the experience at the root of various traditions.

**RS 275 Jewish History and Theology 5 credits**  
Survey of Jewish history, going back to Biblical times, to discover the religious force expressed in developing beliefs, practices and ways of understanding.

**RS 291 Special Topics 2-5 credits**  
**RS 292 Special Topics 2-5 credits**  
**RS 293 Special Topics 2-5 credits**

### Phase III: Responsibility and Service – Theological Reflection

**RS 300 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 301 Women and Theology 5 credits**  
Exploration of central topics in feminist theology: e.g. naming the Sacred, the self in relation, transformation of the world. Discussion of what is involved in "doing theology" and what women bring to this discipline by attending to their own experience, interpretation and the power of their heritage.

**RS 303 A Theology of the Human 5 credits**  
Investigation of human persons in their relation to God, to other humans, to nature, 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 310 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 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 God acts, when and where God is encountered.

**RS 317 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 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 330 God, Money and Politics 5 credits**  
A critical examination of the relationship between wealth and power and the Christian tradition; relationship between faith and the social, political and economic order; faith and justice; Christian social teachings; Christian responses to issues of poverty, hunger and injustice.

**RS 334 Jesus and Liberation 5 credits**  
Examination of the subject and methods of liberation theologies, such as Latin American, feminist, Black, Asian; reflection on the life, mission, death and resurrection of Jesus Christ in light of oppressive situations; role of church; non-violence, revolution and the drive for freedom.

**RS 338 Human Sexuality: The Challenge of Love 5 credits**  
Study of ethical standards for human sexuality in relation to Scripture, Christian tradition, and human experience; dialogue between the natural/social sciences and theological perspectives on sexuality; role of gender in sexuality; examination of ethical norms on marriage, same-sex relationships, being single, and dysfunctional and abusive relationships; sacramental character of marriage; sexuality and the sacred.

**RS 341 Contemporary Ethical Issues 5 credits**  
Exploration of selected contemporary moral problems in the light of the challenge they present to Christian ethics; emphasis upon components of an adequate Christian ethical framework; dialogical character of Christian ethics between the natural/social sciences and theological/philosophical perspectives; issues such as non-violence; war and peace, capital punishment, racism, sexism, etc.

**RS 345 Biomedical Ethics: The Giving and Taking of Life 2-5 credits**  
Reflection on the ethical challenges which modern scientific and medical advances present to the Christian tradition in the areas of human reproduction and death; the proper relationship between science and Christian faith; the personal and relational character of human persons and their ways of moral knowing vs. the technological, scientific ways of determining knowledge.

**RS 347 Christianity and Ecology 2-5 credits**  
Exploration of the role and responsibility of humans in the natural world; place of nature in Christian teachings and practices; examination of Biblical themes such as domination, co-creation, Promised Land, and Exodus; Christianity in the face of the environmental crisis and its dialogue with nature religious; myths and symbols of the sacred in nature.

**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 380 Core Ethics: Christian Perspective 5 credits**  
Core ethics requirement as offered from Christian theological perspectives. Examines the theological contributions which Christian faith brings to bear upon normative ethics by exploring the constitutive elements of an adequate ethical framework within the Christian tradition; theological method, requisite sources of knowledge informing an ethical framework, the prioritization of sources in normative ethics, modes of ethical reasoning.

**RS 391 Special Topics 2-5 credits**  
**RS 392 Special Topics 2-5 credits**  
**RS 393 Special Topics 2-5 credits**

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

**RS 405 The Songs of the Community of Israel 5 credits**  
Analysis of the literary form and types of the Psalms; 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 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, reaction criticism and literary criticism.

**RS 421 Church History: The Formative Centuries 5 credits**  
Topical and chronological studies of the formation of the Christian community and the institutional Church: early Christian vs. Roman values; the missionary church; persecution and martyrdom; the Apologists; the origins of monasticism; Ambrose and church-state relations; the mind of Augustine; origins of the Papacy. Stress on the interplay of scripture, theology, praxis, historical circumstance and institutionalization.

**RS 422 Church History: The Medieval and Early Modern Centuries 5 credits**  
The Church in feudal society; the Gregorian reform; Anselm, dialectic discursive meditation and individual prayer; the Cistercians, Saint Francis and the Franciscans, the Dominicans; Scholasticism and the crisis of medieval theology; the crisis of the medieval papacy; the *aggiornamento* of the Renaissance Church; the quandary of the young Luther.

**RS 423 Issues in Modern and Contemporary Church History 5 credits**  
A study of some of the key events and movements which have shaped the contemporary church in the West; the Counter-Reformation, the Council of Trent, the Enlightenment, the French Revolution, 19th century theological developments, and 20th century Catholic developments leading to Vatican II.

**RS 431 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 480 Interdisciplinary Core Course 3-5 credits**  
Title and content may change each term.

**RS 491 Special Topics 2-5 credits**  
**RS 492 Special Topics 2-5 credits**  
**RS 493 Special Topics 2-5 credits**

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



*Seattle University*

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**Albers School of  
Business and Economics**

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### Albers School of Business and Economics

Jerry A. Viscione, Ph.D., Dean

C. Frederick DeKay, Ph.D., Associate Dean

#### Department Chairpersons

Accounting: David E. Tinius, Ph.D.

Administration: C. Patrick Fleenor, Ph.D.

Economics and Finance: Barbara M. Yates, Ph.D.

#### Professorships and Endowed Chairs

Security Pacific Professor of Economics and Finance:

Hildegard R. Hendrickson, Ph.D.

Thomas Gleed Chair in Business: Robert L. Higgs, Ph.D.

Robert D. O'Brien Chair in Business: William L. Weis, Ph.D.

#### Research Centers

Center for Economic Analysis and Forecasting: Mary Jean Rivers, Ph.D. and Barbara Yates, Ph.D., Co-Directors

Center for Business Ethics and Social Responsibility:  
Len Mandelbaum, Ph.D., Director

The Entrepreneurship Center: Harriet Stephenson, Ph.D., Director

#### 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 and Economics 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 and Economics has two principal divisions, undergraduate and graduate studies. Undergraduate majors are offered in seven business fields: accounting, business economics, finance, general business, international business, management and marketing. In addition, the school contains the Economics Department, which offers a bachelor's degree program. Minors are offered in business administration and economics.

#### Degrees and Programs Offered

Bachelor of Arts in Business Administration

Bachelor of Arts in Economics

Master of Business Administration — See Graduate Bulletin

Certificates of Post Baccalaureate Studies in Business

Accelerated Programs

#### Admission Requirements

All entering freshmen and undergraduate transfer students who meet the university's regular admissions standards may be admitted to the Albers School of Business and Economics 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 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. (ACC 230, 231, EC 260, 271, 272, BUSA 270, CSC 103). For students entering after summer 1990, the grade point average in the lower division required business, economics, mathematics and computer science courses must be no less than 2.25 and no grade may be below C-.

Students with 90 or more quarter credit hours who do not meet these standards will be subject to dismissal from the Albers School of Business and Economics. 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, economics, mathematics and computer science. In addition to the minimum GPA requirement, students must earn a grade of C- or better in each course required for the business major. This includes MT 118, MT 130, CSC 103, all courses in the business core and all courses in the major area of concentration.

#### 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 lab 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 seven major fields is required. Students may earn concentrations in two areas of business by completing the degree requirements for both concentrations and accumulating at least 190 credits. Students must complete at least 20 credits in each area of concentration. General business may not be one of the areas of a double concentration. No course in the area of specialization may be taken through independent study. Business core courses appear under the prefixes ACC, BUSA, EC, FIN, IB, MGMT, MKTG.



## General Program Requirements

A minimum of 180 credits is required for bachelor degrees in business or economics, including 75 hours of university 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 credits in business and/or economics at Seattle University.

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.

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 and Economics.

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.

The pass/fail option may not be applied to courses in the business core, university core and business major.

Internship and independent study must be graded CR/E.

## Degree Requirements

**Bachelor of Arts in Business Administration (all majors except accounting)** — Students seeking this degree under the university core curriculum complete a program with the following components:

1. Requirements in Arts and Sciences ..... 75 credits  
Students in business must satisfy the university core curriculum requirements with the exception of the requirement of an interdisciplinary course. MT 118 may satisfy the mathematics requirement of the core. In addition, business students must complete MT 130 (or MT 134) and CSC 103 (or demonstrated equivalent computer competency). Economics courses may not be used to satisfy the core social science requirement.
  2. Business core requirements ..... 60 credits  
ACC 230, 231, EC 260, 271, 272, BUSA 270, 310, 360, FIN 340, MKTG 350, MGMT 380, 482.
  3. Specialization in a major area  
of concentration ..... 20 credits  
Business economics, finance, general business, management, marketing or international business.
  4. Electives from any undergraduate  
offerings of the university ..... 25 credits
- Total ..... 180 credits

Transfer students with more than 89 credits on admission and students enrolled prior to fall 1987 follow the old core curriculum, with the following modifications:

1. The requirement of 10 credits of history may be replaced by 10 credits of arts and sciences electives.
2. The mathematics/science requirement is fulfilled by MT 118, MT 130, and a lab science.

## Bachelor of Arts in Business Administration

Suggested program sequence for all majors except accounting and international business.

### Freshman year

|   |            |
|---|------------|
| English 110/Philosophy 110 sequence ..... | 10 credits |
| Fine Arts 120 .....                       | 5 credits  |
| CSC 103 .....                             | 5 credits  |
| History 120/English 120 sequence .....    | 10 credits |
| Laboratory Science .....                  | 5 credits  |
| Mathematics 118, 130 (or 134) .....       | 10 credits |

### Sophomore year

|  |            |
|--|------------|
| ACC 230, 231, BUSA 270 .....                   | 15 credits |
| Economics 260, 271, 272 .....                  | 15 credits |
| Philosophy 220/Social Science I sequence ..... | 10 credits |
| Social Science II .....                        | 5 credits  |

### Junior year

|   |            |
|---|------------|
| BUSA 310, 360, FIN 340,<br>MKTG 350, MGMT 380 ..... | 25 credits |
| Business major (300-495) .....                      | 5 credits  |
| Theology and Religious Studies Phase II .....       | 5 credits  |
| Electives .....                                     | 10 credits |

### Senior year

|  |             |
|--|-------------|
| MGMT 482/Senior Synthesis .....                | 5 credits   |
| Business major (300-495) .....                 | 15 credits  |
| Ethics .....                                   | 5 credits   |
| Theology and Religious Studies Phase III ..... | 5 credits   |
| Electives .....                                | 15 credits  |
| Total .....                                    | 180 credits |

## Majors in Business Administration

### 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 advisor approval. The courses selected must be from at least three different areas.

## Department of Administration

### International Business

#### Objectives

The international business major prepares students for careers with firms engaged in international business. Emphasis is placed on perceiving the problems and opportunities of operating in an international environment.

Requirements for the major are IB 386, three courses from FIN 446, MKTG 456, EC 472, 473, and two supplemental activities from the following four:

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1. 15 credits of a **single** foreign language. Latin and other languages not in use will not be accepted.
2. A two-quarter internship with a company involved in international business in the Seattle area.
3. A minimum of one quarter (15 credits) of related studies abroad in an acceptable program. The coursework must be approved prior to study abroad by the Albers School of Business and Economics and Seattle University.
4. International studies minor.

### Management

#### Objectives

The general area of management is concerned with the administration of private business or public enterprise. It includes relating the goals of an enterprise with the goals of those individuals and groups of individuals who make the enterprise a continuing process. The management major is designed for students seeking careers in administration, personnel or industrial relations in business or government.

Requirements for the management major are: MGMT 382, 383, and at least 10 credits from MGMT 387, 481, 483, 485 or other approved 300 or 400 level management course.

### 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: MKTG 451, 452 and 10 credits from MKTG 351, 352, 353, 456 or other approved 300 or 400 level marketing course. EC 374, 472 and 473 are strongly recommended.

## Department of Economics and Finance

### Business Economics

#### Objectives

A concentration in business economics enables students to deepen their understanding of the national and world economics as well as to develop economic analysis skills for careers in business, banking, investments, law and government.

The requirements for a concentration in business economics are: EC 372, 374 and two 400 level economics courses. EC 373 Applied Econometrics may be substituted for one of the 400 level courses.

### Finance

#### Objectives

The courses in the finance curriculum are designed to provide the students with the theoretical and technical knowledge students need to become effective financial decision makers. The curriculum emphasizes the importance of the finance function in a business setting as well as the role it has in the efficient allocation of resources in the economy.

Requirements for the finance major are: FIN 342, 344, EC 372 and a minimum of five credits among ACC 432, FIN 441, 443, 444, 445, 446, 449 or other approved upper-division finance courses. Students are encouraged to take additional courses in finance and/or minor in economics or take a second concentration in business economics. EC 471, 473 and 474 are especially recommended.

## Department of Accounting

### Accounting

#### Objectives

Professionally trained accountants serve in diverse roles in private business, government, non-profit organizations and other entities. After meeting the state requirements, many accounting graduates pursue careers as certified public accountants.

Students seeking the bachelor of arts in business administration with an accounting major must complete the following requirements:

1. Requirements in arts and sciences ..... 75 credits
  2. Business core — as listed for bachelor of arts in business administration ..... 60 credits
  3. Accounting major ..... 40 credits  
ACC 330, 331, 332, 333, 336, 435, 437 plus  
five credits upper division accounting electives.
  4. Electives ..... 5 credits
- Total ..... 180 credits

### Bachelor of Arts in Business Administration

#### Accounting Major

Suggested program sequence.

##### Freshman year

- English 110/Philosophy 110 sequence ..... 10 credits  
CSC 103 ..... 5 credits  
Fine Arts 120 ..... 5 credits  
History 120/English 120 sequence ..... 10 credits  
Laboratory Science ..... 5 credits  
Mathematics 118, 130 (or 134) ..... 10 credits

##### Sophomore year

- ACC 230, 231, EC 260, BUSA 270 ..... 20 credits  
Economics 271, 272 ..... 10 credits  
Philosophy/Social Science I sequence ..... 10 credits  
Social Science II ..... 5 credits

## Junior year

|   |            |
|---|------------|
| FIN 340, MKTG 350 .....                       | 10 credits |
| Accounting major:                             |            |
| ACC 330, 331, 332, 333, 336 .....             | 25 credits |
| Theology and Religious Studies Phase II ..... | 5 credits  |
| Electives .....                               | 5 credits  |

## Senior year

|  |             |
|--|-------------|
| BUSA 310, MGMT 360, 380, 482 .....             | 20 credits  |
| Accounting major:                              |             |
| ACC 435, 437, elective .....                   | 5 credits   |
| Ethics .....                                   | 5 credits   |
| Theology and Religious Studies Phase III ..... | 5 credits   |
| Total .....                                    | 180 credits |

## Minor in Business Administration

Students completing a set of seven business courses (35 credits), beyond the non-business prerequisite courses in math, computer science and economics would be awarded a minor in business administration. One of the math courses and one of the economics courses could fulfill university core requirements.

### Prerequisite courses:

MT 118 College Algebra and MT 130 Business Calculus (or MT 134)  
EC 271 and EC 272 Principles of Economics (macro and micro)  
CSC 103 Introduction to Computers and Applications

### Business courses:

EC 260 Business Statistics  
ACC 230 and 231 Principles of Accounting (financial and managerial)  
FIN 340 Business Finance  
MKTG 350 Marketing  
MGMT 380 Principles of Management

### One of the following:

BUSA 270 Business Law  
BUSA 310 Management Information Systems  
BUSA 360 Production and Operations Management (students considering an MBA degree would be encouraged to take all three.)

Students working toward a minor in business are subject to the same grade requirements as students pursuing a major in business administration. Students applying for the minor are required to take at least 20 credits in business from Seattle University.

## Accelerated Programs

### Five-Year BA-MBA Program

The Albers School of Business and Economics offers an opportunity for academically superior undergraduates to accelerate their undergraduate work and be granted early admission to the MBA program. The program allows students to complete a bachelor of arts in business administration and a masters in business administration in a five-year time span. This program is open to full-time undergraduates with a 3.4 GPA or greater. Part-time undergraduates can participate in the program on a modified schedule. Interested students should contact the Office of the Associate Dean.

### Five-Year BAE-BA Minor-MBA Program

The Albers School of Business and Economics offers an opportunity for academically superior undergraduates to accelerate their undergraduate work and be granted early admission to the MBA program. The program allows students to complete a bachelor of arts in economics, a minor in business administration and a masters in business administration in a five-year time span. This program is open to full-time undergraduates with a 3.4 GPA or greater. Part-time undergraduates and transfer students can participate in the program on a modified schedule. Interested students should contact the Office of the Associate Dean.

### Certificate of Post-Baccalaureate Studies

The Albers School of Business and Economics offers 1) an undergraduate certificate in business for students with a bachelor's degree in a non-business area and 2) certificates in specific disciplines for students with a bachelor's degree in business.

The certificate of post-baccalaureate studies in business provides an opportunity for graduates of non-business undergraduate programs to develop expertise and acquire a credential in the business area while earning college credits. The curriculum requires between six and 13 courses, depending on prior course work. It largely replicates the required courses for a minor in business and fulfills many of the foundation level course requirements for the MBA degree. The academic credit may be applicable to other degree program requirements.

The certificates of post-baccalaureate studies in accounting, business economics, finance, international business and other fields provide an opportunity for qualified business graduates to develop expertise and acquire a credential in an area of specialization beyond the bachelor's in business degree while earning college credits. The curriculum consists of a selection of six or seven undergraduate courses, at least four of which must be in the discipline named in the certificate. To avoid duplication of previous course work, courses in related disciplines may be substituted for classes in the named discipline.

The program is open to graduates of accredited bachelor's programs only. The application process will require preparation of an application form, payment of fees and submission of transcripts. For admission, a student's academic performance must be equal to or better than the standards for admission to and for graduation from the Seattle University BABA program. Seattle University graduates generally will be considered automatically eligible for the program. Students will register as regular certificate-seeking undergraduate students at Seattle University. For more information about these certificate programs, contact the Office of the Associate Dean.

### Certificate in Business Education and/or Marketing

The School of Education, in cooperation with the School of Business and Economics, offers teacher certification in business education and/or marketing. Before applying for this certification program, interested students should speak with the chairperson of teacher education in the School of Education concerning course requirements that cannot be met at Seattle University.



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### Business Courses

#### Department of Accounting

**ACC 230 Principles of Accounting (Financial) 5 credits (BUS 230)**

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).

**ACC 231 Principles of Accounting (Managerial) 5 credits (BUS 231)**

Introduction to the use of accounting information for decision-making in planning and controlling the operation of business organizations. Prerequisite: ACC 230 and sophomore standing. (fall, winter, spring).

**ACC 330 Cost Accounting 5 credits (BUS 330)**

Determination of manufacturing costs in job order and process cost systems, including standard cost measurement; introduction to methods of cost control. An emphasis of effective written communication in the cost accounting function. Prerequisites: ACC 231 and junior standing.

**ACC 331 Intermediate Accounting I 5 credits (BUS 332)**

Theory and development of accounting principles; evolution of theory as it relates to the current state of accounting for the assets of the entity and the measurement and reporting of periodic income. Introduction to international accounting issues. One third of the class time will be devoted to written and oral communications skill development. Prerequisites: ACC 231 and junior standing.

**ACC 332 Intermediate Accounting II 5 credits (BUS 333)**

Theory and development of accounting principles; evolution of theory as it relates to the current state of accounting liabilities and owner's equities, including issues in international accounting. Prerequisite: ACC 331.

**ACC 333 Intermediate Accounting III 5 credits (BUS 334)**

Study of advanced topics in accounting theory and practice with emphasis upon financial reporting. Selected areas include: accounting for income taxes, accounting changes, interim and segment reporting, statement of cash flows, and disclosure requirements, including international accounting issues. Special emphasis on accounting for governmental and not-for-profit organizations. Prerequisite: ACC 332.

**ACC 336 Federal Income Tax I 5 credits (BUS 336)**

Taxation of individuals; gross income and deductions; property transactions; use of tax service and research in tax problems. Prerequisites: ACC 231 and junior standing.

**ACC 430 Advanced Cost Accounting 5 credits (BUS 430)**

An extension of ACC 330, this course focuses upon the structure of management control systems, as contrasted with product costing systems. Both the technical processes (quantitative models such as flexible budgets, forecasting methods, variance analysis, and decision models) and the behavioral processes (organizational structures, employee participation, and compensation) are stressed. Emphasis given to oral and written communications skill development. Prerequisites: ACC 231, 330, EC 260.

**ACC 431 Advanced Financial Accounting 5 credits (BUS 431)**

Special accounting problems associated with partnerships and business combinations. Particular emphasis on consolidated financial statements and price-level adjusted financial statements. Emphasis given to the development of oral and written communications skills. Prerequisite: ACC 332.

**ACC 432 Financial Statement Analysis 5 credits (BUS 432)**

Develop an understanding of the tools and techniques used in the analysis of financial statements. Develop an understanding of the use and application of financial statements in decision-making, both internally and by investors and creditors. Both liquidity and profitability analysis will be examined. Emphasis given to the development of oral and written communications skills. Prerequisites: ACC 230, 231 and FIN 340.

**ACC 433 Seminar in Accounting Theory 5 credits (BUS 433)**

Critical examination of accounting theories; concepts, postulates and principles related to income measurement, assets, liabilities and equities. Emphasis given to the development of oral and written communications skills. Prerequisite: ACC 332.

**ACC 435 Auditing 5 credits (BUS 435)**

Purpose, scope, concepts and methods used in examining and attesting to financial statements. Current issues concerning professionalism, the role of the public accountant, and auditing matters in international accounting. An emphasis on effective written communication in the audit function. Prerequisite: ACC 332.

**ACC 436 Federal Income Tax II 5 credits (BUS 436) (BUS 437)**

Tax returns of partnerships and corporations; problems related to installment sales, cash basis and accrual basis. Assisting taxpayers with preparation of their individual income tax returns with the supervision of tax professionals. Emphasis given to the development of communication skills in a professional-to-client environment. The taxpayer assistance component of the course is spread over parts of winter and spring quarters. Prerequisite: ACC 336.

**ACC 437 Accounting Systems and Communications 5 credits**

Study of accounting information systems and their managerial aspects, with a significant, approximately one-third, emphasis on oral and written business communications skill development. Topics include computer technology, systems controls, systems analysis and design, as well as specific applications in accounts payable, inventory, payroll, billing, cash and property. Prerequisites: ACC 330, 332, BUSA 310.

**ACC 439 Advanced Auditing/ Internal Auditing 5 credits (BUS 439)**

Analysis of current issues in auditing, including audit experience through an audit simulation. The course is designed to extend knowledge of audit decision making and improve written and oral communication abilities. Topics included will be closely tied to current issues facing the accounting and audit professionals. Prerequisites: ACC 331, 332, 333, and 435.

**ACC 491 Special Topics 2-5 credits**

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

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

**ACC 498 Independent Study 1-5 credits**

Supervised individual research. Open to senior business majors with the approval of the student's adviser. Must be taken CR/E.

## Department of Administration

### General Business (BUSA)

**BUSA 270 Law and Business (BUS 270)** 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).

**BUSA 291 Special Topics** 1-5 credits

**BUSA 292 Special Topics** 1-5 credits

**BUSA 293 Special Topics** 1-5 credits

**BUSA 310 Information Systems (BUS 310) Management in Business** 5 credits

Introduction to managerial aspects related to information processing systems and microcomputer applications. Topics include an overview of fundamental business computer systems, information processing, software and hardware selection, the management of information systems, distributed processing, data security, and hands-on equipment time with microcomputers. Prerequisites: junior standing and CSC 103.

**BUSA 360 Production and (BUS 360) Operations Management** 5 credits

Survey of the system analysis, design and operating techniques for manufacturing and service organizations, including topics in facility location, linear programming, inventory control, work measurement, forecasting techniques, scheduling and quality control. Prerequisites: EC 260 and CSC 103. (fall, winter, spring).

**BUSA 370 Advanced Law and Business (BUSA 370)** 5 credits

Commercial law, including contracts, business structures and property relationships; legal aspects of government and business, including credit and environmental legislation. Prerequisite: BUSA 270 and junior standing.

**BUSA 491 Special Topics** 2-5 credits

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

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

**BUSA 498 Independent Study** 1-5 credits

Supervised individual research. Open to senior business majors with the approval of the student's adviser. Must be taken CR/E.

### International Business (IB)

**IB 386 International Business (BUS 386)** 5 credits

Addresses the differences in finance, accounting, marketing and management in an international environment. Specific attention is given to the cultural dimensions of these differences and the changes occurring in the international environment. Analyzes forms of business organization, roles of multinational corporations, methods of serving foreign markets, political risk assessment and other topics. Prerequisite: MGMT 380 and junior standing.

For other international business courses, see finance, marketing and economics course listings.

**IB 491 Special Topics** 2-5 credits

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

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

**IB 498 Independent Study** 1-5 credits

Supervised individual research. Open to senior business majors with the approval of the student's adviser. Must be taken CR/E.

## Management (MGMT)

**MGMT 380 Principles of Management (BUS 385)** 5 credits

Introductory survey of field of management including organizational theory, behavior, development, strategy and human resource management. Basic concepts and tools for solving organizational problems. Prerequisite: junior standing.

**MGMT 382 Organizational Behavior (BUS 380)** 5 credits

Models of organizational behavior, alternative behaviors, developing skills in dealing with people in areas of leadership, motivation, communication skills, conflict and group processes. Prerequisite: MGMT 380.

**MGMT 383 Human Resource Management (BUS 383)** 5 credits

The role of the human resource department, social and legal environment, human resource planning, recruiting, selection, training, evaluation, compensation, career planning, employee relations, discipline and organizational exit. Prerequisite: MGMT 380.

**MGMT 387 Business Communications** 5 credits

Elements of the communication process, formal and informal networks, verbal and non-verbal messages, listening, conflict styles, effective meetings, small group communication, oral presentations, written communications and intercultural considerations. Prerequisite: MGMT 380.

**MGMT 481 Small Business Management (BUS 481)** 5 credits

Procedures and problems in starting and operating a successful small business enterprise. Prerequisite: senior standing.

**MGMT 482 Business Policy and Organization (BUS 482)** 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 and senior standing. (fall, winter, spring).

**MGMT 483 Management Seminar (BUS 483)** 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: MGMT 380 and senior standing.

**MGMT 485 Management of Change** 5 credits

Review of forces and factors acting to create change in organizations, relationship between changes in organizations and human reactions, systemic change efforts, resistance to change, planned change models. Prerequisite: MGMT 380.

**MGMT 491 Special Topics** 2-5 credits

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

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

**MGMT 498 Independent Study** 1-5 credits

Supervised individual research. Open to senior business majors with the approval of the student's adviser. Must be taken CR/E.

## Marketing (MKTG)

**MKTG 350 Introduction to Marketing (BUS 350)** 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, or permission. (fall, winter, spring).

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### **MKTG 351 Consumer Behavior** 5 credits (BUS 351)

Application of behavioral sciences to explore consumer decision-making processes. Characteristics of goods, shopper behavior, opinion leadership, market segmentation, concepts, relevant personal selling. Prerequisite: MKTG 350.

### **MKTG 352 Marketing Communications** 5 credits (BUS 352)

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: MKTG 350.

### **MKTG 353 Sales Management** 5 credits (BUS 353)

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 management planning, recruiting, training, sales force organization, supervision and motivation, compensation and evaluation. Prerequisite: MKTG 350.

### **MKTG 451 Marketing Research** 5 credits (BUS 451)

Purpose, methods and techniques of marketing research. Prerequisites: MKTG 350 and EC 260.

### **MKTG 452 Marketing Management** 5 credits (BUS 452)

Case studies of corporate problems, decision-making. Student participation in various roles of marketing. Organization planning, execution and control of marketing problems. Prerequisites: seniors only. MKTG 350 and ACC 231.

### **MKTG 456 International Marketing** 5 credits (BUS 456)

Analyzes issues important in marketing in multiple foreign environments. Addresses market segmentation, product design, promotional strategies, pricing strategies in the face of changing exchange rates, media choice and the importance of cultural differences. Offered every other year. Prerequisite: junior standing. MKTG 350.

### **MKTG 491 Special Topics** 2-5 credits

### **MKTG 496 Independent Study** 1-5 credits

### **MKTG 497 Independent Study** 1-5 credits

### **MKTG 498 Independent Study** 1-5 credits

Supervised individual research. Open to senior business majors with the approval of the student's adviser. Must be taken CR/E.

### **FIN 441 Case Problems in Finance** 5 credits (BUS 441)

Through the use of cases develop skills in identifying problems, conducting analysis and using financial theory for making decisions in simulated business settings. Prerequisite: FIN 342.

### **FIN 443 Financial Institutions and Markets** 5 credits (BUS 443)

Nature, function and role of financial institutions and markets in the economy. Transmission of monetary and fiscal policies through interest rates and funds flows. Prerequisite: EC 271.

### **FIN 444 Security Analysis** 5 credits (BUS 444)

Analysis of the securities of public entities and private firms from both individual and institutional viewpoints. Prerequisite: FIN 340.

### **FIN 445 Risk Analysis** 5 credits (BUS 345)

Analysis of how risk and uncertainty affect the financial decision-making process of individuals and financial institutions. Topics covered include hedging and insurance theory, and the operations of futures and options markets. Prerequisite: FIN 340.

### **FIN 446 International Corporate and Trade Finance** 5 credits (BUS 446)

Investigates techniques used to manage the financial activities of a corporation operating in an international environment. Addresses economic exposure of a firm to exchange rate changes, hedging techniques, capital budgeting, international financial markets, techniques of accessing blocked funds, foreign currency options, and other topics. Offered every other year. Prerequisites: FIN 340 and junior standing.

### **FIN 449 Senior Seminar** 5 credits

Advanced topics course. Purpose is to expose students to recent research in finance in a seminar setting. Topics covered will depend on instructor. Prerequisites: FIN 340, 342, 344.

### **FIN 491 Special Topics** 2-5 credits

### **FIN 496 Independent Study** 1-5 credits

### **FIN 497 Independent Study** 1-5 credits

### **FIN 498 Independent Study** 1-5 credits

Supervised individual research. Open to senior business majors with the approval of the student's adviser. Must be taken CR/E.

## **Department of Economics and Finance Finance (FIN)**

### **FIN 340 Business Finance** 5 credits (BUS 340)

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, ACC 231 and junior standing. (fall, winter, spring).

### **FIN 342 Intermediate Corporate Finance** 5 credits

Thorough coverage of the topics: working capital management, capital budgeting, lease analysis, dividend policy, long-term sources of financing and contingent claims as they apply to corporate finance. Prerequisite: FIN 340.

### **FIN 344 Investments and Portfolio Theory** 5 credits

An introduction to the theory of investments and a review of empirical research in the area. Emphasis is on risk/return relationship. Topics to be covered include: modern portfolio theory, asset pricing, the pricing of contingent claims, taxes, inflation and investments, and market efficiency. Prerequisite: FIN 340.



## Bachelor of Arts in Economics

### Objectives

The courses in economics are designed to acquaint students with the economy in which they live 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 sector. The major courses cover topics such as economic fluctuations, income distribution, domestic and international finance, urban problems, labor relations, and economic systems. Students who perform especially well are encouraged to pursue graduate study in economics in preparation for professional status as economists in government, industry or the academic world. A major in economics, in combination with selected courses in political science, communications and business, provides excellent preparation for law school and MBA or MPA programs.

### Degree Offered

Bachelor of Arts in Economics

### General Program Requirements

Students in economics must satisfy the requirements of the university core curriculum listed in this bulletin. MT 130 or 134 may satisfy the mathematics requirements of the core. In addition, economics students must complete CSC 103 (or demonstrate equivalent computer competency). To be granted the bachelor of arts in economics degree, a student must achieve a 2.25 cumulative GPA overall and in all required course work for the economics major. The minimum required grade for all required course work for the economics major is a C-. For economics majors, economics may not be used to satisfy the social science requirement. Students must complete 20 hours of upper division economics courses at Seattle University.

### Departmental Requirements

**Bachelor of Arts**— 65 credits of economics, which must include EC 260, 271, 272, 372, 373, 374, and 470 or 479; and 30 additional credits in economics (at least 20 credits must be 400 level courses. FIN 443 may be substituted for five credits); ACC 230 is highly recommended.

### Undergraduate Minor

A minor in economics requires students to complete 30 credits of economics, which must include EC 271, 272, 372, 374 and 10 credits of 300 level or 400 level courses in economics selected with the assistance of an adviser.

### International Studies Economics Concentration

Students majoring in international studies can concentrate in economics by completing EC 372, 374 and 15 credits of upper division international economics or business, along with courses in foreign language, history and political science. For details see the description of the international studies program under the College of Arts and Sciences.

## Bachelor of Arts in Economics

Suggested program sequence.

### Freshman year

|   |            |
|---|------------|
| English 110/Philosophy 110 sequence ..... | 10 credits |
| Fine Arts 120 .....                       | 5 credits  |
| History 120/English 120 sequence .....    | 10 credits |
| Laboratory Science .....                  | 5 credits  |
| Mathematics 130 (or 135) .....            | 5 credits  |
| CSC 103 .....                             | 5 credits  |
| Elective .....                            | 5 credits  |

### Sophomore year

|  |            |
|--|------------|
| Economics 260, 271, 272 .....                      | 15 credits |
| Philosophy 220/Social Science I .....              | 10 credits |
| Social Science II course (cannot be economics) ... | 5 credits  |
| Theology and Religious Studies Phase II .....      | 5 credits  |
| Electives .....                                    | 10 credits |

### Junior year

|  |            |
|--|------------|
| Economics 372, 373, 374 .....                  | 15 credits |
| Economics electives .....                      | 5 credits  |
| Ethics .....                                   | 5 credits  |
| Interdisciplinary course .....                 | 5 credits  |
| Theology and Religious Studies Phase III ..... | 5 credits  |
| Electives .....                                | 10 credits |

### Senior year

|                           |            |
|---------------------------|------------|
| Economics electives ..... | 25 credits |
| Senior Synthesis .....    | 5 credits  |
| Electives .....           | 15 credits |

Total ..... 180 credits

### Economics Courses (EC)

**EC 120 Introduction to Economic Society 5 credits**  
Development of the conventional economic model, including its philosophical assumptions. Implications for contemporary economic performance. Applications to issue of social justice. Correlates with Philosophy 220.

**EC 260 Business Statistics 5 credits**  
Descriptive statistics, summary statistics, statistical sampling, probability, probability distributions, interval estimation, hypothesis testing, chi-square analysis, analysis of variance, correlation and simple regression analysis. Prerequisites: MT 130 or 134 and CSC 103.

**EC 271 Principles of Economics—Macro 5 credits**  
Organization, operation and control of the American economy in its financial and socio-political settings; problems of inflation, unemployment, taxation, the public debt, money and banking, growth. (fall, winter, spring).

**EC 272 Principles of Economics — Micro 5 credits**  
Operation of the American economy with emphasis on prices, wages, production and distribution of income and wealth; problems of the world economy. (fall, winter, spring).

**EC 372 Intermediate Macroeconomics 5 credits**  
Determination of levels of national income, employment and prices. Problems of unemployment and inflation. Policies for stabilization and growth. Prerequisite: EC 271.

**EC 373 Applied Econometrics 5 credits**  
Study of the theory and application of econometrics for students who need to understand and use regression, generalized least squares, and simultaneous equations. Prerequisites: MT 130 or 134; EC 260.

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- EC 374 Intermediate Microeconomics 5 credits**  
Demand, supply, costs and market prices under competitive and imperfectly competitive market conditions. Relationships between price and costs; income and its functional distributions in a capitalistic society. Prerequisite: EC 272.
- EC 376 Economic Development 5 credits**  
Developing nations and agriculture, industry, population, education, technology, exports, imports, capital and savings, unemployment. Commodity agreements. Special preferences. Foreign aid. U.N.C.T.A.D. Prospects and limits. Prerequisites: EC 271, 272.
- EC 377 Government and Business 5 credits**  
Development in the United States of public policy. Government regulation of industry and commerce and application to mergers, business concentration and restrictive business practices, industrial policies and international competitiveness. Prerequisite: EC 272.
- EC 378 Urban/Regional Economics 5 credits**  
The causes and consequences of the interdependencies of firms, individuals, households and governmental units within the constrained space of urban areas. Problems of land, housing, transportation, labor and public services. Prerequisite: EC 272.
- EC 379 Comparative Economic Systems 5 credits**  
Economic systems in theory and practice. Classical, Marxian, Neoclassical, Keynesian, post-Keynesian theories. Soviet agricultural and industrial organization and operation. Market socialism. Future trends. Prerequisites: EC 271, 272.
- EC 391 Special Topics 1-5 credits**  
**EC 392 Special Topics 1-5 credits**  
**EC 393 Special Topics 1-5 credits**
- EC 470 History of Economic Thought 5 credits**  
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. Prerequisites: EC 271, 272.
- EC 471 Government Finance 5 credits**  
Revenues, expenditures and debts of federal, state and local governments; public sector pricing and investment; government finance as means for social reform; shifting and incidence of taxes. Prerequisites: EC 271, 272.
- EC 472 International Trade 5 credits**  
Pattern, organization and promotion of U.S. and world trade. Trade theories. Exchange rates. Foreign prices and payments. Protection and free trade. G.A.T.T. European Community. Multinationals in foreign trade. Prerequisites: EC 271, 272.
- EC 473 International Macroeconomics and Finance 5 credits**  
Impact of international trade and finance on the macroeconomy and government policy. Topics include exchange rate determination, the balance of payments, operation of the international monetary system. Prerequisites: EC 271, 272; EC 372 recommended.
- EC 474 Forecasting Business Conditions 5 credits**  
Introduction to casual and ad hoc time series methods of forecasting utilized by business firms. Regression, exponential smoothing, decomposition and Box Jenkins methods are included. Prerequisites: EC 260, 271 and 272.
- EC 475 Industrial Organization 5 credits**  
Analysis of the market structure of American business and effects of different market structures on pricing, marketing, innovation and profit seeking. Prerequisites: EC 271, 272.
- EC 476 Labor Economics 5 credits**  
Survey of the economics of industrial relations; effects of industrial changes on labor; hours and wages; employment and unemployment; trade unionism and labor legislation. Prerequisites: EC 271, 272.
- EC 479 Senior Synthesis and Research 5 credits**  
An advanced course providing the opportunity for students to pursue topics in breadth and depth, and apply the tools of economic analysis to current issues in national and international economic policy. Prerequisite: permission.
- EC 491 Special Topics 2-5 credits**  
**EC 496 Independent Study 1-5 credits**  
**EC 497 Independent Study 1-5 credits**  
**EC 498 Independent Study 1-5 credits**  
Supervised individual research. Open to senior economics majors with approval of adviser. Must be taken CR/E.



*Seattle University*

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**School of  
Education**



## 96 Education

### School of Education

Margaret M. Haggerty, Ph.D.

#### Department Chairpersons

Counselor Preparation: R. Michael O'Connor, Ph.D.  
Curriculum and Instruction: Kristin E. Guest, Ph.D.  
Educational Administration: Sandra Barker, Ph.D.  
Educational Leadership: John A. Morford, Ed.D.  
Teacher Education: Margit McGuire, 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 teacher preparation program is a graduate level program leading to Washington 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 developmentally disabled, learning disabled and gifted education. See the Graduate Bulletin or call the Education Office for details.

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. Rehabilitation Counseling is accredited by the Council on Rehabilitation Education.

#### Organization

The School of Education is organized into five departments: Teacher Education, Curriculum and Instruction, Counselor Preparation, Educational Administration and Educational Leadership. Close cooperation exists among all departments, schools and colleges of the university in working out a program of preparation for the individual student.

#### Degrees Offered

Master of Arts in Education—See Graduate Bulletin

Master of Education—See Graduate Bulletin

Master of Counseling—See Graduate Bulletin

Masters in Teaching—See Graduate Bulletin

Master in Adult Education and Training—See Graduate Bulletin

Educational Specialist—See Graduate Bulletin

Doctor of Education—See Graduate Bulletin

#### Teacher Education

Students planning to enter the teaching profession will complete a bachelor's degree in an academic area that is a certifiable subject area for the state of Washington. Students planning to be elementary teachers may also major in liberal arts.

As soon as students have determined that they desire to become teachers, they should contact the School of Education for advising.

#### Masters in Teaching

The master's in teaching program is designed to meet the new state standards for teacher certification for beginning teachers. After completing this program, the student will receive initial certification. Eligibility for continuing certification is based on two years of successful classroom teaching.

This innovative and research-based program requires that students have a bachelor's degree in an academic area suitable for teaching. Students are assigned an adviser in both their academic area and the School of Education.

*Students are responsible for contacting the School of Education for assignment of an adviser. They should meet at least once a year with that adviser as an undergraduate.*

#### Admission Requirements

1. A bachelor's degree in an academic area which is certifiable by the state of Washington.
2. A grade point average of 3.0 in your final 90 credits of undergraduate work. Applicants with grade point averages below 3.0 (but which are at least 2.7) may apply but must include recent (within the last five years) Graduate Record Examination or Miller Analogies Test scores.
3. Competency in oral and written skills evaluated during the interview.
4. Positive recommendations by two supervisors or employers.
5. Successful interview.
6. An autobiography outlining your motivation toward and commitment to teaching, prior coursework, experience relevant to teaching and understanding of cultural differences.

## Subject Areas Offered at Seattle University

Fine Arts (Art)  
 Biology  
 Business Education  
 Chemistry  
 Computer Science  
 Fine Arts (Drama)  
 English  
 Foreign Language  
     French  
     Spanish  
     German  
 History  
 Communication (Journalism)  
 Liberal Studies (K-8 only)  
 Mathematics  
 Physics  
 Political Science  
 Psychology  
 Science  
 Sociology  
 Social Studies  
 Communication (Speech)

## Prerequisites

*Students planning to be elementary teachers must demonstrate competency in mathematics. Math 200 is highly recommended.*

Writing and spelling skills are important for admission to the program. If the student desires to have these skills assessed as an undergraduate, this should be discussed with an adviser. Students must demonstrate competency in this area to be admitted to the program. English 410 is highly recommended for elementary and secondary teachers. Basic skills in the operation of a computer are desirable.

## Second Endorsements

For continuing certification, teachers must obtain an endorsement in one of the following subject areas. Students are encouraged as undergraduates to complete this state requirement. The following second endorsements are available at Seattle University.

Art (K-12)  
 Bilingual Education (K-12)  
 Biology (4-12)  
 Chemistry (4-12)  
 Computer Science (4-12)  
 Foreign Language (K-12)  
     French  
     German  
     Spanish  
 Drama (4-12)  
 Early Childhood Education (P-3)  
 \*Early Childhood Special Education (P-3)  
 Earth Science (4-12)  
 Economics (4-12)  
 English (4-12)  
 English as a Second Language (K-12)  
 \*\*English/Language Arts (4-12)  
 History (4-12)  
 Journalism (4-12)  
 Mathematics (4-12)  
 Physics (4-12)  
 Political Science (4-12)  
 Psychology (4-12)  
 Reading (K-12)  
 \*\*Science (4-12)  
 \*\*Social Studies (4-12)  
     Sociology (4-12)  
     Special Education (K-12)  
     Speech (4-12)

*\*48 credits required*

*\*\*45 credits required*

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### Special Education

Students interested in teaching special education may enroll in special education courses during their junior and senior years. A program meeting the second endorsement requirements consists of between 33 and 36 credit hours. Such a program should be designed in cooperation with an education adviser.

### Early Field Experiences

For those students desiring an early field experience in the schools prior to entering the master's in teaching program, ED 438 and ED 439 are available. Contact an education adviser to arrange for enrolling in the appropriate course.

### Education Courses

These courses can be used as electives in a student's program. Special education and early childhood courses can be used toward a second endorsement.

#### ED 411 Early Education and Child Development 3 credits

Current issues and trends in early childhood education — birth through eight years. Emphasis on recent research including that carried out by teachers in their own classrooms.

#### ED 412 Early Education Practicum 3 credits

Supervised field experience in an early education setting.

#### ED 413 Programs in Early Childhood Education 3 credits

Comparative study of current models in early education, including public and private kindergartens, infant centers, Montessori schools, and programs for special children. (spring)

#### ED 422 Working with Parents and Professionals 3 credits

This course will focus on skills necessary for teachers to work with parents and professionals. Included are techniques for involving parents in the educational process, counseling approaches and conferencing practices. Emphasis is placed on working with the parents of exceptional students.

#### ED 423 Introduction to Classroom Management 3 credits

Provides theory and strategies for managing the K-12 classroom. While a variety of theories will be studied, the systematic use of applied behavior analysis techniques will be a major emphasis of the course.

#### ED 424 Introduction to Mild Handicaps 3 credits

History and current practices in diagnosis and remediation of students who are learning disabled and mildly handicapped.

#### ED 425 Introduction to Special Education 3 credits

Survey of characteristics of exceptional students served by special educators. A review of special ed. practices and federal and state laws guiding special education. Writing individual education programs which lead to effective instruction is also included.

#### ED 426 Introduction to Moderate and Severe Handicaps 3 credits

Examination of characteristics of students with developmental disabilities; emphasis on current trends and practices in their education.

#### ED 427 Methods in Special Education 3 credits

An examination of methods of teaching exceptional students in varied settings. Prerequisite: ED 425 or permission of the instructor.

#### ED 428 Language Development 3 credits

An introduction to critical features of the developmental processes of receptive and expressive language with consideration of diagnosis, curriculum and method.

#### ED 432 Mainstreaming the Exceptional Student 3 credits

Issues surrounding mainstreaming; methods for working with exceptional students in the regular classroom. (fall, winter).

#### ED 438 Laboratory Experience — Elementary 1-6 credits

Mandatory CR/E. (fall, winter, spring)

#### ED 439 Laboratory Experience — Secondary 1-6 credits

Mandatory CR/E. (fall, winter, spring)

#### ED 450 Introduction to Gifted Education 3 credits

An introduction to gifted education, including definition and identification of areas of giftedness, curriculum modes, program organization, awareness of and attitudes toward giftedness and evaluation of student performance. Language arts, humanities and the arts will be considered.

#### ED 451 Gifted Education: Mathematics 3 credits

Current research exploring the relationship of brain development to the types of giftedness will be studied. Implications of this research and its application to mathematics lessons for gifted students will be identified and examined.

#### ED 452 Gifted Education: Science 3 credits

Rationale for and methods of science instruction for gifted students. Emphasis will be placed on the implications of Piaget in cognitive development for curriculum design.

#### ED 460 Computers and Instructional Technology in the Classroom 3 credits

An examination of the uses of computers and other forms of media in the classroom. (winter, spring)

#### ED 470 Manual Language 3 credits

The use of manual English for the handicapped. Includes the deaf finger spelling alphabet and a 600 to 800 word vocabulary. Emphasis is on understanding of alternative methods of communication.

#### ED 472 Literature for Early Education 3 credits

Examination of distinguished books for young children. Includes discussion of the literary and artistic merit as well as the human values represented in early childhood literature.

#### ED 477 Multicultural Literature 3 credits

Analysis of multicultural literature written for children for use by the teacher in assisting children to appreciate cultural diversity. Discussion of racism, sexism and other dehumanizing influences expressed in literature and ways educators can bring about positive change.

#### ED 491 Special Topics 1-5 credits

#### ED 492 Special Topics 1-5 credits

#### ED 493 Special Topics 1-5 credits

#### ED 496 Independent Study 1-5 credits

#### ED 497 Independent Study 1-5 credits

#### ED 498 Independent Study 1-5 credits





*Seattle University*

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**Matteo Ricci  
College**

## Matteo Ricci College

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

**Jodi Kelly, M.R.E., Assistant Dean**

Matteo Ricci College at Seattle University is the three-year university phase of an innovative program that coordinates and integrates high school and university level studies, thereby enabling students to complete their high school and university education in six or seven years, rather than the traditional eight.

The Matteo Ricci College (MRC) program was developed jointly by Seattle Preparatory School and Seattle University. That collaboration led, in 1975, to Seattle Prep's initial offering of the three-year high school phase (the curriculum of MRC/SP) and in 1977, to Seattle University's initial offering of the three-year university phase (the curriculum of MRC/SU). Access to MRC at Seattle University was restricted from the inception of the program through the 1988-89 academic year to students who have completed the three-year curriculum at Seattle Prep.

Over the past three years, collaboration between MRC/SU and certain local Catholic high schools has led to academic partnerships that open the college to graduates of those schools. The focus of these partnerships is a bridge curriculum that is designed jointly by high school and MRC/SU faculty and taught by high school faculty on the high school campus. That curriculum can generate 10 Seattle University credits, which may be applied toward MRC degree program requirements or other Seattle University program requirements, or be transferred to other universities.

### Objectives

Matteo Ricci College seeks to develop students who shape their personal and social futures through responsible choices. The objectives of the 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. Students 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; be exposed to a variety of values; clarifying themes and problems for interdisciplinary investigation; and be encouraged to undergo prescriptive self-assessment.

### Admission Requirements

Beginning with the fall term of the 1989-90 academic year, access to MRC/SU became available to the following students:

1. Seattle Prep students who have successfully completed the three-year MRC/SP curriculum and are recommended for advancement to MRC/SU.
2. Graduates of Seattle Prep who follow the three-year MRC/SP curriculum with successful completion of a fourth year of study on the Prep campus.
3. Graduates of John F. Kennedy Memorial High School, O'Dea High School and Eastside Catholic High School who: 1) meet the university's entrance requirements; 2) earn 10 Seattle University credits, with a grade of C or higher, through the bridge curriculum; and 3) receive recommendations from teachers involved in the bridge curriculum and from the high school administration.

### Degree Offered

At Seattle University, students from all participating high schools complete the three-year MRC/SU program and earn the bachelor of arts degree in humanities. A second baccalaureate degree in any of a host of liberal arts and professional areas can usually be earned in an additional three quarters of study.

### General Program Requirements

MRC 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 first year of the program and 2.25 or above during the remainder of the program. Students failing to meet these expectations will be placed on probation for two quarters, and thereafter are subject to dismissal from the MRC program.

The MRC peer advisers serve as the principal advisers to all MRC students on academic and academically related matters. Consequently, a student in the college may not register for any Seattle University course, either in the summer session or during the regular academic year, without first consulting and receiving the written permission of a peer adviser.

### Degree Requirements

Completion of a non-credit orientation seminar and 135 credits, which must include: 60 credits in MRC/humanities (HUM) courses; four to five credits in fine arts; five credits in science and technology; five credits in social science inquiry; an area of concentration consisting of 40 credits in a single discipline OR 50 credits in a pre-professional discipline, OR 45 to 50 credits in an approved program of liberal studies or general science; and the remaining credits in elective courses approved by the student's MRC adviser.

Only courses graded C (2.0) or higher will be accepted in fulfillment of the HUM courses scheduled for the Year 5 and Year 6 courses of study; only those graded C- (1.7) or higher will fulfill the HUM requirements scheduled for the Year 4 course of study.

MRC 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.

The schedule below displays the curriculum required for students entering MRC/SU from Seattle Preparatory School.

## Typical Schedule

### Year 4

|   |               |
|---|---------------|
| HUM 100 Orientation Seminar .....                   | 0 credit      |
| HUM 100, 200 series courses .....                   | 30 credits    |
| Fine Arts course .....                              | 4-5 credits   |
| Area of Concentration and<br>Approved Courses ..... | 10-11 credits |

### Year 5

|   |            |
|---|------------|
| HUM 280 and 300 series .....                        | 15 credits |
| Science and Technology course .....                 | 5 credits  |
| Social Science Inquiry .....                        | 5 credits  |
| Area of Concentration and<br>Approved Courses ..... | 20 credits |

### Year 6

|   |            |
|---|------------|
| HUM 400 series .....                                | 15 credits |
| Area of Concentration and<br>Approved Courses ..... | 30 credits |

The curriculum for students entering MRC/SU from schools other than Seattle Prep will vary only slightly from the requirements listed above, depending on the content of the respective school's bridge curriculum. While such students can bring 10 Seattle University credits earned through a bridge curriculum, the number of credits that must be taken on the Seattle University campus for completion of the MRC degree program remains at 135.

## Matteo Ricci College/HUM Courses

**HUM 100 Learning Landscapes** 1 credit  
A collaborative orientation to Seattle University and to the Matteo Ricci College program; an exploration of each student's personal contexts for learning.

**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.





*Seattle University*

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**School of  
Nursing**

## 104 Nursing

### School of Nursing

Kathleen E. Korthuis, Ph.D., R.N., Dean

#### Objectives

The aim of the School of Nursing is to provide educational preparation for professional practice. There are four major goals for the nursing program:

1. Provide educational experiences to develop knowledge, skills and values essential to the profession of nursing.
2. Provide opportunities for students to realize their potentials as persons and as professionals.
3. Prepare students in the Jesuit tradition of service to others for meeting health needs in society.
4. Provide the foundation for graduate study in nursing.

#### Accreditation

National League for Nursing

Washington State Board for Nursing

#### Programs of Study

The School of Nursing offers an undergraduate program in nursing for generic students with no previous education in nursing and for the registered nurse student seeking the B.S.N. degree.

#### Admission Requirements

All entering students from high schools or accredited institutions of higher learning 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. A cumulative grade point average of 2.75 or above from another college or university is required for transfer students seeking admission into the School of Nursing. Additional requirements for registered nurses are:

- Graduation from an NLN-accredited school of nursing
- Current nursing licensure in the state of Washington
- Recommendation from the director of the nursing program and from employer

#### Degree Offered

Bachelor of Science in Nursing

#### General Program Requirements

The academic and clinical performances of each nursing student are evaluated at the end of each quarter to determine progression in the program. Specific requirements for progression are detailed in Policy 75-3, which is included in the *School of Nursing Student Handbook*.

Students must meet the School of Nursing/Clinical Agency requirements for annual health screening and C.P.R. certification, immunization protection, medical insurance coverage and professional liability insurance. 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. Students are referred to the *School of Nursing Student Handbook* for a more detailed overview of requirements and expectations.

Beyond the usual university costs, students must provide their own transportation between campus and clinical agencies. Students should carry professional liability insurance through the duration of all clinical experiences. Fees are assessed for all laboratory and clinical courses (see costs section of this bulletin). Other expenses include health examination and immunization fees, student uniforms and equipment. Specific testing fees are required in order to take the state board examination for RN licensure following graduation, as well as for standardized testing in preparation for practice. Details regarding these costs are available from your adviser.

#### Clinical Experiences

Clinical experience is provided through cooperating agencies which include Children's Hospital and Medical Center, Group Health Cooperative Hospital and Clinics, Harborview Medical Center, Northwest Hospital, Providence Medical Center, Seattle King County Health Department, Swedish Hospital Medical Center, Valley General Medical Center, Veterans Administration Medical Center, Virginia Mason Hospital and other selected health care agencies.

#### Degree Requirements

**Basic Students** (without previous education in nursing)

Requirements for the bachelor of science in nursing total a minimum of 180 credit hours:

1. 66 credit hours of the university core curriculum. All nursing students must take Chemistry 101 for the lab science requirement, PSY 120 for the social science I requirement, and PL 352 for the ethics requirement. Students may choose either fine arts or social science II to fulfill university core requirements.
2. 25 credit hours in courses prerequisite to the nursing major: CH 102, BL 200, BL 210, BL 220, and PSY 322.
3. 84 credit hours in the nursing major.
4. Five credit hours free elective.

## Typical Program of Studies for the Basic Student

### Freshman year

|   |            |
|---|------------|
| Chemistry 101, 102 .....                  | 10 credits |
| English 110/Philosophy 110 sequence ..... | 10 credits |
| History 120/English 120 sequence .....    | 10 credits |
| Mathematics 107 or 111 .....              | 5 credits  |
| Psychology 120 .....                      | 5 credits  |
| Philosophy 220 .....                      | 5 credits  |

### Sophomore year

|  |            |
|--|------------|
| Biology 200, 210, 220 .....              | 15 credits |
| Nursing 200, 301, 302 .....              | 15 credits |
| Psychology 322 .....                     | 5 credits  |
| Religious Studies Phase II .....         | 5 credits  |
| Fine Arts 120 or Social Science II ..... | 5 credits  |

### Junior year

|                      |            |
|----------------------|------------|
| Nursing .....        | 40 credits |
| Philosophy 352 ..... | 5 credits  |

### Senior year

|                                       |            |
|---------------------------------------|------------|
| Interdisciplinary course (N480) ..... | 3 credits  |
| Senior Synthesis (N422) .....         | 3 credits  |
| Nursing .....                         | 29 credits |
| Religious Studies Phase III .....     | 5 credits  |
| Elective .....                        | 5 credits  |

Total ..... 180 credits

## Registered Nurse Students

A minimum of 180 credit hours of course work is required. Core requirements for the entering transfer student are as stated in the core curriculum, requiring CH 101 (math/science), PSY 120 (social science I), and PL 352 (ethics requirement). Students choose either fine arts or social science II.

RN students have options for advanced placement in the nursing program through a credit-by-validation process for N 302, 303, 318, 319, 320, 323, 328, 329, 338, 339, 348, 349, 410, 411. Prospective students are encouraged to work with the coordinator of the RN-B program as soon as possible after admission to design a plan of study that meets both individual needs and program requirements.

All RNs must complete prerequisite requirements as well as transfer core requirements. The following nursing courses are required to complete the major: N 310, N 321, N 322, 385, 404, 412, 413, 423. (34 credit hours.) N 480 and N 422 (six credit hours) meet both nursing and core requirements.

## Nursing Courses

### N 200 Concepts in Professional Nursing 5 credits

An exploration of concepts and values for socialization to professional nursing. Introduction to nursing process and communication skills and the development of nursing and nursing theory in a historical context. (Theory, four credits; lab, one credit). Prerequisite: phase I core courses. Corequisites: N 301, N 302. (spring)

### N 301 Health Promotion Across the Lifespan 5 credits

Concepts of health, protection and promotion, and teaching-learning principles. Exploration of factors influencing health status of individuals across the lifespan; strategies to develop and modify health behavior. Prerequisites: PSY 322. Corequisites: N 200, N 302 (spring)

### N 302 Health Assessment 5 credits

History-taking, physical examination, and documentation skills. Assessment of healthy individuals includes physical, psychosocial, developmental, cultural, and spiritual aspects. Theory (3), laboratory/clinical (4). Prerequisites: BL 200, BL 210. Corequisite: N 301, N 200.

### N 303 Basic Nursing Interventions 3 credits

Skills related to basic needs, aseptic technique, and medication administration. Simulated lab practice and validation of performance. Prerequisites: Nursing Level 1. Corequisites: N 318, N 319, N 320. (fall)

### N 310 Current Perspectives in Professional Nursing 5 credits

Transition course for RNs only. Professional nursing in a social context; characteristics of professional practice; teaching-learning principles; communication skills; health promotion. Field assignments arranged. (fall)

### N 318 Nursing Care of Ill Adults I 3 credits

A nursing process approach to care of the ill adult. Risk factors and common, uncomplicated physiological alterations in health states. Prerequisites: Nursing Level I; BL 220. Prerequisites or corequisite: N 303, N 320, N 321. (fall)

### N 319 Nursing Care of Ill Adults I—Practice 4 credits

Clinical practice to promote application of concepts, principles and processes from previous courses and the corequisite N 318; experiences with ill clients in a variety of clinical settings. Prerequisites: Same as for N 318.

### N 320 Pharmacological Principles Basic To Nursing Practice 2 credits

Professional nursing responsibilities in assessing, planning and evaluating pharmacological interventions. Prerequisites: Nursing Level 1. (fall)

### N 321 Pathophysiology I 3 credits

Alterations in structure and function resulting from stressors on the human body. A conceptual approach to pathophysiological mechanisms: physical, laboratory, diagnostic findings. Areas of study include stress, adaptation and alterations in defense mechanisms: fluid, electrolyte and acid-base imbalances; responses to cell and tissue injury; altered immune response, nutrition, elimination and neuro-muscular-sensory response. Open to non-majors. Prerequisites: BL 200, BL 210. (fall)

### N 322 Pathophysiology II 3 credits

This course builds on the concepts and areas of study from Pathophysiology I. Body responses addressed include alteration in tissue perfusion-oxygenation, hormonal regulatory and reproductive function, genetic mechanisms, complex alterations in cellular and immune responses, resulting in multi-system and general body dysfunction. Prerequisite: N 321. (winter)



# 106 Nursing

**N 323 Concepts in Gerontological Nursing 2 credits**  
Health-derived and health-related concerns of older persons with emphasis on attitudes, adjustments in aging, environmental considerations, chronic illness, and ethical/legal aspects of nursing care. Prerequisite: Nursing Level 1 or permission. (winter)

**N 328 Nursing Care of Ill Adults II 4 credits**  
A nursing process approach to care of the ill adult with common, complex, physiological alterations in health. Application of values, nursing and other theories as a basis for holistic care. Prerequisites: N 303, N 318, N 319, N 320, N 321. Prerequisite or corequisite N 322. Corequisite: N 329. (fall, winter, spring)

**N 329 Nursing Care of Ill Adults II – Practice 6 credits**  
Clinical practice to promote application of concepts, principles and processes from N 328; experiences with individual clients in a variety of acute care settings. Prerequisites: same as for N 328; corequisite: N 328.

**N 338 Nursing Care of Ill Children 3 credits**  
The nursing process for the care of hospitalized infants, children, and adolescents with acute and/or chronic health problems. The focus is the child within a family. Prerequisites: N 303, N 318, N 319, N 320, N 321. Prerequisite or corequisite: N 322, N 339. (fall, winter, spring)

**N 339 Nursing Care of Ill Children – Practice 4 credits**  
Clinical practice to promote application of concepts, principles and processes from N 338; experiences with individual clients in a variety of clinical settings. Prerequisites: Same as for N 338; Corequisite: N 338.

**N 348 Psychiatric Mental Health Nursing 3 credits**  
A nursing process approach to nursing care of adults with biopsychosocial responses to mental distress and dysfunction. Application of values, nursing and other theories, as a basis for holistic care and promotion of growth and mental wellness. Prerequisites: N 303, N 318, N 319, N 320, N 321. Corequisite: N 349. (fall, winter, spring)

**N 349 Psychiatric Mental Health Nursing – Practice 4 credits**  
Clinical practice to promote application of concepts, principles and processes from N 348; experiences with individuals and groups in a variety of clinical settings. Prerequisites: Same as for N 348; Corequisite: N 348.

**N 385 Clinical Decision Making 5 credits**  
Seminar for RNs only. Analysis of clinical decision making and examination of selected professional issues with clients of different ages. Application of the nursing process in a variety of practice settings. Prerequisite: PSY 322, N 310, and NLN Mobility II Examinations. (winter)

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

**N 404 Research in Nursing Practice 3 credits**  
The research process as an integral part of nursing practice. Evaluation and application of research findings. Instructional methods emphasize use of group process to foster team work. (spring)

**N 410 Nursing Care of the Childbearing Family 3 credits**  
Application of the nursing process to the childbearing family. Health promotion in a variety of community settings. Analyze contemporary issues relating to the childbearing family. Prerequisites: Nursing Level 2. Corequisite: N 411. (winter, spring)

**N 411 Nursing Care of the Childbearing Family – Practice 4 credits**  
Clinical practice to promote application of concepts, principles and processes from N 410; experiences with individuals and families in a variety of clinical settings. Prerequisites: Same as for N 410; Corequisite: N 410.

**N 412 Community Health Nursing 3 credits**  
A systems framework for nursing interventions with clients, families, groups, and the community. Application of the nursing process focusing on complex, chronic health problems of clients from diverse cultural groups in community settings. Prerequisites: Nursing Level 2. Corequisite: N 413. (winter, spring)

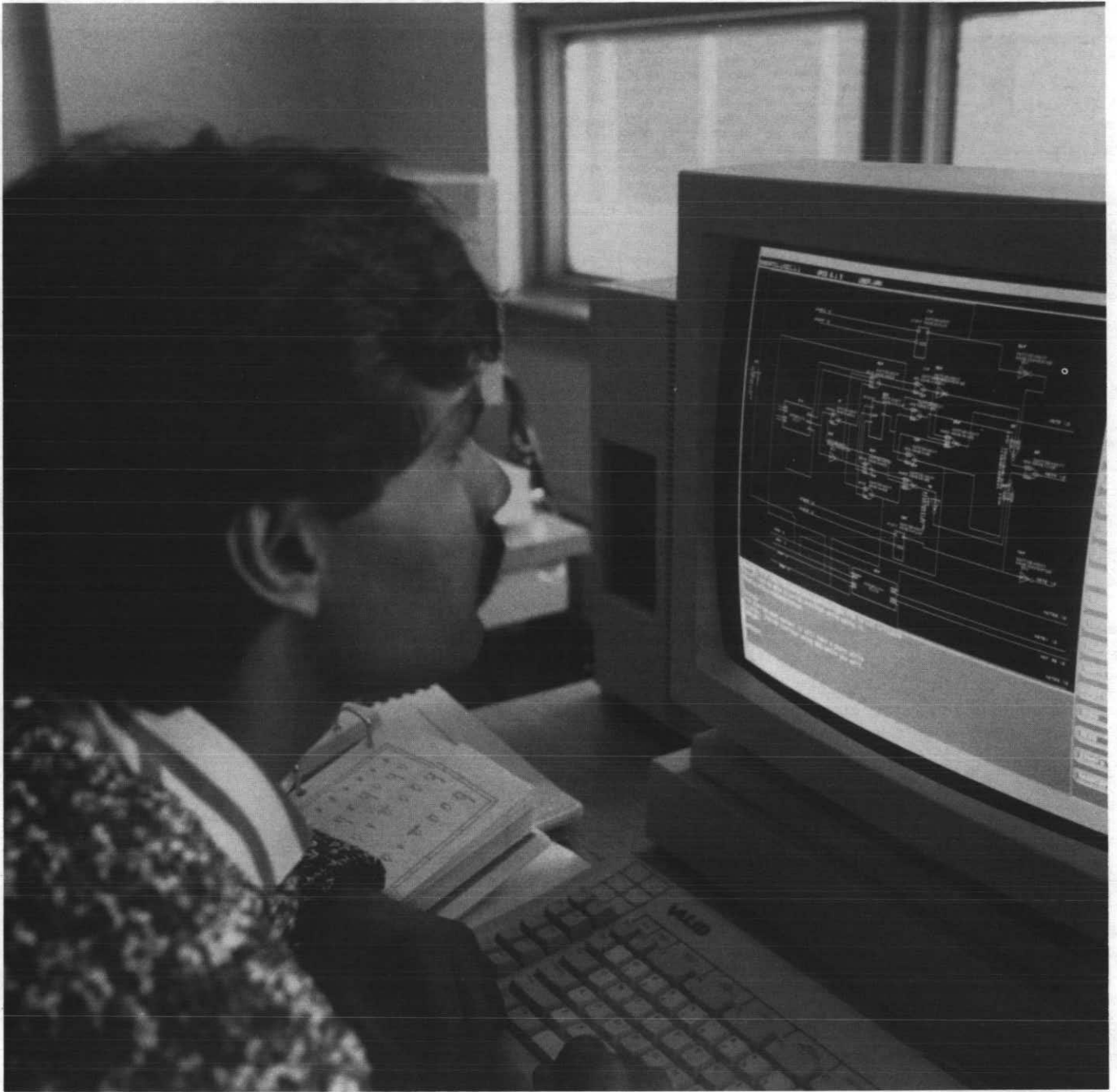
**N 413 Community Health Nursing – Practice 4 credits**  
Clinical practice to promote application of concepts, principles and processes from N 412; experiences with clients, families and groups in community settings. Prerequisites: Same as for N 412; Corequisite: N 412.

**N 422 Senior Synthesis in Nursing 3 credits**  
Integration of the liberal arts with nursing; incorporation of leadership, management and organizational theories into professional nursing practice. Critically examines ethical, economic, legal, political and technological forces influencing nursing and health care delivery. Meets core requirement. Prerequisite: Nursing Level 2. (winter, spring)

**N 423 Transition to Professional Nursing Practice 8 credits**  
Integration of clinical and management skills. Manage care for groups of clients and families with complex health care needs. Students will select a setting according to interests and availability. Prerequisites: Nursing Level 2 courses. (winter, spring)

**N 480C The Changing Family 3 credits**  
Kinship is used as the primary model for studying families and as a symbolic model for analyzing social relationships. Family responses to change and conflict are explored. The health and well being of contemporary families will be examined from a multicultural perspective. Open to non-majors. Meets core interdisciplinary course requirement. Prerequisites: Phase I and II of the core. (fall)

**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**



*Seattle University*

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**School of  
Science and Engineering**

## 108 Science and Engineering

### School of Science and Engineering

Dale A. Carlson, Ph.D., Dean  
Robert J. Smith, Assistant 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. The school is dedicated to promising students preparing themselves for responsible roles in their chosen professions and for practicing professionals seeking to advance their educational qualifications. Additionally, the school seeks 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 human 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)

#### Organization

The School of Science and Engineering offers degrees in biology, chemistry, biochemistry, computer science, diagnostic ultrasound, general science, mathematics, medical technology, physics, and civil and environmental, electrical, mechanical, and software engineering.

Students interested in other scientific, technical and health-related careers, such as medicine or dentistry, may either pursue a disciplinary degree and use 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 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, 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 civil engineering with specialty in environmental engineering.

Bachelor of Science in biochemistry, biology, chemistry, civil engineering, computer science, diagnostic ultrasound, electrical engineering, general science, mathematics, mechanical engineering, medical technology and physics.

Master of Software Engineering — See Graduate Bulletin

#### General Program Requirements

Students seeking the bachelor's degree in the School of Science and Engineering must complete 180 credits, including the university core curriculum requirements. The three engineering degrees require 192 credits. The core requirements have been modified for several of the degree programs, as described in the individual departmental sections of this bulletin. Students also must complete the specific departmental requirements for their particular degree.

No course may be taken without the indicated prerequisites. Only the dean may waive this policy.



# Biology

Daniel B. Matlock, Ph.D., Chairperson

## Objectives

Biology is not only a disciplined study of the sciences of life, but also a vital part of liberal education. Knowledge of biology contributes directly to an understanding of contemporary life and appreciation of human values. It 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 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 to prepare students for graduate work in basic and applied fields of biology and for professional careers in fields such as medicine, dentistry, veterinary medicine, teaching and technical areas with biological applications. Students interested in premedical, predoctoral or preveterinary medicine should consult the premed section of this bulletin.

## Degree Offered

Bachelor of Science in Biology

## General Program Requirements

Students in biology must satisfy the university core curriculum requirements as given in this bulletin.

## Departmental Requirements

**Bachelor of Science in Biology** — 60 credits of biology, which must include BL 165, 166, 167, BL 350, 351, BL 370, BL 485, BL 235 or 252, BL 385 or 388, and BL 310, 325, or 330; at least one but no more than three credits of seminar; and electives, including at least five credits of plant science beyond BL 165, 166, 167. Also required are 30 credits in chemistry, which must include CH 121, 122, 123, 131, 132, 133, 335, 336, 337, 345, 346, 347; 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).

**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.

## Teacher Education

As of fall 1990 the teacher preparation program is a graduate level program only. Students planning to teach at the elementary or secondary school level must complete a bachelor's degree prior to beginning the teacher preparation program. They should discuss their major with their biology adviser to ensure that they are enrolled in the appropriate courses. Second endorsements are available in biology (24 credits) and general science (45 credits). Students planning to become teachers must contact the School of Education for advising.

## Bachelor of Science in Biology

Suggested program sequence.

### Freshman year

|   |            |
|---|------------|
| Biology 165, 166, 167 .....               | 15 credits |
| Chemistry 121/131, 122/132, 123/133 ..... | 15 credits |
| English 110/Philosophy 110 sequence ..... | 10 credits |
| Mathematics 131 .....                     | 5 credits  |

### Sophomore year

|   |            |
|---|------------|
| Biology elective .....                    | 5 credits  |
| Chemistry 335/345, 336/346, 337/347 ..... | 15 credits |
| Foreign Language or Statistics .....      | 10 credits |
| History 120/English 120 sequence .....    | 10 credits |
| Systematics choice (BL 235 or 252) .....  | 5 credits  |

### Junior year

|  |            |
|--|------------|
| General Ecology .....                          | 5 credits  |
| Philosophy 220/Social Science I sequence ..... | 10 credits |
| Social Science II .....                        | 5 credits  |
| Physics 105, 106, 107 .....                    | 15 credits |
| Physiology choice (BL 385 or 388) .....        | 5 credits  |
| Theology and Religious Studies Phase II .....  | 5 credits  |

### Senior year

|   |             |
|---|-------------|
| Biological Structure choice<br>(BL 310, 325 or 330) ..... | 5 credits   |
| Biology Electives .....                                   | 9 credits   |
| Cell Physiology .....                                     | 5 credits   |
| Genetics plus Genetics Lab .....                          | 5 credits   |
| Fine Arts 120 .....                                       | 5 credits   |
| Interdisciplinary course .....                            | 3 credits   |
| Philosophy 352 .....                                      | 5 credits   |
| Senior Synthesis .....                                    | 3 credits   |
| Theology and Religious Studies Phase III .....            | 5 credits   |
| Total .....   | 180 credits |

## Biology Courses

**BL 101 Principles of Biology** 5 credits  
Important areas of biology, beginning at the cellular level and culminating with a consideration of interactions and changes in natural populations. Four lecture and three laboratory hours per week. (fall, spring)

**BL 165 General Biology I** 5 credits  
**BL 166 General Biology II** 5 credits  
**BL 167 General Biology III** 5 credits

Survey of the biological world, concepts and principles. 1—cell biology, metabolism, respiration, photosynthesis, genetics. 2—evolution, diversity and comparisons of groups of living organisms. 3—development and differentiation; comparative functions of tissues and organ systems; animal behavior; ecology. Four lecture and three laboratory hours per week. Prerequisite: high school algebra and chemistry. BL 165 prerequisite to BL 166 and 167. (I—fall, winter, II—winter, III—spring.)

**BL 200 Anatomy and Physiology I** 5 credits  
Major structural and functional systems of the human body. Cells, tissue, bone, muscle and nervous system. Laboratory emphasis on microscopic and gross anatomy. Credits not applicable for biology major. Four lecture and three laboratory hours per week.

**BL 210 Anatomy and Physiology II** 5 credits  
Major structural and functional systems of the human body. Digestive, circulatory, respiratory, endocrine, urinary and reproductive systems. Physiological interactions among systems. Laboratory emphasis on physiology. Credits not applicable for biology major. Four lecture and three laboratory hours per week. Prerequisite: BL 200. (winter)

# 110 Science and Engineering

- BL 220 Microbiology** 5 credits  
Introduction to microbiology. Four lecture and three laboratory hours per week. Credits not applicable for biology major. Prerequisite: BL 210. (winter)
- BL 235 Invertebrate Zoology** 5 credits  
Survey of invertebrate phyla including their anatomy, morphology, taxonomy and ecology. Four hours lecture and three hours laboratory per week. One weekend field trip. Prerequisites: BL 165, 166, 167. (spring, 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. Prerequisites: BL 165, 166. (spring, odd years)
- 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. Four lecture and three laboratory hours per week. Prerequisite: BL 210 or 388 or 485. (fall)
- BL 310 Comparative Vertebrate Embryology** 5 credits  
Early development of the frog and chick with consideration of the early development of the human. Four lecture and three laboratory hours per week. Prerequisites: BL 165, 166, 167. (spring)
- BL 325 Comparative Anatomy of the Vertebrates** 5 credits  
Comparative study of the structures of the integumentary, muscular, skeletal, digestive, respiratory, excretory, reproductive, circulatory and nervous systems of selected vertebrates with emphasis on evolutionary relationships between organisms and development of structures within individuals. Prerequisites: BL 165, 166, 167. Recommended: BL 310. (winter)
- BL 330 Comparative Vertebrate Histology** 5 credits  
Study of the fundamental body tissues. Three lecture and four laboratory hours per week. Recommended BL 310 or 325. (winter)
- BL 350 Genetics** 3 credits  
Classical and molecular principles of the transfer of hereditary information. Three lecture hours per week. Prerequisites: BL 165, 166, 167. (winter)
- BL 351 Genetics Laboratory** 2 credits  
Experience in genetic experimentation. Six laboratory hours per week. Prerequisite: BL 350 or taken concurrently. (winter)
- BL 360 Parasitology** 5 credits  
Study of parasitic protozoa, helminths and anthropods. Three lecture and four laboratory hours per week. Prerequisites: BL 165, 166, 167; Recommended: BL 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: MT 111. Recommended: BL 235, BL 252, PSY 201. (fall)
- BL 375 Marine Biology** 5 credits  
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. Prerequisites: BL 165, 166, 167, 235. (spring, odd years)
- BL 385 Plant Physiology** 5 credits  
Study of the function of plants, with emphasis on the wide range of physiological process that may contribute to success and survival of plants in their environment. Transport mechanisms; water and mineral management; responses to light, including photosynthesis, photoperiodism, and photomorphogenesis; functions of plant hormones; responses to environmental stresses; events in development. Four lecture and three laboratory hours per week. Individual project. Prerequisites: BL 165, 166, 167; CH 335/345. (spring, even years)
- BL 388 Animal Physiology** 5 credits  
Study of the function of animals, with emphasis on processes that contribute to the success and survival of animals in their respective environments. The course is centered on control theory: the precise mechanisms of internal control, and how these systems interact to sustain the animal in a wide range of environments. Four lecture and three laboratory hours per week. Prerequisites: BL 165, 166, 167, CL 241, 251. (fall)
- BL 410 Clinical Hematology** 3 credits  
Automated and manual cell counting; cellular morphology; testing procedures related to red and white cell disorders. Prerequisite: permission (winter, odd years)
- BL 415 Fundamentals of Immunology** 3 credits  
Humoral and cellular immune systems; clonal selection theory; antigen and antibody properties and interactions, immunological diversity; autoimmune diseases; AIDS; cancer immunology; monoclonal antibodies and immunotherapy. Prerequisites: BL 165 or 200/210; CH 102 or organic chemistry. (spring, even years)
- BL 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 years)
- BL 480 Interdisciplinary Core Course** 3-5 credits  
Title and content change each term.
- BL 485 Cell Physiology** 5 credits  
Cellular structure and function from a molecular approach. Topics include: membrane transport, bioenergetics, cell division, protein synthesis and secretion, gene regulation, and cell motility. Emphasis on biochemical laboratory techniques. Four lecture and three laboratory hours per week. Prerequisites: BL 165, 166, 167; CH 337/347. Recommended: MT 111. (spring)
- 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

Thomas W. Griffith, 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 degree program of bachelor of science in chemistry or bachelor of science in biochemistry is recommended to students who wish to prepare themselves for graduate studies in chemistry, or biochemistry, or for medical/dental school. By completion of CH 415 and nine additional approved credits in chemistry, beyond the minimum requirements for the chemistry degree, the student is eligible for certification of the degree by the Committee on Professional Training of the American Chemical Society.

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.

The medical technology program is designed to prepare students for professional careers as technologists in medical or biological research laboratories.

### Degrees Offered

- Bachelor of Arts
- Bachelor of Science in Chemistry
- Bachelor of Science in Biochemistry
- Bachelor of Science in Medical Technology

### General Program Requirements

Students in chemistry must satisfy the university core curriculum requirements given in this bulletin, except for the medical technology students for whom the fine arts requirement is omitted.

### Departmental Requirements

**Bachelor of Arts** — 45 credits of chemistry, which must include CH 121, 122, 123, 131, 132, 133, 219, 231, 232, 233, 234, 361 and 363, plus electives from the following: CH 243, 260, 326, 360, 362, 364, 415, 436, 455, 456, 458, 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, 326, 335, 336, 337, 345, 346, 347, 360, 361, 362, 363, 364; MT 134, 135, 136; PH 200, 201, 202; and CSC 113 or 114. A student is eligible for certification of the degree by the American Chemical Society if CH 415 and nine additional credits of approved advanced work in chemistry are taken. For students planning graduate work, MT 232, 233, 234 and PH 204, 205 are strongly recommended as electives.

**Bachelor of Science in Biochemistry** — 63 credits in chemistry, which must include CH 121, 122, 123, 131, 132, 133, 219, 335, 336, 337, 345, 346, 347, 361, 363, 326 or 362/364, 436, 455, 456, 458 and three credits of research and seminar; MT 134, 135, 136; PH 200, 201, 202; 15 credits in biology, which include BL 165, 485 and an approved 300/400-level elective.

**Bachelor of Science in Medical Technology** — 45 credits of biology, including 10 credits of BL 165, 166, 167; BL 200 and 210, 300, 350, 360, 410, 415, 420 and 485; 47 credits in chemistry, including CH 121, 122, 131, 132, 219, 470, 471, 472; MT 131; CSC 113 or 114 and PH 105, 106. Professional certification requires one year of internship in an accredited laboratory training program after completion of the degree.

### Teacher Education

As of fall 1990 the teacher preparation program is a graduate level program only. Students planning to become elementary teachers or secondary chemistry or general science teachers must complete a bachelor's degree prior to beginning the teacher preparation program. They should discuss their major with their chemistry adviser to ensure that they are enrolled in the appropriate courses. Second endorsements are available in chemistry (24 credits) and general science (45 credits). Students planning to become teachers must contact the School of Education for advising.

**Undergraduate Minor** — 35 credits in chemistry, which must include CH 121, 122, 123, 131, 132, 133, 219, 231, 232, 233, 234.

### Bachelor of Arts

Suggested program sequence.

#### Freshman year

|  |            |
|--|------------|
| Chemistry 121, 122, 123, 131, 132, 133 ..... | 15 credits |
| English 110/Philosophy 110 sequence .....    | 10 credits |
| History 120/English 120 sequence .....       | 10 credits |
| Electives .....                              | 10 credits |

#### Sophomore year

|   |            |
|---|------------|
| Chemistry 231, 232, 233, 234 or<br>335, 336, 337, 345, 346, 347 ..... | 10 credits |
| Fine Arts 120 .....   | 5 credits  |
| Mathematics 111, 115, 134, 135 .....                                  | 17 credits |
| Philosophy 220/Social Science I sequence .....                        | 10 credits |
| Electives .....   | 3 credits  |

#### Junior year

|   |            |
|---|------------|
| Chemistry 219 .....                           | 5 credits  |
| Ethics .....                                  | 5 credits  |
| Physics 105, 106, 107 .....                   | 15 credits |
| Social Science II .....                       | 5 credits  |
| Theology and Religious Studies Phase II ..... | 5 credits  |
| Electives .....                               | 10 credits |

#### Senior year

|  |            |
|--|------------|
| Chemistry 361 and 363 .....                    | 5 credits  |
| Chemistry Electives .....                      | 10 credits |
| Interdisciplinary course .....                 | 5 credits  |
| Senior Synthesis .....                         | 3 credits  |
| Theology and Religious Studies Phase III ..... | 5 credits  |
| Electives .....                                | 17 credits |

Total ..... 180 credits



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### Bachelor of Science in Chemistry

Suggested program sequence.

#### Freshman year

|  |            |
|--|------------|
| Chemistry 121, 122, 123, 131, 132, 133 ..... | 15 credits |
| English 110/Philosophy 110 sequence .....    | 10 credits |
| Mathematics 134, 135, 136 .....              | 15 credits |
| Physics 200 .....                            | 5 credits  |

#### Sophomore year

|  |            |
|--|------------|
| Chemistry 335, 336, 337, 345, 346, 347 ..... | 16 credits |
| Computer Science 113 or 114 .....            | 5 credits  |
| Fine Arts 120 .....                          | 5 credits  |
| History 120/English 120 sequence .....       | 10 credits |
| Physics 201, 202 .....                       | 10 credits |

#### Junior year

|  |            |
|--|------------|
| Chemistry 219, 360, 361, 362, 363, 364 .....   | 18 credits |
| Ethics .....                                   | 5 credits  |
| Philosophy 220/Social Science I sequence ..... | 10 credits |
| Social Science II .....                        | 5 credits  |
| Theology and Religious Studies Phase II .....  | 5 credits  |
| Electives .....                                | 1 credit   |

#### Senior year

|  |            |
|--|------------|
| Chemistry 326 .....                            | 5 credits  |
| Chemistry Electives .....                      | 7 credits  |
| Interdisciplinary course .....                 | 5 credits  |
| Senior Synthesis .....                         | 3 credits  |
| Theology and Religious Studies Phase III ..... | 5 credits  |
| Electives .....                                | 20 credits |

Total ..... 180 credits

### Bachelor of Science in Biochemistry

Suggested program sequence.

#### Freshman year

|  |            |
|--|------------|
| Chemistry 121, 122, 123, 131, 132, 133 ..... | 15 credits |
| Mathematics 134, 135, 136 .....              | 15 credits |
| English 110/Philosophy 110 sequence .....    | 10 credits |
| Physics 200 .....                            | 5 credits  |

#### Sophomore year

|  |            |
|--|------------|
| Chemistry 335, 336, 337, 345, 346, 347 ..... | 16 credits |
| Physics 201, 202 .....                       | 10 credits |
| English 120/History 120 sequence .....       | 10 credits |
| Biology 165 .....                            | 5 credits  |
| Elective .....                               | 5 credits  |

#### Junior year

|  |            |
|--|------------|
| Chemistry 219; 326 or 362, 364; 361; 363;<br>455; 456 or 436 ..... | 23 credits |
| Biology 485 .....  | 5 credits  |
| Philosophy 220/Social Science I/<br>Fine Arts sequence .....       | 15 credits |
| Theology and Religious Studies Phase II .....                      | 5 credits  |

#### Senior year

|  |            |
|--|------------|
| Chemistry 458, 456 or 436 .....                | 6 credits  |
| Chemistry Research and Seminar .....           | 3 credits  |
| Interdisciplinary course .....                 | 3 credits  |
| Senior Synthesis .....                         | 3 credits  |
| Approved 300/400-level biology course .....    | 5 credits  |
| Ethics/Social Science II sequence .....        | 10 credits |
| Theology and Religious Studies Phase III ..... | 5 credits  |
| Electives .....                                | 6 credits  |

Total ..... 180 credits

### Bachelor of Science in Medical Technology

Suggested program sequence.

#### Freshman year

|  |            |
|--|------------|
| Biology 160 series .....                     | 10 credits |
| Chemistry 121, 122, 123, 131, 132, 133 ..... | 15 credits |
| English 110/Philosophy 110 sequence .....    | 10 credits |
| History 120 .....                            | 5 credits  |
| Mathematics 131 .....                        | 5 credits  |

#### Sophomore year

|   |            |
|---|------------|
| Physics 105, 106 .....  | 10 credits |
| Chemistry 231, 232, 233, 234<br>or 335, 336, 337, 345, 346, 347 ..... | 10 credits |
| English 120 .....   | 5 credits  |
| Philosophy 220/Social Science I sequence .....                        | 10 credits |
| Social Science II .....   | 5 credits  |
| Electives .....   | 5 credits  |

#### Junior year

|   |            |
|---|------------|
| Biology 200, 210 .....                                | 10 credits |
| Biology 300, 350, 360, 410, 420<br>and Elective ..... | 21 credits |
| Chemistry 219 .....                                   | 5 credits  |
| Computer Science 113 .....                            | 5 credits  |
| Theology Religious Studies Phase II .....             | 5 credits  |

#### Senior year

|  |            |
|--|------------|
| Biology 415, 485 .....                         | 8 credits  |
| Chemistry 455, 470, 471, 472 .....             | 14 credits |
| Philosophy 352 .....                           | 5 credits  |
| Theology and Religious Studies Phase III ..... | 5 credits  |
| Interdisciplinary course .....                 | 3 credits  |
| Senior Synthesis .....                         | 3 credits  |

Total ..... 180 credits

### Chemistry Courses

Credit may be received for only one of each of the following pairs of courses: CH 231/ 335; 232/336; 233/345; 234/346. A student who completes CH 231 with a grade of B or better may enroll in CH 336 with the permission of the instructor.

**CH 101 Introductory General Chemistry 5 credits**  
Survey of inorganic chemistry, treating the basic principles and descriptive material relevant to the health sciences. Four lecture and three laboratory hours per week. (fall, winter)

**CH 102 Introductory Organic and Biochemistry 5 credits**  
Organic chemistry and introduction to biochemistry with application to the health sciences. Four lecture and three laboratory hours per week. Prerequisite: CH 101 or equivalent. (winter, spring)

**CH 110 Fundamentals of Chemistry 5 credits**  
An introduction to chemistry designed for students with little or no preparation in science. Also for students desiring a review of high school chemistry prior to enrolling in CH 101 or CH 121. (fall, spring)

**CH 121 General Chemistry 1 4 credits**

**CH 122 General Chemistry 2 4 credits**

**CH 123 General Chemistry 3 4 credits**

1. Atomic and molecular structure, weight relationships, states of matter, thermodynamics, periodic properties. 2. Solutions, kinetics, chemical equilibrium, acids, bases, solubility equilibria, thermodynamics, hydrogen, oxygen and water. 3. Transition metals, kinetics, oxidation, reduction, electrochemistry, chemistry of the nonmetals, the metallic state, nuclear chemistry. Four lecture hours per week. Prerequisites: CH 101, 110 or high school chemistry for CH 121; 121 for 122; 122 for 123; Corequisites: 131 for 121; 132 for 122; 133 for 123. (121, fall, winter; 122, winter, spring; 123, fall, 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: CH 131 for 132. Corequisites: CH 121 for 131; 122 for 132. (131, fall, winter; 132, winter, spring)

**CH 133 General Chemistry Lab 3 1 credit**  
 Introduction to qualitative chemical analysis on a semimicro scale. Experimentation in the chemistry of ionic systems and basic quantitative analytical methods. Four hours per week. Corequisite: CH 123; Prerequisite: CH 132. (spring, fall)

**CH 219 Quantitative Analysis 5 credits**  
 Theory, methods and techniques of gravimetric, volumetric, electro-analytical and chromatographic procedures in quantitative analysis; introductory statistics. Two lecture and eight laboratory hours per week. Prerequisites: 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 recommended for premed students).

**CH 233 Fundamental Organic Chemistry Lab 1 1 credit**

**CH 234 Fundamental Organic Chemistry Lab 2 1 credit**  
 Techniques used in synthesis, isolation and identification of organic compounds. Each is three laboratory hours per week. CH 231 corequisite for 233; CH 232 corequisite for 234; CH 233 prerequisite for 234. (233 winter; 234 spring)

**CH 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: One quarter of organic chemistry.

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

**CH 326 Instrumental Analysis 5 credits**  
 Theory and techniques of instrumental methods representative of spectrophotometric electroanalytical and chromatographic techniques. Two four-hour laboratory periods per week including discussion of principles. Prerequisites: CH 219, 361, 363.

**CH 335 Organic Chemistry 1 3 credits**  
**CH 336 Organic Chemistry 2 3 credits**  
**CH 337 Organic Chemistry 3 4 credits**

Structural theory; functional groups; nomenclature; properties, applications, reactions and syntheses of organic compounds; stereochemistry; reaction mechanisms; kinetic and thermodynamic properties of reactions. 1. Hydrocarbon compounds; 2. Oxygen-containing compounds; 3. Nitrogen containing compounds and biomolecules. Three lecture hours per week for 335 and 336, four hours per week for 337. Prerequisites: CH 123 for 335, 335 for 336, 336 for 337. (335 fall, 336 winter, 337 spring)

**CH 345 Organic Chemistry Lab 1 2 credits**  
 Theory and practice of laboratory techniques; experimental study of properties of organic compounds; introduction to organic synthesis. Five hours per week. Corequisite: CH 335 (fall)

**CH 346 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. Five hours per week. Prerequisite: CH 345; Corequisite: CH 336. (winter)

**CH 347 Organic Chemistry Lab 3 2 credits**  
 Instrumental and classical qualitative techniques applied to the identification of organic compounds. Six hours per week. Prerequisite: CH 346 (or 234) Corequisite: CH 337 (or prerequisite 232)

**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. States of matter, thermodynamics, equilibrium, kinetics. 3. Theory of reaction rates, thermodynamics of solutions, phase equilibrium, electrochemistry, statistical thermodynamics. Three lectures per week. 1 may be taken either before or after 2 and 3. Prerequisites: CH 123, 133, MT 136 and one year of physics for 360 and 361; 361 for 362. (1-fall, 2-winter, 3-spring)

**CH 363 Physical Chemistry Laboratory 1 2 credits**

**CH 364 Physical Chemistry Laboratory 2 2 credits**

Quantitative measurements of physical chemical phenomena, detailed data analysis, evaluation. Four laboratory hours per week. Prerequisites: CH 219 for 363; 363 for 364. CH 361 is pre-or co-requisite for 363; CH 362 is a pre- or co-requisite for 364. (1-winter, 2-spring)

**CH 391 Special Topics 1-5 credits**

**CH 392 Special Topics 1-5 credits**

**CH 393 Special Topics 1-5 credits**

**CH 396 Independent Study 1-5 credits**

**CH 397 Independent Study 1-5 credits**

**CH 398 Independent Study 1-5 credits**

**CH 415 Advanced Inorganic Chemistry 3 credits**

Advanced topics in inorganic chemistry with particular attention to the transition metals and their compounds. Prerequisites: CH 360 and 361. (Alternate years with CH 436)

**CH 436 Advanced Organic Chemistry 3 credits**

Advanced topics in organic chemistry. Directed reading and/or lectures. Prerequisite: One year of physical and one year organic chemistry. (Alternate years with Ch 415)

**CH 455 Biochemistry 5 credits**

Composition and metabolism of carbohydrates, lipids, proteins, enzymes and nucleic acids. Four lecture and three laboratory hours per week. Prerequisites: CH 232, 234 or 337, 347. (fall)

**CH 456 Advanced Biochemistry 3 credits**

Intermediary metabolism: A study of the metabolism of carbohydrates, lipids, amino acids and nucleic acids with emphasis on enzymology, thermodynamics, metabolic control mechanisms and integration of control between metabolic pathways. Prerequisite: CH 455 (spring, alternate years)

**CH 458 Advanced Biochemistry Lab 3 credits**

Biochemical separation methods, structure characterization, thermodynamic and kinetic studies of biochemical molecules. Detailed data analysis, evaluation and interpretation. Six laboratory hours per week and one lecture hour per week. Prerequisite: CH 455.

**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.

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|        |                      |           |
|--------|----------------------|-----------|
| 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 prothrombins; 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. (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 480 | Interdisciplinary Core Course | 3-5 credits |
|--------|-------------------------------|-------------|

Title and content change each term.

|        |                |             |
|--------|----------------|-------------|
| CH 491 | Special Topics | 1-5 credits |
| CH 492 | Special Topics | 1-5 credits |
| CH 493 | Special Topics | 1-5 credits |

Directed reading and/or lecture at an advanced level.

|        |                   |             |
|--------|-------------------|-------------|
| CH 496 | Independent Study | 1-5 credits |
| CH 497 | Independent Study | 1-5 credits |
| CH 498 | Independent Study | 1-5 credits |

|        |                        |             |
|--------|------------------------|-------------|
| CH 499 | Undergraduate Research | 1-6 credits |
|--------|------------------------|-------------|

Literature and laboratory investigation of a basic research problem. Four laboratory hours per week per credit.

## Civil and Environmental Engineering

Percy H. Chien, Ph.D., Chairperson

### Objectives

Civil engineering is the profession in which a knowledge of the mathematical and physical sciences gained by study, experience and practice is applied with judgment to develop ways to utilize economically the materials and forces of nature for the progressive well-being of mankind. It is used in creating, improving and protecting the environment, in providing facilities for community living, industry and transportation, and in providing structures for the use of mankind.

The Civil and Environmental Engineering Department is concerned with the education of those who wish to be professional civil and environmental engineers. The civil engineering profession is a calling in which special knowledge and skills are used in the service of mankind, and in which the successful expression of creative ability and the application of professional knowledge are primary rewards. This implies the application of the highest standards of excellence in education, in performance of services and in ethical conduct. It also implies that specialization in engineering subjects is integrative with courses which speak to the arts and culture of civilization and to the study of natural systems.

To accomplish these ends, analysis and design courses in the fields of environmental, hydraulic, structural, transportation and water resources 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.

### Degree Offered

**Bachelor of Science in Civil Engineering**

(A concentration in environmental engineering is available.)

### General Program Requirements

Students in civil and environmental engineering must satisfy the university core curriculum requirements as given in this bulletin, except for the requirement in fine arts. Civil engineering students take CEE 402 to substitute for the requirement in Social Science II.



## Departmental Requirements

**Bachelor of Science in Civil Engineering** — There are two options in the department; the traditional civil engineering and the environmental engineering concentration. For the traditional civil engineering, 75 credits in civil and environmental engineering, which must include CEE 221, 222, 311, 323, 324, 331, 335, 337, 351, 353, 371, 402, 445, 473, 487, 488 and 489. For the environmental engineering concentration, 70 credits in civil and environmental engineering, which must include: CEE 331, 335, 337, 341, 342, 343, 351, 371, 402, 472, 473, 474, 475, 476, 477, 487, 488 and 489. Also required are MT 134, 135, 136, 232, 233 and 234; ME 105, 107, 210, 230, and 321; PH 200, 201, and 202; CH 121, 131, CSC 230 and a five-credit approved science elective. Departmental candidacy must be achieved prior to being granted entry into CE 323. Candidacy is achieved by successfully completing all required 100 and 200 level CEE, CH, CSC, ME, MT, and PH courses with a combined grade point average of at least 2.50, as well as EN 110. Only courses graded C (2.0) or better may be transferred into the department to offset degree requirements. In addition to the prerequisites, departmental candidacy in one of the engineering departments is required for entry into 300 and 400 level courses. Taking the Washington State Engineer-in-Training (EIT) examination is required for the degree. This degree is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

## Bachelor of Science in Civil Engineering

Suggested program sequence.

### Freshman year

English 110/Philosophy 110 sequence ..... 10 credits  
History 120 ..... 5 credits  
Mathematics 134, 135, 136 ..... 15 credits  
Mechanical Engineering 105, 107 ..... 5 credits  
Physics 200, 201 ..... 10 credits

### Sophomore year

Biology 101 or 165 (for environmental engineering only) ..... 5 credits  
Chemistry 121, 131 ..... 5 credits  
Chemistry 122, 132 (for environmental engineering only) ..... 5 credits  
Civil Engineering 221, 222 (for traditional civil engineering only) ..... 6 credits  
English 120 ..... 5 credits  
Mathematics 232, 233, 234 ..... 10 credits  
Mechanical Engineering 210, 230 ..... 10 credits  
Philosophy 220 ..... 5 credits  
Physics 202 ..... 5 credits  
Science Elective (for traditional civil engineering only) ..... 5 credits

### Junior year

Civil Engineering 311, 323, 324, 331, 335, 337, 351, 353, 371, (for traditional civil engineering only) ..... 30 credits  
Civil Engineering 331, 335, 337, 341, 342, 343, 351, 371 (for environmental engineering only) ..... 28 credits  
Computer Science 230 ..... 3 credits  
Mechanical Engineering 321 ..... 4 credits  
Social Science I ..... 5 credits  
Theology and Religious Studies Phase II ..... 5 credits

### Senior year

Civil Engineering 402, 445, 473, 487, 488, 489 and electives (for traditional civil engineering only) ..... 39 credits  
Civil Engineering 402, 472, 473, 474, 475, 476, 477, 487, 488, 489 (for environmental engineering only) ..... 42 credits  
Ethics ..... 5 credits  
Theology and Religious Studies Phase III ..... 5 credits  
Engineer-in-Training Examination ..... 0 credits  
Total ..... 192 credits

## Civil and Environmental Engineering Courses

**CEE 221 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. Prerequisites: ME 230, MT 232, 233. (fall, spring)

**CEE 222 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: CE 221. (fall, spring)

**CEE 291 Special Topics** ..... 1-5 credits  
**CEE 292 Special Topics** ..... 1-5 credits  
**CEE 293 Special Topics** ..... 1-5 credits

**CEE 311 Engineering Measurements** ..... 5 credits  
Engineering measurements as applied to civil engineering. Planning for surveys, introduction to photogrammetry. Public Land and State Plane Coordinate Systems. Four lecture and one laboratory period per week. Prerequisites: MT 111, 115, ME 105. (spring)

**CEE 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. Prerequisites: CEE 221, 222, MT 234. (winter)

**CEE 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: CEE 323. (winter)

**CEE 331 Fluid Mechanics** ..... 4 credits  
Fluid statics and dynamics. Topics include fluid properties, continuity equation, energy equation; laminar and turbulent flow regimes. Prerequisites: ME 230, MT 234. (fall, winter)

**CEE 335 Applied Hydraulics** ..... 4 credits  
Analysis and design of pipe systems. Applications and selections of pumps and turbines. Dynamic similitude and hydraulic modeling. Analysis of open channel flow and unsteady flow. Prerequisite: CEE 331. (winter)

**CEE 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: CEE 331. (winter, spring)

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## CEE 341 Biological Principles for Environmental Engineering 4 credits

Basic principles of microbiology and biochemistry as applied to environmental control and wastewater treatment. Kinetic and energetic aspects are emphasized. Effects of domestic and industrial water pollution on the biological characteristics of natural waters and the aquatic life are studied. Prerequisite: BL 101 or BL 165 or equivalent. (fall)

## CEE 342 Environmental Engineering Chemistry 4 credits

Principles of chemical kinetics and thermodynamics applied to fundamental understanding of aqueous environmental samples including natural waters, wastewaters and treated waters; factors controlling inorganic and organic chemical concentrations, acid-base equilibria, absorption phenomena. Theory and applications of instrumental methods of analysis as applied to measurements for environmental control. Prerequisites: CH 121, 131, 122, 132, or equivalent. (winter)

## CEE 343 Air Pollution Engineering 4 credits

Introductory course in air pollution and its control. Topics include air pollutants and its effects, sources, dispersion models, engineering control and quality legislation. Prerequisite: junior standing in engineering or permission of instructor. (spring)

## CEE 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. (fall)

## CEE 353 Soil Mechanics and Foundations 3 credits

Engineering properties of soils; consolidation, shear strength, permeability. Fundamentals of slope stability and earth pressure theories. Fundamentals of foundation design. Two lecture and one laboratory session per week. Prerequisites: CEE 221, 222, 351. (winter)

## CEE 371 Water Resources I - Surface Water Hydrology 3 credits

Hydrologic data sources, collection and analysis including frequency analysis. Precipitation, runoff, evaporation and transpiration. Analysis of stream flow, hydrographs, flood mitigation and drainage basins. Special attention to factors affecting water supply and quality including stream pollution and self-purification. Prerequisite: CEE 331. (spring)

## CEE 391 Special Topics 1-5 credits

## CEE 392 Special Topics 1-5 credits

## CEE 393 Special Topics 1-5 credits

## CEE 402 Engineering Economy 3 credits

Elements of immediate and long-term economy of facility design, construction and maintenance; interest rates, present worth and prospective return on investment; depreciation and replacement studies. Prerequisite: senior standing. (fall, winter)

## CEE 403 Project and Systems Management 5 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.

## CEE 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. Prerequisites: CEE 323, 324. (fall)

## CEE 447 Structural Design I 5 credits

## CEE 449 Structural Design II 5 credits

Design of basic structural members and connections. Specific structural design building codes. I. Steel design. II. Reinforced and prestressed concrete design. Prerequisites: CEE 445 for I, 447 for II. (I. winter, II. spring)

## CEE 455 Foundation Design 4 credits

Design considerations for foundations. Introduction to bearing capacity theory and lateral earth pressures. Subsurface investigation for determining soil properties. Design of shallow and deep foundations, rigid and flexible retaining walls, temporary earth retention systems and engineered soils. Prerequisites: CEE 351, CEE 353.

## CEE 461 Introduction to Urban Transportation Engineering 4 credits

Presentation of urban modes. Introduction to planning. Environmental issues and citizen participation. Three lectures and three engineering design laboratory hours per week. Prerequisite: senior standing.

## CEE 463 Transportation Planning 4 credits

Historical background. The planning process. Goals and objectives. Models. Impact of transportation decisions. Benefit/cost. Legal and political issues. Three lectures and three engineering design laboratory hours per week. Prerequisite: CEE 461.

## CEE 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: CEE 463.

## CEE 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: CEE 465.

## CEE 472 Water Resources II - Ground Water System 4 credits

Geologic and hydrologic occurrence of ground water. Analytical solutions for ground water flow. Hydraulics of radial flow and pumping systems. Quantity and quality of ground water. Recharge and pollution problems. Prerequisites: CEE 351, 371. (fall)

## CEE 473 Environmental Engineering I - Physical and Chemical Unit Operations 5 credits

Theoretical and experimental studies of unit operations including sedimentation, filtration, coagulation, precipitation, absorption, oxidation - reduction, ion exchange, disinfection and membrane processes. Four lectures and one laboratory or field trip per week. Prerequisites: CH 121, 131. (fall)

## CEE 474 Environmental Engineering II - Biological Unit Operations 5 credits

Theoretical and experimental studies of the microbiological and biochemical mechanisms associated with the treatment of aqueous and solid wastes, including aerobic and anaerobic processes, composting, chemical thermodynamics and sludge disposal. Four lectures and one laboratory or field trip per week. Prerequisite: CEE 473. (winter)

## CEE 475 Industrial and Hazardous Waste Treatment 5 credits

Design of waste treatment systems for industrial processes, especially as related to the Northwest industries. Four lectures and one laboratory or field trip per week. Prerequisite: senior standing or permission of instructor. (spring)

## CEE 476 Environmental Law and Impact Studies 3 credits

Social, economic and engineering factors involved in environmental regulations. National and regional water policies, programs and administration. Emphasis on national environmental policy act and its implementation. Terminology of environmental inventory, assessment and impact statement. Prerequisite: senior standing or permission of instructor. (winter)

**CEE 477 Selected Topics in Environmental Engineering 5 credits**

A comprehensive study of a topic in environmental engineering not covered in another course. Topics will vary to keep pace with current environmental risk assessment, technical advances, research developments and the EPA's innovative technology program. Prerequisite: senior standing in engineering or science, or permission of instructor. (spring)

**CEE 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.

**CEE 487 Engineering Design I 4 credits**  
Design process, problem solving and decision making, modeling and simulation, optimization, economics, forecasting, reliability. Four lecture hours per week. Prerequisite: Senior standing. Corequisite: CEE 402. (fall)

**CEE 488 Engineering Design II 4 credits**  
**CEE 489 Engineering Design III 4 credits**

Group design project focusing on the integrative aspects of engineering subject matter. The project should focus on: (1) philosophy of design, a creative approach, and a comprehensive design project; planning, organizing and leading an engineering project, exercising judgment and considering economic factors; and (2) integrated aspects of creative design and analysis; case studies; design of a novel device or system. Two lecture and four design hours per week. Prerequisite: CEE 487 for 488; 488 for 489. (488, winter; 489, spring)

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

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

## Computer Science

Mitchell Spector, Ph.D., Chairperson

### 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 for 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 generally satisfy the university core curriculum requirements as given in this bulletin.

### Advanced Placement Credit

Students who have taken the Advanced Placement Test in Computer Science may petition the department for advance credit on the basis of their test results. Advanced placement credit may be granted to students whose test scores are 3 or above.

### Departmental Requirements

**Bachelor of Arts** — 45 credits in computer science, which must include CSC 151, 152, 250, 251, 310, 380, 450 and 10 additional credits from computer science courses numbered 300 or above. Also required are MT 134, 135, 222 and 244. In addition, bachelor of arts degree students must complete a coordinated group of application area courses. The application area courses must include at least 30 credits of courses in an area of proposed application of computer science. These 30 credits may be those prescribed for a minor in another department, but may not include any credits already required by the Computer Science Department for the bachelor of arts degree. In areas of application where a minor is not prescribed, the Computer Science Department will define the acceptable application area courses, with the assistance of the appropriate departments.



# 118 Science and Engineering

**Bachelor of Science in Computer Science** — 65 credits in computer science, which must include CSC 151, 152, 250, 251, 252, 310, 340, 360, 380 and 450, plus at least 15 additional credits in computer science courses numbered 400 or above. Also required are MT 134, 135, 136, 222, 233, 244; PH 200, 201, 202; and EE 304 and 461. Students in this program must maintain a cumulative grade point average and a computer science grade point average of 2.50 or above.

## Teacher Education

As of fall 1990 the teacher preparation program is a graduate level program only. Students planning to teach at the elementary or secondary school level must complete a bachelor's degree prior to beginning the teacher preparation program. They should discuss their major with their computer science adviser to ensure that they are enrolled in the appropriate courses. A second endorsement is available in computer science (24 credits). Students planning to become teachers must contact the School of Education for advising.

**Undergraduate Minor** — 30 credits in computer science, which must include CSC 151, 152 and at least 20 additional credits in computer science courses numbered 200 or above, with no more than five of these 20 credits in courses numbered 240 or below.

**Note:** For all of the above programs, computer science courses numbered 300 or above require that all prerequisite computer science courses be completed with a grade of C or better.

## Bachelor of Arts

Suggested program sequence.

### Freshman year

|   |            |
|---|------------|
| Computer Science 151, 152 .....           | 10 credits |
| English 110/Philosophy 110 sequence ..... | 10 credits |
| Fine Arts 120 .....                       | 5 credits  |
| History 120 .....                         | 5 credits  |
| Mathematics 134, 135 .....                | 10 credits |
| Electives .....                           | 5 credits  |

### Sophomore year

|                                  |            |
|----------------------------------|------------|
| Computer Science 250, 251 .....  | 10 credits |
| Mathematics 222, 244 .....       | 10 credits |
| English 120 .....                | 5 credits  |
| Lab Science (core req.) .....    | 5 credits  |
| Application Area Electives ..... | 10 credits |
| Electives .....                  | 5 credits  |

### Junior year

|   |            |
|---|------------|
| Computer Science 310, 380, elective .....     | 15 credits |
| Philosophy 220/Social Science I .....         | 10 credits |
| Application Area Electives .....              | 5 credits  |
| Social Science II .....                       | 5 credits  |
| Electives .....                               | 5 credits  |
| Theology and Religious Studies Phase II ..... | 5 credits  |

### Senior year

|  |                    |
|--|--------------------|
| Computer Science 450, elective .....           | 10 credits         |
| Ethics .....                                   | 5 credits          |
| Application Area Electives .....               | 15 credits         |
| Electives .....                                | 10 credits         |
| Theology and Religious Studies Phase III ..... | 5 credits          |
| <b>Total .....</b>                             | <b>180 credits</b> |

## Bachelor of Science in Computer Science

Suggested program sequence.

### Freshman year

|   |            |
|---|------------|
| Computer Science 151, 152 .....           | 10 credits |
| English 110/Philosophy 110 sequence ..... | 10 credits |
| Fine Arts 120 .....                       | 5 credits  |
| History 120 .....                         | 5 credits  |
| Mathematics 134, 135, 136 .....           | 15 credits |

### Sophomore year

|                                      |            |
|--------------------------------------|------------|
| Computer Science 250, 251, 252 ..... | 15 credits |
| English 120 .....                    | 5 credits  |
| Mathematics 222, 233, 244 .....      | 13 credits |
| Physics 200, 201 .....               | 10 credits |
| Electives .....                      | 2 credits  |

### Junior year

|   |            |
|---|------------|
| Computer Science 310, 340, 360, 380 ..... | 20 credits |
| Electrical Engineering 304, 461 .....     | 8 credits  |
| Philosophy 220/Social Science I .....     | 10 credits |
| Physics 202 .....                         | 5 credits  |
| Electives .....                           | 2 credits  |

### Senior year

|                                       |            |
|---------------------------------------|------------|
| Computer Science 450, electives ..... | 20 credits |
| Theology and Religious Studies        |            |
| Phases II and III .....               | 10 credits |
| Social Science II .....               | 5 credits  |
| Electives .....                       | 5 credits  |
| Ethics .....                          | 5 credits  |

**Total .....** 180 credits

## Computer Science Courses

**Note:** CSC 103, 113, 114, 151, 152, 170, 180, 232, 233, 250, 251, 252, 310, 420 and 465 have four lectures and one laboratory per week.

### CSC 103 Introduction to Computers and Applications 5 credits

An introduction to computers. No prior experience with computers is assumed or required. The course includes an overview of computers and their applications to information processing. Students are introduced to the use of computers in word processing, spreadsheets and data base systems, and to elementary concepts of computer programming. (fall, winter, spring)

### CSC 113 Introductory Programming with BASIC 5 credits

An introductory course in computer programming using the BASIC language. Emphasis on developing programming style to solve representative problems on the computer.

### CSC 114 Introductory Programming with FORTRAN 5 credits

An introductory course in computer programming using the FORTRAN language. Emphasis on developing programming style to solve example problems of various types. Programs will be developed and run on the computer as laboratory projects. Prerequisite: MT 101.

### CSC 151 Fundamentals of Computer Science I 5 credits

Introduction to the fundamentals of computer science, including programming in a structured, modular language, with emphasis on programming design and style. Algorithm development, stepwise refinement, elementary searching and sorting algorithms. Brief history of computer hardware and software; discussion of the social implications of computers. Pre- or co-requisite: MT 134, 131, or 130. (fall, winter)

## CSC 152 Fundamentals of Computer Science II 5 credits

Continuation of the introduction to the fundamentals of computer science, including string processing, recursion, internal searching and sorting, simple data structures such as stacks, queues and linked lists, and binary trees. Prerequisite: CSC 151. (winter, spring)

## CSC 170 Intermediate Programming with PASCAL 5 credits

Continued development of programming skills through the writing, debugging and testing of a number of intermediate level programs in PASCAL. Basic aspects of string processing, recursion, search/sort methods and elementary data structures. Prerequisites: CSC 151, or MT 134/131/130 plus previous programming experience.

## CSC 180 Intermediate Programming with COBOL 5 credits

Continued development of programming skills through the writing, debugging and testing of a number of intermediate level programs in COBOL. COBOL programming and data processing. Prerequisites: CSC 151 or previous programming experience.

## CSC 191 Special Topics 1-5 credits

## CSC 192 Special Topics 1-5 credits

## CSC 193 Special Topics 1-5 credits

## 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: ME 215 or 230; MT 232 and MT 233. (fall, spring)

## CSC 232 Business Applications Programming 5 credits

Programming business applications, utilizing the COBOL language, including data and file structures, report generation and the use of structured programming concepts. Other topics may include fourth generation languages (4 GL), business applications software packages, database systems, query languages and communication facilities. Prerequisite: CSC 152.

## CSC 233 Scientific/Systems Applications Programming 5 credits

Programming in the C language, with emphasis on the use of structures, functions, pointers and the UNIX C library. Laboratory assignments will be drawn from applications in computer systems programming and the natural sciences. Prerequisite: CSC 152.

## CSC 250 File Processing and Database Concepts 5 credits

File processing environments, sequential and random accessing techniques, tree, list and ring structured file organizations, related data structure concepts and file control systems. Additional topics may include database systems, query processing and concepts of normalization. Prerequisite: CSC 152. (fall)

## CSC 251 Introduction to Computer Organization 5 credits

Basic concepts of computer architecture and digital logic design. Coding of information, number representations, and computer arithmetic. Computer architecture concepts, including CPU, memory and I/O organization. Control unit implementation and microprogramming. Laboratory projects include the design and construction of a simple computer using integrated circuit chips. Prerequisites: CSC 152, MT 222. (winter)

## CSC 252 Computer Systems and Assembler Language 5 credits

Elementary computer structure, machine languages, assembly language programming. Programming will be done in assembly language. Addressing techniques, macros, linkers, loaders and assemblers. Prerequisite: CSC 251. (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. Prerequisites: CSC 250, MT 222. (fall)

## CSC 340 Operating Systems 5 credits

Basic concepts of operating systems, including machine structures, dynamic processes, system structures, memory management, I/O control, process management, file systems, security issues and recovery techniques. Prerequisites: CSC 310, MT 244. (winter)

## CSC 360 Introduction to Software Engineering 5 credits

Technical and managerial aspects of software development and maintenance. The software life cycle. Selected methodologies, techniques, and tools for software requirement specification, design, coding and testing. Prerequisite: CSC 250. (spring)

## CSC 380 Organization of Programming Languages 5 credits

Introduction to the structure and organization of programming languages; syntax and semantics; data and control structures; implementation and translation considerations. The course will include programming assignments in different languages. Prerequisite: CSC 310. (spring)

## CSC 391 Special Topics 1-5 credits

## CSC 392 Special Topics 1-5 credits

## CSC 393 Special Topics 1-5 credits

## CSC 396 Independent Study 1-5 credits

## CSC 397 Independent Study 1-5 credits

## CSC 398 Independent Study 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. Prerequisite: CSC 310. (winter)

## CSC 444 Concurrent Systems 5 credits

Concurrency in software and hardware. From sequential to concurrent programming. Correctness of concurrent programs. Semaphores. Mutual exclusion. the producer-consumer problem. Monitors. Rendezvous and distributed processing. Object-oriented approaches to concurrency. Hardware support for parallel processing, including pipeline computers, array processors and dataflow computers. Prerequisites: CSC 252, 340.

## CSC 450 Automata, Computability and Formal Languages 5 credits

Formal mathematical basis of computer science. Topics include set theory, recursive functions, automata, regular sets, formal languages. Turing machines, concepts of computability and computational complexity. Prerequisites: CSC 310, MT 244. (fall)

## CSC 465 Computer Graphics and Image Processing 5 credits

Fundamentals of computer graphics. Drawing two-dimensional shapes. Processing of gray scale images, segmentation, contour filling, thinning algorithms, algorithms for curve-fitting and display. Creating three-dimensional graphic displays, shading and shadowing algorithms. Prerequisite: CSC 310, MT 233.

## 120 Science and Engineering

**CSC 470 Artificial Intelligence** 5 credits  
Topics include representations of data, knowledge and algorithms, search strategies, processing considerations, classical problems in artificial intelligence, and applications. Prerequisite: CSC 310. (spring)

**CSC 485 Translation of Programming Languages** 5 credits  
Formal language definitions and descriptions. Syntax, semantics, parsing and translating techniques. Prerequisites: CSC 380.

**CSC 490 Senior Project** 5 credits  
This course is to be an integrative project for the CSC major. It should involve application of many of the concepts taught in previous courses to some significant current problem in computer science or its applications. As such, it may also involve significant interdisciplinary considerations. Prerequisites: two of the courses CSC 340, 360, 380.

**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

## Diagnostic Ultrasound

**Andrea C. Skelly, BS, RDCS, RDMS,**  
**Chairperson**

### Objectives

The diagnostic ultrasound program prepares students for the profession of diagnostic medical sonography. Founded on a concentration in basic sciences, the program affords simultaneous opportunities for receiving a liberal arts education as well as didactic and practical exposure to a range of ultrasound specialties. This approach leads not only to competence in the practice of sonography, but also to the development of future leaders in the field.

### Degree Offered

**Bachelor of Science in Diagnostic Ultrasound**

### Accreditation

The diagnostic ultrasound program is accredited by the Committee on Allied Health Education and Accreditation (CAHEA).

### General Program Requirements

Students in the diagnostic ultrasound program must satisfy the university core curriculum requirements as given in this bulletin, except for the requirement in fine arts. The interdisciplinary course requirement and senior synthesis requirement are fulfilled for diagnostic ultrasound majors by completing US 370 and US 483.

### Departmental Requirements

**Bachelor of Science in Diagnostic Ultrasound** — 20 credits of biology, including BL 165, five credits BL elective, 200 and 210; N 321 and 322; PH 105, 106 and 350; MT 131 (or MT 130); CSC 103, 113 or 114; US 330, 331, 332, 333, 334, 335, 355, 370, 375, 473, 474 (three times), 483 (four times), 484 (twice). A calendar year internship is necessary for entry into professional employment and certification. This internship is a part of the degree and follows after the academic course requirements are met. Students must provide verification (from physician) of good health prior to ultrasound specific courses.

### Bachelor of Science in Diagnostic Ultrasound

Suggested program sequence.

#### Freshman year

|   |            |
|---|------------|
| Biology 165 .....                         | 5 credits  |
| Biology Elective .....                    | 5 credits  |
| Computer Science 113, 114 or 103 .....    | 5 credits  |
| English 110/Philosophy 110 sequence ..... | 10 credits |
| History 120/English 120 sequence .....    | 10 credits |
| Mathematics 131 (or 130) .....            | 5 credits  |
| Elective .....                            | 3 credits  |



## Sophomore year

|  |            |
|--|------------|
| Biology 200, 210 .....                         | 10 credits |
| Philosophy 220/Social Science I sequence ..... | 10 credits |
| Physics 105, 106 .....                         | 10 credits |
| Social Science II .....                        | 5 credits  |
| Theology and Religious Studies Phase II .....  | 5 credits  |
| Ethics .....                                   | 5 credits  |

## Junior year

|   |            |
|---|------------|
| Ultrasound 330, 331, 332, 333, 334, 335,<br>355, 370, 375 ..... | 32 credits |
| Nursing 321, 322 .....  | 6 credits  |
| Physics 350 .....   | 3 credits  |
| Theology and Religious Studies Phase III .....                  | 5 credits  |

## Senior year

|   |             |
|---|-------------|
| Ultrasound 473, 474 (3 times) .....           | 34 credits  |
| Ultrasound 483 (4 times), 484 (2 times) ..... | 12 credits  |
| Total .....                                   | 180 credits |

## Diagnostic Ultrasound Courses

|  |                          |           |
|--|--------------------------|-----------|
| US 330   | Diagnostic Ultrasound I  | 5 credits |
| US 331   | Diagnostic Ultrasound II | 5 credits |
| Brief review of acoustical physics, modes of display, introduction to equipment. Pathophysiology of organ systems evaluated by ultrasound and their ultrasonic appearance. Prerequisites: US 355, PH 350. (330 winter, 331 winter) |                          |           |

|  |                  |           |
|--|------------------|-----------|
| US 332   | Echocardiography | 5 credits |
| Anatomy, physiology and pathological conditions of the adult and pediatric heart, their visualization and evaluation with real-time 2-D imaging, Doppler and M-mode echocardiography. Prerequisites: BL 200, 210; US 355; PH 350. (spring) |                  |           |

|  |                               |           |
|--|-------------------------------|-----------|
| US 333   | Methods of Cardiac Evaluation | 2 credits |
| Integration of various modes of cardiac evaluation with echocardiography. Cardiac catheterization, ECG, auscultation and phonocardiography are covered in addition to other pertinent topics. The course serves to expand the student's knowledge of cardiac physiology and pathophysiology. Corequisite or prerequisite: US 332. (spring) |                               |           |

|   |                                 |           |
|---|---------------------------------|-----------|
| US 334  | Vascular Evaluation and Doppler | 2 credits |
| Introduction to applications of Doppler ultrasound for the detection and evaluation of vascular disease. Vascular anatomy, physiology, and pathology. Additional methods of evaluating vascular disease which complement Doppler data. Prerequisite: US 355, PH 350. (winter) |                                 |           |

|  |                                 |          |
|--|---------------------------------|----------|
| US 335   | Introduction to Instrumentation | 1 credit |
| Integration of ultrasound physics, instrumentation and principles with hands-on experience. Practice in modes of equipment operation and safety. Includes observation, data collection, interpretation and evaluation of results and reporting. Course complements material presented in PH 350 and ultrasound courses. Pre- or corequisite; PH 350. |                                 |          |

|   |                             |           |
|---|-----------------------------|-----------|
| US 355  | Human Cross Section Anatomy | 5 credits |
| Survey of cross section anatomy with emphasis on organs of body amenable to ultrasound diagnostic techniques. Prerequisites: BL 200 and 210. (fall) |                             |           |

|   |   |           |
|---|---|-----------|
| US 370  | Health Care Management and Professionalism Issues | 3 credits |
| Examination of ethical, legal and psycho-social aspects of health care. Methods of budgeting, hiring and firing, and departmental administration. The sonographer's role in relation to the patient, physician and staff. Fulfills interdisciplinary core requirement and is open to all qualified students. (fall) |   |           |

|   |                            |           |
|---|----------------------------|-----------|
| US 375  | Ultrasound Instrumentation | 4 credits |
| Understanding the operation of diagnostic ultrasound equipment, including A and B-mode, M mode 2-D/real-time and Doppler systems. Prerequisite: PH 350 fulfills interdisciplinary core requirement, and is open to all qualified students. (spring) |                            |           |

|        |                |             |
|--------|----------------|-------------|
| US 391 | Special Topics | 1-5 credits |
| US 392 | Special Topics | 1-5 credits |
| US 393 | Special Topics | 1-5 credits |

|        |                   |             |
|--------|-------------------|-------------|
| US 396 | Independent Study | 1-5 credits |
| US 397 | Independent Study | 1-5 credits |
| US 398 | Independent Study | 1-5 credits |

|   |                                    |            |
|---|------------------------------------|------------|
| US 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: US 483. |                                    |            |

|   |                                     |           |
|---|-------------------------------------|-----------|
| US 474  | Clinical Experience in Ultrasound I | 8 credits |
| Five eight-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: US 483. |                                     |           |

|  |                      |           |
|--|----------------------|-----------|
| US 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. Fulfills senior synthesis core requirement. |                      |           |

|   |                             |           |
|---|-----------------------------|-----------|
| US 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, US 474. |                             |           |

## 122 Science and Engineering

### Electrical Engineering

Patricia D. Daniels, Ph.D., Chairperson

#### Objectives

Electrical engineering is concerned with the use of electrical energy for the benefit of society. The profession of electrical engineering is scientifically based and design oriented. As such, its practice draws heavily from the areas of mathematics, physics and the other natural sciences, as well as other branches of engineering.

The electrical engineering program strives to provide a broad foundation based upon mathematical and scientific principles that will prepare the graduate for a productive lifelong career in any of the various sub-fields of the electrical engineering profession. The Electrical Engineering Department is teaching oriented and offers an undergraduate program that focuses on an integrated, traditional perspective of the electrical engineering profession.

The curriculum spans the subspecialties of electrical engineering with courses in communications and control theory, digital systems and microprocessors, electronic circuits, electromagnetic fields and waves, engineering design, networks, power generation and distribution, signal processing and solid state devices. The student interested in a career in any specialty within the broad confines of electrical engineering is given sufficient preparation in a well-balanced program of study. The hallmark of the senior year is the capstone engineering design experience, in which student design teams propose and implement multidisciplinary engineering design projects.

The electrical engineering program provides an integrated base for those graduates who choose to enter professional practice in electrical engineering directly upon graduation and a rigorous preparation for those who choose graduate study in electrical engineering.

#### Degree Offered

Bachelor of Science in Electrical Engineering

#### General Program Requirements

Students in electrical engineering must satisfy the university core curriculum requirements as given in this bulletin, except for the requirement in fine arts. Electrical engineering students take CEE 402 to substitute for the requirement in Social Science II. Transfer students must have a minimum of 45 credits in history, humanities or social sciences courses.

#### Departmental Requirements

**Bachelor of Science in Electrical Engineering** — 78 credits in electrical engineering, which must include EE 201, 210, 304, 311, 312, 320, 321, 327, 328, 331, 360, 403, 450, 457, 467, 487, 488, and 489. Also required are CEE 402; CH 121 and 131; CSC 230; ME 105, 107, and 215; MT 134, 135, 136, 232, 233, and 234; PH 200, 201, 202, 205, and 330. The ME 215 requirement may be satisfied by taking both ME 210 and ME 230 or ME 210 and PH 310.

In addition to the prerequisites, departmental candidacy in one of the engineering departments is required for entry into 300 and 400 level courses. Candidacy is achieved by successfully completing all required 100 and 200 level CH, CSC, EE, ME, MT, and PH courses and EN 110 with a combined grade point average of at least 2.50. Only courses graded 2.0 (C) or better may be transferred into the department to offset degree requirements; only 100 and 200 level courses will be transferred.

Taking the Washington state Engineer-in-Training (EIT) examination is required for the degree. This degree is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

#### Bachelor of Science in Electrical Engineering

Suggested program sequence. The Electrical Engineering Student Handbook contains scheduling information.

##### Freshman Year

|   |            |
|---|------------|
| English 110/Philosophy 110 sequence ..... | 10 credits |
| History 120 .....                         | 5 credits  |
| Mathematics 134, 135, 135 .....           | 15 credits |
| Mechanical Engineering 105, 107 .....     | 5 credits  |
| Physics 200, 201 .....                    | 10 credits |

##### Sophomore Year

|                                       |            |
|---------------------------------------|------------|
| Chemistry 121, 131 .....              | 5 credits  |
| Computer Science 230 .....            | 3 credits  |
| Electrical Engineering 201, 210 ..... | 9 credits  |
| English 120 .....                     | 5 credits  |
| Mathematics 232, 233, 234 .....       | 10 credits |
| Mechanical Engineering 215 .....      | 5 credits  |
| Physics 202, 205 .....                | 8 credits  |
| Philosophy 220 .....                  | 5 credits  |

##### Junior Year

|   |            |
|---|------------|
| Electrical Engineering 304, 311, 312, 320,<br>321, 327, 328, 331, 360 ..... | 33 credits |
| Physics 330 .....   | 5 credits  |
| Social Science I .....  | 5 credits  |
| Theology and Religious Studies Phase II .....                               | 5 credits  |

##### Senior Year

|   |             |
|---|-------------|
| Civil Engineering 402 .....                                       | 3 credits   |
| Electrical Engineering 403, 450, 457, 467,<br>487, 488, 489 ..... | 24 credits  |
| Electrical Engineering Electives .....                            | 12 credits  |
| Ethics .....  | 5 credits   |
| Theology and Religious Studies Phase III .....                    | 5 credits   |
| Engineer-in-Training Examination .....                            | 0 credits   |
| Total .....   | 192 credits |

## Electrical Engineering Curricular Blocks

Courses taken to fulfill requirements toward the bachelor's in electrical engineering degree are grouped together into four interrelated curriculum blocks. The engineering common studies program is essentially standard across the Departments of Civil and Environmental, Electrical and Mechanical Engineering; the capstone design sequence is multi-disciplinary in character and thus cuts across departmental lines. The Electrical Engineering core curriculum forms the scientific foundation upon which all advanced electrical engineering courses are built. The electrical engineering advanced requirements extend the electrical engineering core in specific technical directions. The electrical engineering advanced electives are offered on a variety of topics. The specific elective offerings are governed by student interest and availability of faculty resources; topics not listed by course number may be offered as special topics.

**Engineering Common Studies Program — 118 credits.** University core curriculum; CH 121, 131; CSC 230; EE 487, 488, 489; MT 134, 135, 136, 232, 233, 234; PH 200, 201, 202; ME 105, 107, 215.

**Electrical Engineering Core Curriculum — 39 credits.** EE 201, 210, 311, 312, 320, 321, 327, 328, PH 205, 330. Prerequisite block; CSC 230; ME 105, 107, 215; MT 134, 135, 136, 232, 233, 234. Offered twice annually.

**Electrical Engineering Advanced Requirements — 23 credits.** EE 304, 331, 360, 403, 450, 457, 467. Prerequisite block: EE core curriculum plus designated courses. Offered twice annually.

**Electrical Engineering Advanced Electives — 12 credits.** Three upper division engineering and/or natural science courses at least two of which must be from the following: EE 404, 414, 432, 440, 451, 461, 462, 470, 491(2)(3), 496(7)(8). Prerequisite block: EE core curriculum plus designated courses.

## Electrical Engineering Courses

All courses are numbered under a system which relates the technical content of lecture and laboratory courses to subfields of the electrical engineering profession. The hundreds digit indicates the nominal year in which the course is scheduled. The tens digit denotes the technical topic area according to the following listing. The ones digit specifies the course uniquely and identifies lecture and laboratory courses as well.

### Left Digit

- 1 Freshman
- 2 Sophomore
- 3 Junior
- 4 Senior

### Middle Digit

- |                    |  |
|--------------------|--|
| 0 Digital/Computer | 5 Power/Energy                         |
| 1 Circuits         | 6 Communications                       |
| 2 Electronics      | 7 Measurements                         |
| 3 E/M Fields       | 8 Design                               |
| 4 Controls         | 9 Independent Study/<br>Special Topics |

## Right Digit

0 - 6 Lecture and lecture/laboratory

7 - 9 Laboratory

**EE 201 Digital Operations and Computation 4 credits**  
Digital processing of information and data, number systems, Boolean algebra; design of hardware for registers, counting and arithmetic operations; organization of computers, storage and input/output. Introduction to simple logic circuits. Elementary concepts of programming and assembly language. No prerequisites. (fall, spring)

**EE 210 Electrical Circuits I 5 credits**  
Fundamental concepts and units, Kirchhoff's laws, mesh and node analysis, equivalent circuits, linearity and superposition; first and second order circuits; natural and forced responses, initial conditions; sinusoidal analysis, introduction to phasors. Prerequisites: MT 233, PH 201. Corequisite: MT 234. (fall, spring)

**EE 296 Independent Study 1-5 credits**

**EE 297 Independent Study 1-5 credits**

**EE 298 Independent Study 1-5 credits**

**EE 304 Microprocessor Design 4 credits**  
Design of electrical digital components and systems that employ microprocessors. Assembly language programming, peripheral access, memory, interfacing the microprocessor to the external system. Three lectures and one four-hour laboratory. Prerequisites: EE core curriculum; or CSC 251. (fall, winter, spring)

**EE 311 Electrical Circuits II 4 credits**  
Phasors and impedance; Laplace transforms; system functions and the s-plane; analytical and graphical techniques of frequency response description, Bode diagrams; two-port analysis; AC power; introduction of the digital computer in circuit analysis and design. Prerequisite: EE 210 and departmental candidacy. (fall, winter)

**EE 312 Linear System Analysis 4 credits**  
Continuous and discrete time signals. Mathematical representation of systems by differential and difference equations. Impulse response and convolution in continuous time systems. Fourier series and Fourier transforms. Introduction to filtering, Butterworth and Chebyshev responses. Prerequisite: EE 311. (winter, spring)

**EE 315 Elements of Electrical Engineering 5 credits**  
An introductory course to subjects of electrical engineering. Basic circuit theory; linear systems; steady-state solutions; Laplace transform and transient analysis; Boolean algebra, logic gates, combinational and sequential logic; magnetic fields, transformers and energy conversion. An introductory course for engineering and natural science students not majoring in electrical engineering. Prerequisites: MT 234 and PH 201. (fall, winter)

**EE 320 Electronics I 5 credits**  
Analysis and design of elementary electronic circuits including linear circuits, operational amplifiers, non-linear circuits and digital circuits. Introduction to bipolar and field effect devices and characteristics. Corequisite: EE 311. (fall, winter)

**EE 321 Electronics II 5 credits**  
Continuation of EE 320. Field effect and bipolar devices. Transistor amplifiers, frequency response, feedback, analog integrated circuits, introduction to oscillators, logic families, introduction to memory circuits. Prerequisite: EE 320. (winter, spring)

**EE 327 Electrical Circuits Laboratory 2 credits**  
A laboratory covering the principles of electrical and electronic circuits. Electronic instrumentation and general practice. Principles of technical communication. One-hour lecture and one four-hour laboratory per week. Corequisites: EE 311 and EE 320. (fall, winter)

**EE 328 Electronic Circuits Laboratory 2 credits**  
Continuation of EE 327. Emphasis on solid-state circuits, both analog and digital. Prerequisite: EE 327. Corequisite: EE 321. (winter, spring)



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**EE 331 Distributed Systems 4 credits**  
Analysis of distributed systems; steady-state and transient analysis of loss-less lines, lossy lines; waveguides. Prerequisite: EE core curriculum. (fall, spring)

**EE 360 Communication Systems 3 credits**  
Analysis and design of signal transmission systems that include amplitude, phase, frequency and pulse modulation. Subsystem synthesis and design with comparative analysis. Communication in the presence of noise. Prerequisite: EE core curriculum. (fall, spring)

**EE 403 Digital Signal Processing 4 credits**  
Linear, time invariant, discrete systems; finite moving average and recursive digital filters; Z-transform; discrete Fourier transform; fast Fourier transform. Prerequisite: EE core curriculum. (fall, winter)

**EE 404 Introduction to VLSI Circuit Design 4 credits**  
An introduction to the design of very large scale integrated circuits using engineering workstations and silicon compiling software. Aspects of the design, manufacture and test will be covered in lecture. The laboratory will be used for the design of circuits, using the workstations and software. Three lectures and one three-hour laboratory per week. Prerequisite: EE core curriculum.

**EE 414 Active Networks and Filters 4 credits**  
Design of active filters. Operational amplifier circuits. Approximation of frequency response characteristics. Sensitivity. Frequency transformations. Active two-port networks. Simulation of passive elements. Switched capacitor filters. Prerequisite: EE core curriculum.

**EE 432 Microwave Systems 4 credits**  
Propagation of electromagnetic waves and interaction with materials, guided waves, and passive and active devices, microstrip and integrated circuits. Prerequisite: EE core curriculum. Corequisite: EE 331.

**EE 440 Control Systems 4 credits**  
Fundamentals of classical and modern system theory; analysis and design of closed-loop systems with emphasis on stability and transient response using Nyquist, Bode, root-locus, and state-space techniques. Prerequisite: EE core curriculum.

**EE 450 Electromechanical Energy Conversion 4 credits**  
Electromechanical energy conversion principles and design. Application and details of electromechanical devices, such as relays, transformers, rotating machinery and special devices. Prerequisites: EE core curriculum, EE 331. (fall, winter)

**EE 451 Power Systems 4 credits**  
Analysis of power systems: symmetrical components, power system parameters, steady-state operation, faults, economic operation. Prerequisites: EE core curriculum, EE 450. Corequisite: EE 331.

**EE 457 Electromechanical Energy Conversion Laboratory 2 credits**  
A laboratory covering the principles and practice of electromechanical energy conversion devices. Prerequisites: EE core curriculum, EE 450. (winter, spring)

**EE 461 Data Communications 4 credits**  
An introduction to the concepts and methods of data communication. Systems, protocols and controls used in data transfer. Media employed for data transmission and multiplexing techniques. Long-range and local networks used in data and computer communications. For computer science majors and as an EE elective for electrical engineering majors. Prerequisite: EE 201 or CSC 251. (spring)

**EE 462 Modern Optics 4 credits**  
An introduction to modern optics consisting of Huygens principle, diffraction, Fourier optics and image processing, optical cavities, interferometry, planar waveguides, integrated optics and fibers. Prerequisites: EE core curriculum; or PH 330. Corequisite: EE 331 or PH 331.

**EE 467 Communications Laboratory 2 credits**  
A laboratory covering basic principles of encoding, modulation and transmission of electronic signals. Principles of technical communications will be stressed. One-hour lecture and one four-hour laboratory per week. Prerequisites: EE core curriculum, EE 331. Corequisite: EE 360. (fall, winter)

**EE 470 Automated Testing 4 credits**  
Theory and application of general purpose interface bus (GPIB) systems. Description of the IEEE-488/1980 standard. Emphasis on logical organization of the system and its application to representative test situations. Two lectures and one four-hour laboratory per week. Prerequisites: EE core curriculum, or EE 315.

**EE 487 Engineering Design I 4 credits**  
Design process, problem solving and decision making, modeling and simulation, optimization, economics, costing, reliability. Four lectures per week. Prerequisites: senior standing; EE core curriculum. Corequisite: CE 402. (fall)

**EE 488 Engineering Design II 4 credits**

**EE 489 Engineering Design III 4 credits**  
Group design project focusing on the integrative aspects of engineering subject matter. The project should focus on: (1) philosophy of design, a creative approach, and a comprehensive design project; planning, organizing and leading an engineering project; exercising judgment and considering economic factors; and (2) integrated aspects of creative design and analysis; case studies; design of a novel device or system. Two lecture and four design hours per week. Prerequisite: EE 487 for 488; 488 for 489. (488, winter; 489, spring)

**EE 491 Special Topics 1-5 credits**

**EE 492 Special Topics 1-5 credits**

**EE 493 Special Topics 1-5 credits**

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

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

**EE 498 Independent Study 1-5 credits**

Independent study by student on topic of mutual interest to student and an instructor. Enrollment is limited and open only to students who have agreed upon a proposed topic or course of study with the instructor. May be used as an advanced elective with departmental permission.

## General Science

David C. Brubaker, Ph.D., Chairperson

### Objectives

The general science program provides special opportunities to students interested in interdisciplinary fields, such as ecology, environmental science, earth science, and premedical, pre dental, or preveterinary studies. 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 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 university core curriculum requirements as given in this bulletin.

### Departmental Requirements

Bachelor of Science in General Science — 90 credits chosen from the following fields; biology, chemistry, computer science, 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 five credits in computer science.

|              |  |
|--------------|--|
| Biology:     | BL 165, 166, 167, 200, 210   |
| Chemistry:   | CH 101 and 102; 121, 122, 131 and 132  |
| Mathematics: | MT 111 and 131; 118 and 130; 134 and 135   |
| Physics:     | PH 105 and 106; 200 and 201  |
|              | At least 10 credits must be from 300 or 400 level courses. A further 15 hours must be from 300, 400, or approved 200 level courses. This may require prerequisites beyond the minimal degree requirements. The approved 200-level courses are CH 219, MT 232, 233, 234; and PH 202, 204 and 205. |

### Teacher Education

As of fall 1990 the teacher preparation program is a graduate level program only.

Those students planning to become elementary teachers or secondary earth science or general science teachers must complete a bachelor's degree prior to beginning the teacher preparation program. They should discuss their major with their general science adviser to ensure that they are enrolled in the appropriate courses. Second endorsements are available in earth science (24 credits) and general science (45 credits). Students planning to become teachers must contact the School of Education for advising.

### Interdisciplinary Science Courses

**ISC 110 Science, Technology and Society 5 credits**  
The study of the nature and structure of science and technology, the interactions of science and technology and the impact of science and technology on society. Four hours lecture/discussion and two laboratory hours per week. Prerequisite: MT 107. (winter, spring).

**ISC 120 Introduction to Geology 5 credits**  
Study of the principles of modern geology with consideration of both the physical and historical aspects. Topics will include: modern plate theory, tectonics, uniform processes, and the fossil record. Four hours lecture and three hours of laboratory per week. Arranged weekend field trips. Prerequisite: MT 107

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

**ISC 202 To See the Light 5 credits**  
A hands-on approach to the nature and uses of light: the many faces of light as seen by philosophers, artists and scientists; theories of color; physiology and psychology of perception, light and color in art; laser optics; camera systems; current optical technology; light student projects. Three hours lecture/discussion and one four-hour laboratory/field trip per week. Prerequisite: MT 107.

**ISC 205 Biophysical Principles 5 credits**  
Interrelationships 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. Prerequisite: MT 107.

**ISC 207 Air and Water 5 credits**  
A consideration of the causes and control of air pollution. Water resources, present and future. The pollution of water. Water treatment. Desalting of water. The role of technology in the deterioration of the environment and its restoration. A laboratory experience is included. Prerequisite: MT 107. (fall)

**ISC 208 Sun, Food and People 5 credits**  
Introduction to ecology. The flow of solar energy through the ecosystem and the effect of this on food production. The food chain. The supply and demand of food. Pesticides and fertilizers. Past, present and future trends in human population. Prerequisite: MT 107. (winter)

**ISC 209 Energy and Mineral Resources 5 credits**  
The supply, demand and resources of energy and minerals. Patterns of energy use. Fossil fuels, water power, atomic energy, their use and abuse. Renewable forms of energy. Conservation. Program for the future. Mineral resource depletion, an embryonic crisis. Solid waste and recycling. Prerequisite: MT 107. (spring)

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

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### ISC 301 To Feed the World

5 credits

An interdisciplinary approach to the history, production and distribution of food from the perspectives of paleontology, anthropology, biology, chemistry and the social sciences; modes of scientific examination and interpretation are explored; interrelationships of science, technology and human needs are emphasized. Active participation by students: lectures, movies and small group discussions. Community service project required. Prerequisite: phase II of core. (spring)

### ISC 310 Evolution: Development of a Theory

5 credits

Basic statements and ideas of evolutionary theories from an interdisciplinary perspective. This will include both an historical perspective and a consideration of modern debates. Prerequisites: ISC 110 and one laboratory science course; or two science courses, one with laboratory experience.

### ISC 315 Mineralogy

5 credits

Examination of the many and varied forms that minerals take in the earth's crust, their formation, chemical composition and environmental considerations. Four hours of lecture and three hours of laboratory per week. Prerequisites: ISC 120, MT 111, CH 121, 131, 122, 132.

### ISC 320 Geology and Mineralogy of the Pacific Northwest

2 credits

The general geologic setting and basic mineralogy of the Northwest. Weekend field trips are in conjunction with the field biology course. Prerequisites: two laboratory science courses.

### ISC 330 Field Biology of Washington

2 credits

Life zones, habitats, and plants and animals of special interest in the state. Weekend field trips are in conjunction with the geology and mineralogy course. Prerequisites: two laboratory science courses.

### ISC 401 The Human Response to Science and Technology

5 credits

A comparative-historical approach to the scientization of culture and its contemporary and projected consequences; critical evaluation of competing claims about science and technology as enlightening allies of human progress; a personal search for appropriate intellectual and ethical perspectives on science as a way of knowing and on technology as a way of living. Seminar format; guest lectures; small group paper conferences; student-led seminars. Prerequisites: junior standing or higher, PL 220; HS 104 or 105.

### ISC 480 Interdisciplinary Core Course

3-5 credits

Title and content change each term.

### ISC 496 Independent Study

1-5 credits

### ISC 497 Independent Study

1-5 credits

### ISC 498 Independent Study

1-5 credits

## Mathematics

Janet C. Mills, Ph.D., Chairperson

### Objectives

The Mathematics Department offers 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.

### Degrees Offered

Bachelor of Arts

Bachelor of Science

Bachelor of Science in Mathematics

### General Program Requirements

Students in mathematics must satisfy the university core curriculum requirements as given in this bulletin.

### Advanced Placement in Calculus

Students who have completed a college level course in calculus in high school and have taken the advanced placement test in calculus of the College Entrance Examination Board may petition the department for placement on the basis of their test results. Advanced placement and credit may be granted to students whose test scores are 3 or above. Advanced placement may also be obtained through departmental testing.

### Departmental Requirements

**Bachelor of Arts** — 48 credits in mathematics, which must include MT 134, 135, 136, 232, 233, 234, 222 or 310, 411 or 431, 481 and 10 additional credits of approved upper division mathematics; an approved computer science course; and 15 credits in physical or life science, psychology or economics.

**Bachelor of Science** — 58 credits in mathematics, which must include MT 134, 135, 136, 232, 233, 234, 222 or 310, 244 or 351 or 371, 481, 10 credits from MT 411, 412, 431, 432 and 10 additional credits of upper division mathematics; an approved computer science course; and 30 credits of computer science, 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, 244 or 351 or 371, 411, 412, 431, 432, 481 and 10 additional credits in mathematics numbered 222 or higher; 15 credits of sequence electives in physics, economics, or computer science. In certain circumstances, with approval of the chairperson, 15 credits of upper division work in computer science or 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.



## Teacher Education

As of fall 1990 the teacher preparation program is a graduate level program only. Students planning to teach at the elementary or secondary school level must complete a bachelor's degree prior to beginning the teacher preparation program. Students seeking teacher certification in mathematics may complete the bachelor of arts degree using MT 321 as an upper division elective and substituting MT 244 for five credits of upper division course work.

A second endorsement is available in mathematics (24 credits). Students planning to become teachers must contact the School of Education for advising.

**Undergraduate Minor** — 30 credits in mathematics, which must include MT 134, 135, 136; 15 credits of approved mathematics courses numbered 222 or higher. (15 credit hours must be taken at Seattle University.)

**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

Suggested program sequence.

### Freshman year

|   |            |
|---|------------|
| English 110/Philosophy 110 sequence ..... | 10 credits |
| Fine Arts 120 .....                       | 5 credits  |
| History 120/English 120 sequence .....    | 10 credits |
| Mathematics 134, 135, 136 .....           | 15 credits |
| Laboratory Science .....                  | 5 credits  |

### Sophomore year

|  |            |
|--|------------|
| Computer Science .....                                     | 5 credits  |
| Mathematics 232, 233, 234 .....                            | 10 credits |
| Philosophy 220/Social Science I sequence .....             | 10 credits |
| Physical or Life Science, Psychology<br>or Economics ..... | 15 credits |
| Social Science II .....                                    | 5 credits  |

### Junior year

|  |            |
|--|------------|
| Ethics .....                               | 5 credits  |
| Mathematics 222 or 310 and electives ..... | 10 credits |
| Religious Studies Phases II and III .....  | 10 credits |
| Electives .....                            | 20 credits |

### Senior year

|   |                    |
|---|--------------------|
| Interdisciplinary course .....            | 3 credits          |
| Mathematics 411 or 431 and elective ..... | 10 credits         |
| Senior Synthesis .....                    | 3 credits          |
| Electives .....                           | 29 credits         |
| <b>Total .....</b>                        | <b>180 credits</b> |

## Bachelor of Science

Suggested program sequence.

### Freshman year

|   |            |
|---|------------|
| English 110/Philosophy 110 sequence .....               | 10 credits |
| History 120/English 120 sequence .....                  | 10 credits |
| Mathematics 134, 135, 136 .....                         | 15 credits |
| Physical Life Science, Psychology<br>or Economics ..... | 5 credits  |
| Laboratory Science .....                                | 5 credits  |

### Sophomore year

|  |            |
|--|------------|
| Fine Arts 120 .....  | 5 credits  |
| Mathematics 232, 233, 234 and 222 or 310 .....             | 15 credits |
| Philosophy 220/Social Science I sequence .....             | 10 credits |
| Physical or Life Science, Psychology<br>or Economics ..... | 5 credits  |
| Social Science II .....                                    | 5 credits  |
| Electives .....  | 5 credits  |

### Junior year

|   |            |
|---|------------|
| Mathematics 244 or 351 or 371 and electives .....     | 15 credits |
| Physical or Science, Psychology<br>or Economics ..... | 20 credits |
| Religious Studies Phases II and III .....             | 10 credits |

### Senior year

|  |                    |
|--|--------------------|
| Computer Science .....                 | 5 credits          |
| Ethics .....                           | 5 credits          |
| Interdisciplinary course .....         | 3 credits          |
| Mathematics 411, 412, 431 or 432 ..... | 10 credits         |
| Senior Synthesis .....                 | 3 credits          |
| Electives .....                        | 19 credits         |
| <b>Total .....</b>                     | <b>180 credits</b> |

## Bachelor of Science in Mathematics

Suggested program sequence.

### Freshman year

|   |            |
|---|------------|
| English 110/Philosophy 110 sequence ..... | 10 credits |
| Fine Arts 120 .....                       | 5 credits  |
| History 120/English 120 sequence .....    | 10 credits |
| Laboratory Science .....                  | 5 credits  |
| Mathematics 134, 135, 136 .....           | 15 credits |

### Sophomore year

|   |            |
|---|------------|
| Mathematics 232, 233, 234, and 222 or 310 ..... | 15 credits |
| Philosophy 220/Social Science I sequence .....  | 10 credits |
| Sequence elective .....                         | 5 credits  |
| Social Science II .....                         | 5 credits  |
| Electives .....                                 | 10 credits |

### Junior year

|   |            |
|---|------------|
| Ethics .....                              | 5 credits  |
| Mathematics 411, 412, or 431, 432 .....   | 10 credits |
| Sequence electives .....                  | 10 credits |
| Religious Studies Phases II and III ..... | 10 credits |
| Electives .....                           | 10 credits |

### Senior year

|  |                    |
|--|--------------------|
| Interdisciplinary course .....   | 3 credits          |
| Mathematics 244 or 351 or 371; 431, 432,<br>or 411, 412, and electives ..... | 25 credits         |
| Senior Synthesis .....   | 3 credits          |
| Electives .....  | 14 credits         |
| <b>Total .....</b>   | <b>180 credits</b> |

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## Proper Sequence for Taking Courses

The normal sequence of elementary mathematics courses is MT 101; MT 111 or MT 118; MT 130, MT 131 or MT 134; MT 135; and MT 136. A student who has received a C or better in any course of this sequence or its equivalent cannot subsequently receive credit for a course which appears before it in the sequence. A student may not receive credit for more than two courses among MT 101, MT 107, and MT 200. A student may not receive credit for more than one course from each of the following groups: MT 111 and 118; MT 130, MT 131 and MT 134; MT 244 and MT 351. A student who has taken MT 130 or MT 131 and is required due to a change of major to take MT 134 as preparation for MT 135 will receive credit for both MT 130 (or MT 131) and MT 134. Credit for MT 134 will be contingent on successful completion of MT 135.

## Mathematics Courses

- MT 101 Intermediate Algebra** 5 credits  
Sets and numbers, polynomials, fractions, linear equations and inequalities, exponents, quadratic equations and inequalities; systems of equations; functions and graphing. Prerequisite: One year each of high school algebra and geometry. (fall, winter, spring)
- MT 107 Mathematics: A Practical Art** 5 credits  
General introduction to logic, sets, probability, statistics, algorithmic processes and other selected topics. Hands-on experience with microcomputers. Emphasis on development of quantitative skills. Prerequisite: One year each of high school algebra and geometry. (fall, winter)
- MT 111 College Algebra** 5 credits  
Inequalities, algebra of functions, graphs, exponential and logarithmic functions, theory of equations, mathematical induction, complex numbers. Prerequisite: MT 101 or qualifying examination. Credit not granted for both MT 111 and MT 118. (fall, winter)
- MT 115 Trigonometry** 2 credits  
Radian measure, trigonometric functions and their graphs, identities, trigonometric equations, inverse trigonometric functions. Prerequisite: MT 111 or 118 or qualifying examination. (fall, winter, spring)
- MT 118 College Algebra for Business** 5 credits  
Sets; relations and functions, graphing; linear, quadratic, exponential, logarithmic functions; systems of linear equations; inequalities; linear programming; applications to business. Prerequisite: MT 101 or equivalent. Credit not granted for both MT 111 and MT 118. (fall, winter, spring)
- MT 130 Elements of Calculus for Business** 5 credits  
Limits; continuity; rate of change; derivative, basic differentiation formulas, extrema; area under a curve; the definite integral and applications. Prerequisite: MT 111 or 118. (fall, winter, spring)
- MT 131 Calculus for Life Sciences** 5 credits  
Limits; rate of change; derivatives, basic differentiation formulas, extrema; the definite integral. Applications to the life and social sciences. Prerequisite: MT 115 or equivalent. (spring)
- MT 134 Calculus and Analytic Geometry I** 5 credits  
**MT 135 Calculus and Analytic Geometry II** 5 credits  
**MT 136 Calculus and Analytic Geometry III** 5 credits  
I. Review of precalculus subjects; limits and derivatives; applications of limits and derivatives. II. Theory, technique and applications of integration; differentiation and integration of trigonometric, exponential and logarithmic functions. III. Indeterminate forms; improper integrals; infinite series; Taylor's theorem; vectors, polar coordinates; solid analytic geometry. Prerequisites: MT 111 or qualifying examination for 134; 115 and 134 for 135; 135 for 136. (All three offered fall, winter, spring)

**MT 200 Mathematics for K-8 Teachers** 5 credits  
Systems of numeration; algorithms; elementary logic; sets; introduction to probability and statistics. Emphasis on logic and problem solving. Prerequisite: MT 101 or 107 or equivalent. (winter)

**MT 222 Discrete Structures** 5 credits  
Logic; set theory; equivalence relations and partitions; algebraic structures, including Boolean algebras; combinatorics; graph theory; applications to computer science. Prerequisites: MT 135, CSC 113, 114 or 151. (fall)

**MT 232 Multivariable Calculus** 3 credits  
Partial derivatives, multiple integration, and applications. Prerequisite: MT 136. (fall, winter, spring)

**MT 233 Linear Algebra** 3 credits  
Matrices, determinants, vector spaces, linear transformations, eigenvalues. Prerequisite: MT 136. (fall, winter, spring)

**MT 234 Differential Equations** 4 credits  
First and second order differential equations; linear differential equations; systems of differential equations; power series solutions. Prerequisites: MT 232 and 233. (fall, winter, spring)

**MT 244 Fundamentals of Probability and Statistics** 5 credits  
Probability models. Discrete and continuous random variables, basic concepts of descriptive and statistical inference. Queueing theory. Applications. The course will include use of computer software. Prerequisite: MT 135. (spring) Cannot apply both MT 244 and MT 351 toward a mathematics major.

**MT 291 Special Topics** 1-5 credits  
**MT 292 Special Topics** 1-5 credits  
**MT 293 Special topics** 1-5 credits

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

**MT 310 Introduction to Advanced Mathematics** 5 credits  
Logic and proofs; quantifiers; basic notions of set theory; induction, cartesian products and relations; equivalence relations; functions; cardinality. Prerequisite: MT 136. (spring of alternate years)

**MT 315 Number Theory** 5 credits  
Divisibility and Euclidean algorithm; congruences; quadratic reciprocity law; numerical functions; the Mobius inversion formula. Prerequisite: MT 135.

**MT 321 Foundations of Euclidean Geometry** 5 credits  
Axiomatic foundations of Euclidean geometry; ruler and compass constructions; problems of antiquity; the 5th postulate and non-Euclidean geometries. Prerequisite: MT 135.

**MT 351 Probability** 5 credits  
Basic concepts and theorems in probability theory; the binomial, Poisson, normal and other fundamental probability distributions; moments; limit theorems. Prerequisite: MT 232. Cannot apply both MT 244 and MT 351 toward a mathematics major.

**MT 371 Introduction to Numerical Methods** 5 credits  
Approximation and errors; solution of equations and systems of linear equations; numerical integration. Four lecture hours and one computer laboratory hour per week. Prerequisites: MT 233. Proficiency in a programming language.

**MT 381 Elementary Topology** 5 credits  
Set theory; topology of the real line; topological spaces; compactness; connectedness; product spaces; metric spaces. Prerequisite: MT 233.

MT 411 Introduction to Abstract Algebra I 5 credits  
 MT 412 Introduction to Abstract/Algebra II 5 credits  
 Theory of groups, rings, fields and field extensions; vector spaces and linear transformations; special topics. Prerequisites: permission for 411; 411 for 412. (offered in sequence: fall, winter of alternate years)

MT 431 Introduction to Real Analysis I 5 credits  
 MT 432 Introduction to Real Analysis II 5 credits  
 The real number system; continuity; point set theory; partial differentiation; vector fields; linear transformations; Riemann-Stieltjes integrals; implicit function theorem; infinite series; power series; uniform convergence. Prerequisites: permission for 431; 431 for 432. (offered in sequence: fall, winter of alternate years)

MT 437 Introduction to Complex Variables 5 credits  
 The complex number system, analytic functions, integration, series, residues, conformal mapping. Prerequisite: MT 234.

MT 480 Interdisciplinary Core Course 3-5 credits  
 Title and content change each term.

MT 481 Senior Synthesis 3 credits  
 Problems in modern mathematics and applications. Individual projects will include a written report and a classroom presentation. Prerequisite: permission. (spring)

MT 491 Special Topics 2-5 credits  
 MT 492 Special Topics 2-5 credits  
 MT 493 Special Topics 2-5 credits

MT 497 Independent Study 1-5 credits  
 MT 498 Independent Study 1-5 credits  
 MT 499 Independent Study 1-5 credits

## Mechanical Engineering

Dennis Wiedemeier, Ph.D., Chairperson

### Objectives

The goal of the mechanical engineering program is to prepare students for a career in the mechanical engineering profession in design, development, research or other areas such as engineering sales and management.

The program offers a coherent series of courses in each of three broad categories; energy conversion, machine design and dynamic systems. Creative engineering design, based on a firm theoretical and experimental foundation, is emphasized throughout the program.

### Degree Offered

Bachelor of Science in Mechanical Engineering

### General Program Requirements

Students in mechanical engineering must satisfy the university core curriculum requirements as given in this bulletin, except for the requirement in fine arts. Students take CEE 402 to substitute for the requirement in Social Science II.

### Departmental Requirements

**Bachelor of Science in Mechanical Engineering** — 64 credits in mechanical engineering, which must include ME 105, 107, 210, 230, 304, 321, 323, 350, 370, 372, 425, 434, 436, 487, 488, and 489 and 10 credits of approved engineering electives. Also required are MT 134, 135, 136, 232, 233, and 234; CEE 221, 222, 331, 337, and 402; EE 315; CH 121, 131; CSC 230; PH 200, 201, 202; and five-credit approved science elective. In addition to the prerequisites, departmental candidacy in one of the engineering departments is required for entry into 300 and 400 level courses. Candidacy is achieved by successfully completing all required 100 and 200 level CEE, CH, CSC, ME, MT, and PH courses with a combined grade point average of at least 2.50, as well as EN 110. Only courses graded C (2.0) or better may be transferred into the department to offset degree requirements. Taking the Washington state Engineer-in-Training (EIT) examination is required for the degree. This degree is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

### Bachelor of Science in Mechanical Engineering

Suggested program sequence.

#### Freshman year

English 110/Philosophy 110 sequence ..... 10 credits  
 History 120 ..... 5 credits  
 Mathematics 134, 135, 136 ..... 15 credits  
 Mechanical Engineering 105, 107 ..... 5 credits  
 Physics 200, 201 ..... 10 credits



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## Sophomore year

|                                       |            |
|---------------------------------------|------------|
| Chemistry 121, 131 .....              | 5 credits  |
| Civil Engineering 221 .....           | 4 credits  |
| Computer Science 230 .....            | 3 credits  |
| English 120 .....                     | 5 credits  |
| Mathematics 232, 233, 234 .....       | 10 credits |
| Mechanical Engineering 210, 230 ..... | 10 credits |
| Philosophy 220 .....                  | 5 credits  |
| Physics 202 .....                     | 5 credits  |
| Science elective .....                | 5 credits  |

## Junior year

|   |            |
|---|------------|
| Civil Engineering 222, 331, 337 .....                     | 8 credits  |
| Electrical Engineering 315 .....                          | 5 credits  |
| Mechanical Engineering 304, 321, 323, 350, 370, 372 ..... | 26 credits |
| Social Science I .....                                    | 5 credits  |
| Theology and Religious Studies Phase II .....             | 5 credits  |

## Senior year

|   |                    |
|---|--------------------|
| Civil Engineering 402 .....   | 3 credits          |
| Ethics .....  | 5 credits          |
| Mechanical Engineering 425, 434, 436, 487, 488, 489 and electives ..... | 33 credits         |
| Theology and Religious Studies Phase III .....                          | 5 credits          |
| Engineer-in-Training Examination .....                                  | 0 credits          |
| <b>Total .....</b>  | <b>192 credits</b> |

## Mechanical Engineering Courses

**ME 105 Engineering Graphics and Design 3 credits**  
Orthographics, isometrics, technical sketching, auxiliary and sectional views, dimensioning and tolerancing. True length of lines, true size of planes, intersections, development of surfaces. Introduction to engineering design and computer graphics. Design project requiring graphics skills. Three two-hour sessions per week. Corequisite: ME 107. (fall, winter)

**ME 107 Introduction to Microcomputer Applications 2 credits**  
Introduction to the use of microcomputers for engineering. Microcomputer hardware and useful software packages in mathematics and text processing, introduction to computer controlled data acquisition and measurement. Laboratory programming assignments. Two two-hour sessions per week. (fall, winter)

**ME 210 Statics 5 credits**  
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)

**ME 215 Statics/Dynamics 5 credits**  
Vector algebra. Forces, resultants. Equilibrium. Free body diagrams. Equilibrium of rigid bodies. Centroids. Forces in cables. Method of virtual work. Rectilinear and curvilinear motions. Newton's second law. Energy and momentum methods. Systems of particles. Rigid bodies. Plane motion. Vibrations. Five lecture hours per week. Students must pass a qualifying examination before proceeding to dynamics. Not open to ME and CEE students. Prerequisites: PH 200, MT 136. (fall)

**ME 230 Dynamics 5 credits**  
Vectors applied to kinematics and kinetics. Particle, system of particles, and rigid bodies related to translation, rotation, plane motion, relative motion, forces, impulse-momentum, work-energy. Five lectures per week. Prerequisites: ME 210, MT 136. (winter, spring)

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

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

**ME 304 Basics of Computer Aided Engineering 4 credits**

Introduction to microcomputer structure. Basics of interfacing microprocessors with the real world. Applications; graphics, control, robotics. Two lectures and one four-hour laboratory per week. Prerequisite: CSC 230. Corequisite: EE 315. (fall, spring)

**ME 321 Thermodynamics 4 credits**  
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. (winter, spring)

**ME 323 Heat Transfer 5 credits**  
Heat transfer - conduction, convection and radiation. Conduction in one and two dimensions, steady state and transient. Forced and natural convection with phase change. Applications. Four lecture hours, one three-hour laboratory per week. Prerequisite: ME 321. Corequisite: CEE 331. (fall, spring)

**ME 350 Materials Science 5 credits**  
Atomic structure. Metallic bond. Structure of metals and non-metals. Equilibrium diagrams. Time-dependent transformations. Relation of structure to properties. Elastic and plastic deformation. Four lectures, one three-hour laboratory per week. Prerequisite: CEE 221. (fall, winter)

**ME 370 Machine Elements I 4 credits**  
Study of beams and columns. Failure theories. Impact, fatigue, corrosion, and wear. Four lecture hours per week. Prerequisite: ME 350. (winter, spring)

**ME 372 Machine Elements II 4 credits**  
Continuation of ME 370. Fasteners, welds, springs, bearings, gears, clutches and brakes. Four lectures per week. Prerequisite: ME 370. (fall, spring)

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

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

**ME 401 Principles of Instrumentation 2 credits**  
Review of the elements of instrumentation systems: sensors; cables; penditimers; filters; and display devices. Further study of each system element to find sources of unwanted signals and/or noise. Study of methods to eliminate or minimize unwanted signals and noise. One lecture and one three-hour laboratory per week. Corequisite: ME 304.

**ME 425 Applied Thermodynamics 5 credits**  
Thermodynamics applied to ideal and real cycles, internal and external combustion engines, fans, blowers, compressors, nozzles, refrigeration, air conditioning, liquefaction of gases. Four lectures, one three-hour laboratory per week. Prerequisite: ME 321. (fall, winter)

**ME 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. Prerequisites: ME 323, 425.

**ME 429 Internal Combustion Engines** 4 credits  
Thermodynamic cycle review. Actual otto and diesel engines. Fuels and combustion, carburetion, efficiency, alternate engines. Four lectures per week. Prerequisite: ME 425.

**ME 434 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: ME 323; EE 315; MT 234. (fall, winter)

**ME 436 Dynamic Systems Laboratory** 2 credits  
Laboratory experiments which augment the lecture material in ME 434. Characteristics and relevant constraints for a variety of system elements and assemblies. Design, construction and testing of a servo-system. One lecture and one three-hour laboratory per week. Prerequisite: ME 434. (spring)

**ME 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: ME 434.

**ME 441 Heat/Ventilation/Refrigeration** 4 credits  
Psychrometry; space heating and cooling loads; air conditioning; fans and ducts; heat exchangers; solar systems; refrigeration. Four lectures per week. Prerequisites: ME 323, 425.

**ME 452 Heat Treatment of Ferrous and Non-Ferrous Materials** 2 credits  
Heat treatment of various metallic alloys, particularly steel. Two lectures per week. Prerequisite: ME 350.

**ME 454 Fracture Mechanics** 2 credits  
Modern fracture theory — stress intensity functions, crack driving forces. Fast fracture. Impact fracture. Two lectures per week. Prerequisite: ME 370.

**ME 461 Compressible Flow** 4 credits  
One-dimensional gas dynamics. Flow in nozzles and diffusers, normal shocks, frictional flows and flows with heat transfer and energy release. Four lectures per week. Prerequisites: ME 321, CEE 331.

**ME 463 Gas Turbines** 4 credits  
Basic gas dynamics, Brayton cycle, design principles of compressors, turbines and compressors. Four lectures per week. Prerequisite: ME 321.

**ME 465 Turbomachinery** 4 credits  
Design operation of turbines and compressors, principles of turbine/compressor types, off-design operation, pumps, cavitation, two-phase flow. Four lectures per week. Prerequisite: ME 321.

**ME 487 Engineering Design I** 4 credits  
Design process, problem solving and decision making, modeling and simulation, optimization, economics, costing, reliability. Four lecture hours per week. Corequisites: ME 304, 372, CEE 402. (fall)

**ME 488 Engineering Design II** 4 credits

**ME 489 Engineering Design III** 4 credits  
Group design project focusing on the integrative aspects of engineering subject matter. The project should focus on: (1) philosophy of design, a creative approach, and a comprehensive design project; planning, organizing and leading an engineering project; exercising judgment and considering economic factors; and (2) integrated aspects of creative design and analysis; case studies; design of a novel device or system. Two lecture and four design hours per week. Prerequisite: ME 487 for 488; 488 for 489. (488, winter; 489, spring)

|               |                          |                    |
|---------------|--------------------------|--------------------|
| <b>ME 491</b> | <b>Special Topics</b>    | <b>2-5 credits</b> |
| <b>ME 492</b> | <b>Special Topics</b>    | <b>2-5 credits</b> |
| <b>ME 493</b> | <b>Special Topics</b>    | <b>2-5 credits</b> |
| <b>ME 496</b> | <b>Independent Study</b> | <b>1-5 credits</b> |
| <b>ME 497</b> | <b>Independent Study</b> | <b>1-5 credits</b> |
| <b>ME 498</b> | <b>Independent Study</b> | <b>1-5 credits</b> |

# 132 Science and Engineering

## Physics

Mary A. Alberg, Ph.D., Chairperson

### Objectives

The Physics Department offers two degree programs. For those who wish a career in physics, the bachelor of science in physics program takes the student from classical mechanics through quantum mechanics, including advanced laboratory courses emphasizing nuclear and nuclear reactor physics. The curriculum is designed to prepare students for advanced work in pure and applied physics or for graduate study. The bachelor of arts program is ideal for those who desire a solid background in physics but who also want the flexibility to specialize in another area, such as computer science.

### Degrees Offered

Bachelor of Arts

Bachelor of Science in Physics

### General Program Requirements

Students in physics must satisfy the university core curriculum requirements as given in this bulletin.

### Departmental Requirements

**Bachelor of Arts** — 45 credits in physics, which must include PH 200, 201, 202, 204, 205, 310, 330 and 375. A minimum of 15 additional credits in a related science, such as computer science, is required.

**Bachelor of Science in Physics** — 60 credits in physics, which must include PH 200, 201, 202, 204, 205, 310, 311, 330, 331, 481, and 485. Ten credits approved by the student's adviser in related science are required. Mathematics 134, 135, 136, 232, 233, and 234 are required. PH 101 may not be counted toward the 60 credits.

### Teacher Education

As of fall 1990 the teacher preparation program is a graduate level program only. Students planning to teach at the elementary or secondary school level must complete a bachelor's degree prior to beginning the teacher preparation program. Those students should discuss their major with their physics adviser to ensure that they are enrolled in the appropriate courses. Second endorsements are available in physics (24 credits) and general science (45 credits). Students planning to become teachers must contact the School of Education for advising.

**Undergraduate Minor** — 30 credits in physics, which must include PH 200, 201, 202, and 205. 100 level courses may not be counted toward the minor.

## Bachelor of Science in Physics

Suggested program sequence.

### Freshman year

|   |            |
|---|------------|
| English 110/Philosophy 110 sequence ..... | 10 credits |
| History 120/English 120 sequence .....    | 10 credits |
| Mathematics 134, 135, 136 .....           | 15 credits |
| Physics 200 .....                         | 5 credits  |
| Electives .....                           | 5 credits  |

### Sophomore year

|  |            |
|--|------------|
| Fine Arts 120 .....                            | 5 credits  |
| Mathematics 232, 233, 234 .....                | 10 credits |
| Physics 201, 202, 204, 205 .....               | 15 credits |
| Philosophy 220/Social Science I sequence ..... | 10 credits |
| Electives .....                                | 5 credits  |

### Junior year

|  |            |
|--|------------|
| Physics 310, 330; 311 or 331; 481 or 485 ..... | 18 credits |
| Physics elective .....                         | 5 credits  |
| Related science elective .....                 | 5 credits  |
| Social Science II .....                        | 5 credits  |
| Theology and Religious Studies Phase II .....  | 5 credits  |
| Electives .....                                | 7 credits  |

### Senior year

|  |             |
|--|-------------|
| Ethics .....                                   | 5 credits   |
| Interdisciplinary course .....                 | 3-5 credits |
| Physics 311 or 331; 481 or 485 .....           | 8 credits   |
| Physics electives .....                        | 9 credits   |
| Related science elective .....                 | 5 credits   |
| Senior Synthesis .....                         | 3 credits   |
| Theology and Religious Studies Phase III ..... | 5 credits   |
| Electives .....                                | 5-7 credits |

Total ..... 180 credits

## Physics Courses

**Note:** PH 101, 105, 107, 200, 201, 202, 375, and 475 have four lectures and one laboratory per week.

### PH 101 Introduction to Astronomy 5 credits

A survey of astronomy starting with a description of the visually observed skies and their apparent motions; historical development of attempts to explain the observed motions beginning with the Greek synthesis and ending with the "moderns" including Newton; a description of the cataloging of stellar properties starting with determination of distances to stars and ending with their plot on the H-R diagram; our theories of the birth, life, and death of stars. The course emphasizes the observational bases of our several models, and includes a two-hour weekly laboratory. Prerequisite: core mathematics requirement. (winter and spring)

### 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. Prerequisites: MT 111, 115 or equivalent. (fall)

### PH 106 Electricity, Magnetism and Thermodynamics 5 credits

Survey of electromagnetism. Electrostatics, magneto-statics, 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 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. Prerequisites: MT 115, 134. (winter, spring)

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

**PH 202 Waves, Optics and Thermodynamics 5 credits**  
Harmonic motion; mechanical and electromagnetic waves; reflection, refraction, dispersion, interference, diffraction and polarization. Temperature, ideal gases, kinetic theory, second law of thermodynamics. Prerequisites: PH 201, MT 136. (fall, winter)

**PH 204 Relativity 2 credits**  
An introduction to special relativity. The Lorentz transformation; relativistic kinematics and dynamics. Prerequisite: PH 202. (spring)

**PH 205 Introduction to Quantum Physics 3 credits**  
Evidence for the quantization of light, matter and energy; the nuclear atom; wave-particle duality; the uncertainty principle; the Schrodinger equation and its applications. Prerequisites: PH 202; MT 232. (winter, 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 232. (winter)

**PH 311 Intermediate Mechanics II 3 credits**  
General motion of a rigid body; Lagrange's equations; small vibrations. Prerequisites: PH 310, MT 234. (spring)

**PH 330 Electromagnetic Field Theory 5 credits**  
Static electric fields in vacuum and material media; solutions of Laplace's and Poisson's equations in curvilinear coordinates; static magnetic fields; timevarying fields and Maxwell's equations. Prerequisites: PH 201, MT 234. (fall, winter)

**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 diagnostic ultrasound 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. Prerequisite: PH 205.

**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.

**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. Prerequisites: PH 205, MT 234.

**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 480 Interdisciplinary Core Courses 3-5 credits**  
Title and content change each term.

**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**

## 134 Science and Engineering

### Premedical and Predental

**Thomas W. Cunningham, Ph.D., Adviser**

Students wishing to enter professional schools of medicine, dentistry, or veterinary medicine, or graduate schools in biomedical studies, should matriculate in a program of studies leading to a bachelor's degree in any academic field that will give a broad training in the liberal arts and fulfill the proper requirements in the physical and biological sciences. Students may choose any academic major; most elect biology, chemistry, physics, general science or psychology. With the framework of any one of the degree programs, students obtain strong backgrounds in the liberal arts through the core curriculum. For further clarification of degree requirements and the university core curriculum, see this section of this bulletin regarding the core curriculum.

Most medical, dental or veterinary schools require the following undergraduate science sequences: Chemistry 121, 122, 123, 131, 132, 133, 335, 336, 337, 345, 346, 347; Biology 165, 166, 167, and Physics 105, 106, 107. Professional schools also recommend calculus, cell physiology and biochemistry. Students are advised to consult the bulletins of the professional schools to which they wish to apply to acquaint themselves with specific requirements other than those listed. Students should plan to complete preprofessional requirements by the end of their junior year, at which time they should take the MCAT, DAT, VAT tests. Application for admittance to professional schools should be made during the summer or fall of the senior year.

Because of the necessity for required science courses to be completed by the end of the junior year, students in these programs will complete the core curriculum in a different sequence than that shown elsewhere in this bulletin. The courses to be taken and the sequence for taking them will be developed by the student's academic adviser.



*Seattle University*

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**Evening  
Programs**



## 136 Evening Programs

### Evening Programs

**David F. Carrithers, MBA, Director**

**Joyce M. Allen, BA, Assistant Director**

The Office of Evening Programs was established in fall 1990 to assist schools in providing programs and services to non-traditional students at times that are convenient to them in the evening.

#### Objectives

The Office of Evening Programs, with the four academic schools and two colleges of Seattle University, plans, coordinates, and promotes undergraduate degree programs at night. A bachelor's degree from Seattle University at night is no different from a degree earned in the daytime. Entrance requirements and graduation requirements are the same for each. In fact, students who consider themselves primarily evening students may enroll in courses offered in the daytime, just as day students may enroll in the evening courses.

In addition to planning appropriate curricula at night, the Evening Programs Office coordinates events and activities for evening students. Many administrative offices maintain evening hours for the convenience of those on campus after 5 p.m. Also, student development offices such as Career Planning and Placement, the Counseling Center, Learning Center, Campus Ministry, Campus Assistance Center, Campus Security and many others include events and activities focusing on the evening student population on their calendars. The objective of Evening Programs is to provide a comprehensive, well-rounded college experience for evening students, many of whom are part-time and of non-traditional age.

#### Organization

The Office of Evening Programs is independent of the academic schools or colleges of the university. The deans of the schools or colleges providing the bachelor's degree in the evening and Academic Council establish and maintain requirements for degrees. An evening bachelor's degree is conferred by the college or school that offers the same degree in the daytime. Admission to an evening program is granted by the dean of the degree-granting college or school.

Academic transactions involving registration and awarding of degrees are supervised by the university's registrar.

### Evening Degrees Offered

For admission and program requirements, consult the degree descriptions that appear as part of each school or college program offerings.

#### Arts and Sciences

**Bachelor of Arts — with major in liberal studies**

**Bachelor of Public Administration**

#### Business

**Bachelor of Arts in Business Administration —**

Concentrations in:

Accounting

Business Economics

Finance

General Business

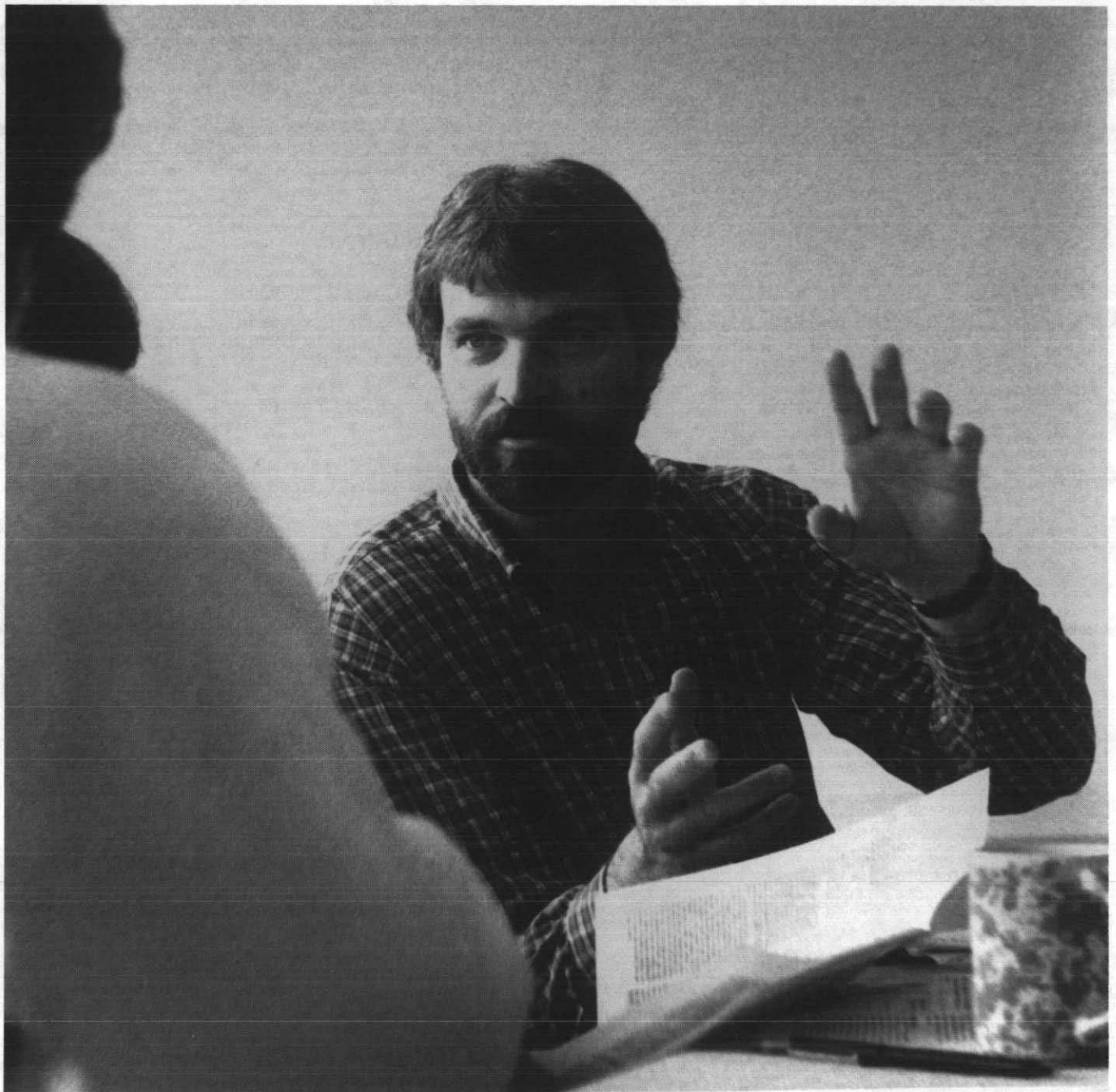
International Business

Management

Marketing

#### Nursing

**Bachelor of Science in Nursing —**  
for registered nurses



*Seattle University*

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**Graduate  
School**

## 138 Graduate School

### Graduate School

**Edward J. Jennerich, 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. Graduate opportunities were expanded with the first doctoral program in 1976, the educational specialist degree in 1980 and the Institute for Theological Studies in 1985.

### Objectives

Graduate School programs endeavor to offer advanced in-depth education to individuals seeking specialized knowledge and skills in a particular field. Graduate students are encouraged to further develop speaking and writing competencies, and to enhance high level thinking abilities including application and synthesis. 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 students' 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 Graduate 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 students, direct their studies, conduct examinations, maintain requirements and make recommendations. Admission to graduate study is granted through the dean of the Graduate School in consultation with the appropriate graduate program director.

Academic transactions involving registration and awarding of degrees are supervised by the university's registrar.

Courses are offered in the late afternoon, evenings and weekends for working professionals. Some education classes are held off-campus in Federal Way and Bellevue. Some MBA classes are held in Bellevue. Students in the Institute for Theological Studies, Psychology Department and the MBA program have daytime options.

For more information or a copy of the Graduate Bulletin, contact the Graduate Admissions Office, Seattle University, Broadway and Madison, Seattle, WA 98122-4460, (206) 296-5900.

### Degrees Offered

For admission and program requirements see the Seattle University Graduate Bulletin.

### Graduate Degrees Offered by the University:

#### Arts and Sciences

**Master of Arts-Psychology**

#### Business

**Master of Business Administration  
Master's in Taxation**

#### Education

**Master of Arts in Education  
Master of Arts  
Master of Education**

These three degrees may be earned with specialization in the following areas: administration, adult education and training, counseling, curriculum and instruction, human resources management and rehabilitation counseling.

**Master's In Teaching  
Master of Arts in Rehabilitation Counseling  
Master of Counseling**

#### Educational Specialist

This degree may be earned in administration or educational diagnostics/school psychology.

#### Doctor of Education

#### Science and Engineering

**Master of Software Engineering**

#### Institute for Public Service

**Master of Public Administration**

#### 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**





*Seattle University*

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**Administration  
and Faculty**

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**Jerry A. Viscione, Ph.D.**  
Dean, Albers School of Business and Economics

**Margaret M. Haggerty, Ph.D.**  
Dean, School of Education

**Kathleen E. Korthuis, Ph.D.**  
Dean, School of Nursing

**Dale Carlson, D.Phil.**  
Dean, School of Science and Engineering

**Bernard M. Steckler, Ph.D.**  
Dean, Matteo Ricci  
Seattle University

**Leo P. Stanford, Ph.D.**  
Director, Institute for Theological Studies

**Dannette Sullivan, M.Ed.**  
Registrar

**Fred M. Carter, M.Ed.**  
Director, Financial Aid

**Lee K. Gerig, M.S. in Ed.**  
Dean of Admission

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

**Joseph B. Monda, Ph.D.**  
Director, Summer School

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

**David Carrithers, M.B.A.**  
Director, Evening Programs and Continuing Education



## 142 Administration and Faculty

### Administrative Services

- James I. Adolphson, B.A.B.A.,**  
Assistant Vice President for Finance
- Anna E. Dillon**  
Assistant Vice President for Human Resources
- Robert W. Fenn, M.P.A.,**  
Director, Plant Services and Public Safety
- Steve K. Oh, M.B.A.,**  
Controller
- Jerome C. Pederson, M.B.A.,**  
Director, Administrative Services
- Stephen F. Roise Jr., B.S.,**  
Internal Auditor

### Student Development

- Rick Bird, M.B.A.,**  
Associate Director of Residential Life/  
Director of Auxiliary Services
- Mary Romer Cline, M.Div.,**  
Director, Campus Ministry
- Nancy Gedney, Ph.D.,**  
Director, Student and Career Development
- Nancy Gerou, Ph.D.,**  
Director, University Sports
- Faizi Ghodsi,**  
Director, International Student Center
- William J. Grace, M.S.,**  
Director, Center for Leadership and Service
- Diane Jamieson, Ph.D.,**  
Director, Student Health and Counseling
- Thomas Krueger, M.S.,**  
Director, Minority Student Affairs
- Dale Nienow, Ph.D.,**  
Assistant Vice President for Student Development
- Judith Lee Sharpe, M.A.,**  
Director, Residential Life
- Frederick B. Smith, M.D.,**  
Director, Health Center
- Zakiya Stewart, M.Ed.**  
Director, Learning Center/Disabled Student Resources
- DeAnna Shaw-Berget**  
Director of Student Development/Core Curriculum

### University Relations

- J. Paul Blake, B.A.,**  
Director, Public Relations
- Mark Burnett, M.P.A.**  
Director of Alumni Relations
- John Gallagher, Ph.D.**  
Assistant Vice President and Director of Development
- William F. LeRoux, SJ, M.A., S.T.D.**  
Assistant to the Vice President for University Relations
- Joseph A. Maguire, SJ, M.A.,**  
Chaplain to the Alumni

### Faculty

The year following faculty names indicates initial full-time appointment to the university faculty.

- Clarence L. Abello, B.Econ. (1953)**  
Professor Emeritus  
B.Econ., 1933, University of London; Contrador Publico Nacional, 1937, Universidad Nacional de Buenos Aires, Facultad de Ciencias Economicas.
- Josef C. Afanador, Ed.D. (1975)**  
Associate Professor of Counseling Education  
B.A., 1963, Butler University; M.S., 1967, Purdue University; Ed.D., 1971, University of Arizona.
- Richard H. Ahler, SJ, 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.
- Abdolhossein Ansari, Ph.D. (1985)**  
Assistant Professor of Business, Management Information Systems  
B.S., 1976, Tehran College of Insurance; M.B.A., 1979, University of Detroit; M.A., 1981, Ph.D., 1984, University of Nebraska, Lincoln.
- Constance G. Anthony, Ph.D. (1988)**  
Assistant Professor of Political Science  
B.A., 1971, University of California, Santa Cruz; M.A., 1973, Ph.D., 1982, University of California, Berkeley.
- David Arnesen, J.D. (1989)**  
Assistant Professor of Business/Business Law  
B.A., 1976, University of Washington; J.D., 1977, University of Puget Sound School of Law; 1977, University of Washington Law School.
- Richard E. Arvey, Ph.D. (1984)**  
Assistant Professor of Accounting  
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)**  
Associate Professor of Journalism  
A.B., 1971, Loyola University; M.A., 1972, Stanford University.
- James E. Backus, MAJ, B.A. (1986)**  
Assistant Professor of Military Science  
B.A., 1964, University of Washington.
- Sandra L. Barker, Ph.D. (1985)**  
Associate 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)**  
Associate Professor of Theology and Religious Studies  
B.S., 1964, Marian College of Fond du Lac; M.A., 1972, Ph.D., 1979, Marquette University.
- Mary C. Bartholet, M.S. (1958)**  
Associate Professor of Nursing  
B.S., 1949, College of St. Teresa; M.S., 1958, St. Louis University.
- John C. Bean, Ph.D. (1986)**  
Professor of English/Director of Writing Center  
B.A., 1965, Stanford University; Ph.D., 1972, University of Washington.

## Ernest P. Bertin, SJ, 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, SJ, 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)

Associate Professor of Philosophy  
A.B., 1961, Immaculate Conception Seminary; Ph.D., 1970, St. Louis University.

## David A. Boness, M.S. (1990)

Assistant Professor of Physics  
B.A., 1980, Yale University; M.S., 1985, University of Washington.

## 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)

Associate Professor of Chemistry  
B.S., 1972, Kalamazoo College; M.S., 1975, Ph.D., 1977, Northwestern University.

## Karen A. Brown, Ph.D. (1983)

Associate Professor of Business/Production Operation Management  
B.S., 1971, M.B.A., 1979, Ph.D., 1983, University of Washington.

## David Brubaker, Ph.D. (1980)

Chairperson, General Science Department  
Associate Professor of Biology  
B.S., 1966, University of Redlands; M.S. and Ph.D., 1972, University of Michigan.

## Rebecca Bruckner (1990)

Assistant Professor of Fine Arts  
B.A., 1963, Southern Methodist University; M.A., 1965, University of California; Ph.D., 1970, University of Delaware

## Hilda Bryant, M.A. (1988)

Assistant Professor of Communication  
B.A., 1965; M.A., 1968, University of Washington.

## Chauncey A. Burke, Ph.D. (1978)

Assistant Professor of Business/Marketing  
B.S.B.A., 1970, Mt. St. Mary's College; M.B.A., 1978, Ph.D., 1987, University of Washington.

## J. Patrick Burke, Ph.D. (1967)

Associate Professor of Philosophy  
B.A., 1965, Gonzaga University; M.A., 1967, St. Louis University; Ph.D., 1978, University of Louvain.

## Norma Jean Bushman, M.N. (1960)

Associate Professor of Nursing  
B.S.N., 1959, M.N., 1960, University of Washington.

## Robert E. Callahan, Ph.D. (1977)

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B.S., 1967, M.B.A., 1969, Drexel University; Ph.D., 1977, Case Western Reserve University.

## Wayne R. Calvary, MAJ, M.S. (1989)

Assistant Professor of Military Science  
M.S., 1981, University of Southern California, Los Angeles

## Dale Carlson, Ph.D. (1990)

Dean, School of Science and Engineering  
A.A., 1947, Grays Harbor College; BSCE, 1950, University of Washington; MSCE, 1951, University of Washington; Ph.D., 1960, University of Wisconsin.

## Emmett H. Carroll, SJ, D.A. (1973)

Associate Professor of English  
B.A., 1955, Gonzaga University; S.T.L., 1963, Gregorian University; M.A. 1966, Rutgers University; D.A., 1980, Carnegie-Mellon University.

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

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

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Chairperson, Theology and Religious Studies  
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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)

Professor Emeritus  
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## John P. Chattin-McNichols, Ph.D. (1979)

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## Xusheng Chen, Ph.D. (1988)

Assistant Professor of Electrical Engineering  
B.S.E.E., 1967, Institute of Power Engineering, Shanghai; M.S.E.E., 1982, Jiao Tong University; M.S.E.E., 1984, Louisiana State University; Ph.D., 1987, Washington State University.

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

Chairperson, Civil Engineering Department  
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  
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## Carol Wolfe Clay, M.F.A. (1987)

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

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## Nickolas J. Damascus, M.F.A. (1951)

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# 144 Faculty

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**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 Finance  
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Chairperson, Fine Arts Department  
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**Diane M. Durnam, Ph.D. (1985)**  
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**Robert J. Egan, SJ, Ph.D. (1964)**  
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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)**  
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**Suzanne M. Erickson, Ph.D. (1986)**  
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**John D. Eshelman, Ph.D. (1969)**  
Provost  
Professor of Economics  
B.S., 1963, Harding College; M.A., 1967, Ph.D., 1971, University of Washington.

**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)**  
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)**  
Chairperson, Administration Department  
Professor of Business/Management  
B.A., 1969, Boise State College; M.B.A., 1970, Ph.D., 1975, 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, SJ, Ph.D. (1956)**  
Professor Emeritus  
A.B., 1942, M.A., 1943, Gonzaga University; S.T.L., 1950, Alma College; Ph.D., 1956, University of Minnesota.

**Sharon Galbraith, Ph.D. (1986)**  
Assistant Professor of Business/Marketing  
B.Comm. 1980, University of Calgary; MBA, 1982, Ph.D., 1987, University of Washington.

**Pierre C. Gehlen, Ph.D. (1982)**  
Associate Professor of Mechanical Engineering  
B.S., 1961, Universite de l'Etat a. Liege; Ph.D., 1966, Northwestern University.

**Lane A. Gerber, Ph.D. (1980)**  
Professor of Psychology  
Pigott/McCone Endowed Chair  
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.

**Roger Gillis, SJ, M.F.A. (1987)**  
Assistant Professor of Drama  
B.A., 1969; M.A., 1973, Gonzaga University; M.F.A., 1986, Catholic University.

**John J. Gilroy, Ph.D. (1982)**  
Associate Professor of Education  
B.A., 1957, M.A., 1958, LaSalle College; M.A., 1967, Middlebury College; Ph.D., 1972, University of Pittsburgh.

**James P. Goodwin, SJ, M.A. (1950)**  
Professor Emeritus  
B.A., 1937, M.A., 1938, Gonzaga University; M.A., 1950, Harvard University.



**Thomas W. Griffith, Ph.D. (1988)**  
Chairperson, Chemistry Department  
Professor of Chemistry  
B.S., 1965, Iowa State University; M.S., 1968, Idaho State University; Ph.D., 1971, Oklahoma State University.

**Robert B. Grimm, SJ, Ph.D. (1986)**  
Assistant Professor of Business/Management  
AB, 1971, Gonzaga University; M.Div., 1976, Weston School of Theology; MBA, 1978, New York University; Ph.D., 1986, University of Colorado.

**Kathye Jean Grisham, M.N. (1976)**  
Assistant Professor of Nursing  
B.A., 1965, University of Wisconsin; M.N., 1967, University of Washington.

**Kristin 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 Emeritus  
Ph.B., 1950, Seattle University; M.A., 1953, Ph.D., 1959, Loyola University, Chicago.

**Reed A. Guy, Ph.D. (1975)**  
Chairperson, Physics Department  
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.

**Margaret M. Haggerty, Ph.D. (1971)**  
Dean, School of Education  
Professor of Education  
B.S., 1957, College of St. Teresa; M.A., 1964, Ph.D., 1967, Catholic University.

**Steen Halling, Ph.D. (1976)**  
Professor of Psychology  
B.A., 1967, York University; M.A., 1970, Ph.D., 1976, Duquesne University.

**J. Hutchinson Haney, M.S. (1974)**  
Assistant Professor of Counseling Education  
B.A., 1966, University of Denver; M.S., 1968, University of Arizona.

**John M. Harding, J.D. (1975)**  
Associate Professor of Accounting  
B.A., 1942, Yale University; J.D., 1948, Yale Law School.

**Charles R. Harmon, M.A. (1953)**  
Professor of History  
B.S.S., 1950, Seattle University; M.A., 1957, University of Washington.

**Rebecca Hartley, Ph.D. (1990)**  
Assistant Professor of Biology  
B.S., 1984, University of Washington; Ph.D., 1989, Indiana University.

**Robert G. Heeren, Ph.D. (1983)**  
Professor of Electrical Engineering  
B.S., 1960, Purdue University; M.S., 1962, Ph.D., 1968, University of Illinois.

**Hildegard R. Hendrickson, Ph.D. (1967)**  
Security Pacific Bank Professor of Economics and Finance  
Professor of Finance  
B.A., 1958, M.B.A., 1959, Ph.D., 1966, University of Washington.

**Jean Henrikson, M. Libr. (1987)**  
Assistant Librarian  
M. Libr., 1976, 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 Emeritus  
B.S., 1959, University of Washington; M.N., 1961, University of Washington.

**Robert Higgs, Ph.D. (1989)**  
Thomas F. Gleed Professor in Business Administration  
Professor of Economics  
B.A., 1965, San Francisco State College; Ph.D., 1968, Johns Hopkins University.

**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)**  
Professor of Political Science  
Coordinator, Public Administration  
A.B., 1957, Long Beach State; M.A., 1958, University of California at Los Angeles; Ph.D., 1970, Cornell University.

**Burt C. Hopkins, Ph.D. (1990)**  
Assistant Professor of Philosophy  
B.A., 1977, Allegheny College; M.A., 1983, Ohio University; Ph.D., 1988, DePaul University.

**Ray W. Howard, Ph.D. (1967)**  
Professor Emeritus  
B.A., 1931, M.A., 1940, Ph.D., 1949, University of Washington.

**Patrick Howell, SJ, D. Min. (1986)**  
Associate Professor of Theological Studies and Theology/Religious Studies  
B.S., 1961, Gonzaga University; M.A., 1966, Boston College; D. Min., 1985, Catholic University of America.

**Margaret L. Hudson, Ph.D. (1974)**  
Associate Professor of Biology  
B.S., 1968, Ph.D., 1974, University of Washington.

**Jeanette A. Hulburt, M.L. (1964)**  
Associate Librarian  
B.A., 1950, Seattle University; M.L., 1964, University of Washington.

**Ivan Hutton, SJ, Ph.D. (1989)**  
Assistant Dean, School of Education  
Assistant Professor of Education  
B.A., 1967, M.A., 1970, Gonzaga University; M. Div., 1974, Jesuit School of Theology at Berkeley; Ph.D., 1987, Stanford University.

**Dolly Ito, D.N.S. (1959)**  
Professor Emeritus  
B.S., 1951, Gonzaga University; M.A., 1958, University of Washington; D.N.S., 1970, University of California at San Francisco.

**Sharon James, Ph.D. (1982)**  
Chairperson, Communication Department  
Assistant Professor of Communication  
B.S., 1970; M.A., 1973; Ph.D., 1981, University of Kansas.

**Loretta Jancoski, Ph.D. (1988)**  
Director, SUMORE  
Assistant Professor of Theology  
B.A., 1960, College of St. Mary; M.A., 1967, University of Notre Dame; M.A., 1971, Ph.D., 1976, University of Chicago Divinity School.

# 146 Faculty

## Edward J. Jennerich, Ph.D. (1987)

Assistant Provost for Academic Administration and Dean of the Graduate School  
Professor of Education  
B.A., 1967, Trenton State College; B.S., 1970, Drexel University; Ph.D., 1974, University of Pittsburgh.

## Dolores M. Johnson, Ph.D. (1964)

Associate Professor of English  
B.A., 1960, M.A., 1964, Ph.D., 1971, University of Washington.

## Warren B. Johnson, Ph.D. (1962)

Associate Professor of History  
B.A., 1947, M.A., 1952, Ph.D., 1962, University of Washington.

## Garry R. Kampen, Ph.D. (1985)

Associate Professor of Software Engineering  
B.A., 1963, Carleton College; M.A., 1964, University of Michigan; Ph.D., 1973, University of Washington.

## Clarence R.M. Kastama, Ed.D. (1986)

Assistant Professor of Criminal Justice  
B.A., 1960, Western Washington University; M.A., 1971, Pacific Lutheran University; Ed.D., 1983, Seattle University.

## Michael M. Kelliher, SJ, D. Crim. (1972)

Chairperson, Criminal Justice Department  
Associate Professor of Sociology  
A.B., 1960, Gonzaga University; S.T.B., 1968, University of Santa Clara; M. Crim., 1969, D. Crim., 1972, University of California at Berkeley.

## Paul Kidder, Ph.D. (1989)

Assistant Professor of Philosophy  
B.A., 1979, University of Washington; M.A., 1982, Ph.D., 1987, Boston College.

## Paulette Kidder, Ph.D. (1989)

Assistant Professor of Philosophy  
B.A., 1982, University of Washington; M.A., 1985, Ph.D., 1989, Boston College.

## Anthony Kilduff, Ph.D. (1989)

Assistant Professor of Economics  
B.A., 1977, M.A., 1978, University College, Dublin, Ireland; Ph.D., 1986, Queen's University, Kingston, Ontario, Canada.

## James W. King, SJ, S.T.D. (1959)

Professor Emeritus  
Diploma, Voice, 1942, Sherwood Music School, Chicago; M.A., 1952, Gonzaga University; S.T.B., 1957, Alma College; Diploma, 1958, Institut Gregorien de Paris; S.T.D., 1971, San Francisco Theological Seminary.

## John L. Kite, Ph.D. (1974)

Associate Professor of Rehabilitation in Education  
B.S., 1966, M.Ed., 1968, Trinity University; Ph.D., 1974, University of Arizona.

## David R. Knowles, Ph.D. (1978)

Associate Professor of Economics  
B.A., 1969, M.A., 1973, Ph.D., 1978, Washington State University.

## Harry H. Kohls, SJ, Ph.D. (1966)

Associate Professor of Philosophy (Ret.)  
A.B., 1935, M.A., 1936, Gonzaga University; Ph.D., 1952, Georgetown University.

## Kathleen E. Korthuis, Ph.D. (1986)

Dean, School of Nursing  
Associate Professor of Nursing  
B.S.N., 1971, M.S.N., 1973, Wayne State University; Ph.D., 1982, University of Toledo.

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## Kevin Krycka, Ph.D. (1990)

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## Georg D. Kunz, Ph.D. (1971)

Gaffney Endowed Chair  
Associate Professor of Psychology  
A.B., 1960, Ph.L., 1961, Gonzaga University; M.A., 1964, Marquette University; Ph.D., 1975, Duquesne University.

## Miroslav Kurka, Capt., B.S. (1988)

Assistant Professor of Military Science  
B.A., 1980, United States Military Academy.

## Marianne LaBarre, M.A. (1987)

Co-Director Masters of Divinity/Masters of Theological Studies Program Assistant  
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B.A., 1969, Marylhurst College; M.A., 1981, St. Mary's College of California.

## Charles S. LaCugna, Ph.D. (1947)

Professor Emeritus  
A.B., 1937, Manhattan College; M.A., 1944, Fordham University; Ph.D., 1960, University of Washington.

## Val M. Laigo, M.F.A. (1965)

Associate Professor of Art  
B.Ed., 1954, Seattle University; M.F.A., 1964, University of Washington.

## James Robert Larson, Ph.D. (1952)

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