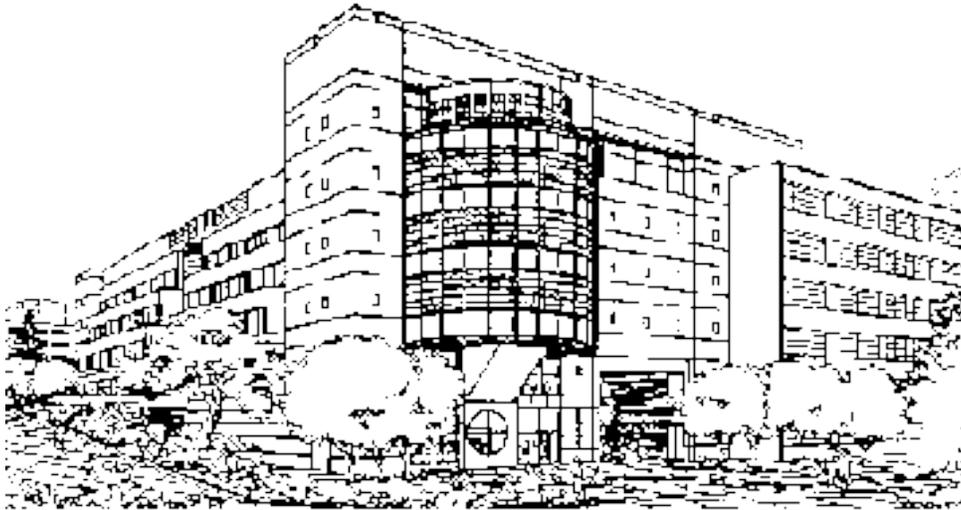


SEATTLE UNIVERSITY CIVIL AND ENVIRONMENTAL ENGINEERING STUDENT HANDBOOK

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**The civil engineering program is accredited by the Engineering Accreditation Commission
of ABET, <http://www.abet.org>.**

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1. INTRODUCTION

The *Civil Engineering Student Handbook* was written to assist current and prospective civil engineering students in planning their program of study leading to the degree of Bachelor of Science in Civil Engineering (BSCE) at Seattle University. The handbook is updated periodically to include the latest information on degree requirements and University procedures that are of particular interest to civil engineering students.

The University-approved curriculum meets the criteria set forth by ABET, Inc., the recognized accreditor for college and university programs in applied science, computing, engineering, and technology. In these curricula we emphasize a four-year integrated hands-on learning and design experience while increasing speaking/writing opportunities, encouraging both independent and collaborative learning, and developing skills needed to function on multi-disciplinary teams. The total number of quarter credit hours is 192.

Official academic policies are established by the Dean's Council and the Academic Council of the University. They are enacted primarily through the Registrar's Office. The policies are published in the annual Seattle University *Undergraduate Catalog* (catlog.seattleu.edu), as well as the *Seattle University Policy Book* (<https://www.seattleu.edu/registrar/Policies.aspx>). This *Civil Engineering Student Handbook* is a compact guide to those more detailed and definitive statements of procedure. Whenever a question arises on any point, those documents should be considered to be the ultimate authoritative sources concerning University policy.

2. THE MISSION OF SEATTLE UNIVERSITY

The vision of Seattle University is to be the premier independent university of the Northwest in academic quality, Jesuit Catholic inspiration, and service to society. The following statement expresses the Seattle University mission:

Seattle University is dedicated to educating the whole person, to professional formation, and to empowering leaders for a just and humane world.

In 2010, the University adopted the following institution-wide undergraduate student learning objectives.

1. Prepared to encounter the world - They thoughtfully engage complex questions about human existence and the natural world by rigorously applying appropriate methods of inquiry and by drawing upon a broad foundation of relevant knowledge and experience.

2. Adept in their discipline - Through pursuing their academic and scholarly passions, they possess in-depth knowledge and skills in their major, and are able to apply them effectively.

3. Empowered to make a difference - They are competent and creative writers, speakers, and critical thinkers who are able to thrive in leadership, team and advocacy roles; who contribute to the common good; and who possess the tools to meet life's challenges.

4. Self-reflective in their pursuit of meaning and purpose - They are prepared and inspired to lead reflective lives of meaning and value, to contemplate their relationship to the transcendent, and to discern their vocational and life paths.

5. Committed to justice and ethical action - They are engaged and ethical members of their global and local communities, act with compassion and integrity, and strive for social and environmental justice.

Seattle University strives to help its students develop their talents as well-rounded human beings, prepared to meet life's challenges both to their own benefit and that of society as a whole. This goal is accomplished within the Jesuit tradition of liberal education. This tradition at Seattle University is embodied in the Core Curriculum, a course of study shared by all Seattle University students regardless of major. It includes philosophy, religious studies, social sciences, and humanities. The Department of Civil and Environmental Engineering believes that this Core, along with a strong engineering education, provides an excellent basis for a rewarding professional life. Hence, the educational objectives of the civil engineering program support the mission and student learning objectives of Seattle University.

3. THE CIVIL AND ENVIRONMENTAL ENGINEERING PROFESSION

The civil engineering program is dedicated to educating professional engineers to master the materials, technologies, and physical forces that change the face of the earth - with soaring structures, transportation networks, facilities for community living, and the means to protect the physical environment. This profession requires the highest standards of excellence in education, performance of services, and ethical conduct. Our educational approach implies that specialization in engineering subjects is integrative with courses that 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, geotechnical, structural, 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 application through case studies as appropriate, to current practices of the profession.

Students may choose from two different specialties - civil engineering or civil engineering with a specialization in environmental engineering. Both lay a strong foundation in traditional structural and mechanical concepts. The civil engineering option is the classic Bachelor of Science degree leading to professional applications in structural, geotechnical, and water resources engineering. The environmental option adds unique coursework in applied environmental biology, water supply and wastewater engineering and hazardous waste management.

In-depth professional training is enhanced by a broad offering of laboratory courses and design experience through Seattle University's Project Center. Teamwork and communication skills, ethical values, and critical inquiry are developed both in this project work and in studies in the humanities.

4. OBJECTIVES OF THE CIVIL ENGINEERING PROGRAM

The civil engineering program at Seattle University, in keeping with the university's mission, seeks to prepare graduates for productive and fulfilling life-long careers in the engineering profession. The mission of the civil engineering program is as follows:

To provide educational opportunities for students seeking to enter the civil engineering profession, so that they can achieve competence in the field while recognizing their social responsibilities.

The program provides a strong foundation in the areas of mathematics, basic and engineering sciences, and the humanities and social sciences. It encourages further self development and life-long intellectual achievement. The program seeks to build student skills in written and oral communication, and a sense of poise and professionalism.

Consistent with definitions used by ABET, the program educational objectives are statements that describe the expected accomplishments of our graduates during the first few years after graduation. The specific program educational objectives for the Bachelor of Science degree in civil engineering are:

- 1. Professional:** Attain a position in civil engineering or closely related field.

2. **Technical:** Be recognized as competent professionals as demonstrated by the completion of professional licensure or specialized certification
3. **Personal:** Be committed to ongoing personal and professional growth and learning as demonstrated by completion of advanced degrees or through other forms of continuing education.
4. **Societal:** Contribute to society or the profession through involvement in professional organizations or other service activities.

Student outcomes are comprehensive statements of the skills, knowledge, and behaviors that students in our program attain by the time of graduation. The department has adopted the following ABET Engineering Criterion 3(a-k) outcomes as the civil engineering student outcomes:

- (a) An ability to apply knowledge of mathematics, science, and engineering
- (b) An ability to design and conduct experiments, as well as to analyze and interpret data
- (c) An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- (d) An ability to function on multi-disciplinary teams
- (e) An ability to identify, formulate, and solve engineering problems
- (f) An understanding of professional and ethical responsibility
- (g) An ability to communicate effectively
- (h) The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
- (i) A recognition of the need for, and an ability to engage in life-long learning
- (j) A knowledge of contemporary issues
- (k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

5. ENGINEERING EDUCATION AT SEATTLE UNIVERSITY

Seattle University (then called Seattle College) was founded by members of the Society of Jesus in 1891. It was not until 1941, however, that the School of Engineering was organized under the leadership of Fr. Edmund McNulty, S.J. The first baccalaureate degrees in engineering were awarded in 1948. In 1990 an environmental engineering track was added within the civil engineering curriculum. The BSCE degree program at Seattle University first achieved national accreditation from the predecessor organization to ABET in 1962 and was most recently accredited in 2006 as a civil

engineering program that includes traditional civil engineering and a specialty in environmental engineering.

In 1972 the College of Science and Engineering underwent reorganization, joining with the natural sciences to become the School of Science and Engineering, becoming the College of Science and Engineering in 2004. The College is administered by its Dean and two Associate Deans. In addition to the three undergraduate engineering departments of civil and environmental, electrical and computer, and mechanical engineering, the College houses programs in the natural and health sciences, mathematics, and computer science. There are also two graduate programs in computer science and software engineering.

The College of Science and Engineering also contains within it the Science and Engineering Project Center (<http://www.seattleu.edu/projectcenter/>). Through the Project Center, all senior students in engineering and computer science are formed into teams, which are given real-world design problems to work on during their last year in school. In most cases, the projects are provided and sponsored by companies from local industry. Each company also provides a working engineer to act as a technical advisor to the student team. A faculty member acts to facilitate the process and to evaluate the students' efforts. We feel that this experience gives our students a strong bridge between the academic and working worlds and that it goes a long way toward fulfilling the mission of the university.

6. ADMISSIONS

All students at Seattle University must have a major field of study into which they have been admitted. In the College of Science and Engineering students apply for entry into a particular department and are admitted according to their qualifications and the availability of openings. This section describes the various routes for admission into the Department of Civil and Environmental Engineering. More information on the admissions process and the application are available from the Admissions Office can be found at: <http://www.seattleu.edu/admission/undergraduate/default.aspx?id=37112>.

Students may apply to be admitted to the department at any time during the year. Usually the application will be acted upon immediately. Sometimes, though, consideration of an application will be delayed until after a student has completed additional preparation courses.

Because of the department's size, individual required courses are usually offered only once or twice a year, and some elective courses may be offered only every other year. The department's staffing, equipment, and laboratory resources limit the number of students that can be graduated to approximately 40 per year. Transfer students wishing

to enter the program should apply at least three months prior to the desired quarter so that adequate planning time is available in order to ensure a smooth transition.

Please consult the Admissions Policy section of the current Seattle University *Undergraduate Catalog* for general admissions rules for the University. Specific minimum admissions criteria for civil engineering are contained in Seattle University Policy #81-4 (<https://www.seattleu.edu/registrar/Policies.aspx>).

6.1 New Freshmen

If you have no previous college experience you should submit your application directly to the University's Admissions Office. Admission to the department will be on the same basis as for general admission to the university. To have a reasonable chance of success in the program, however, you should have taken certain specific classes in high school. In addition to a general college preparatory selection of courses, you should have had at least three years of mathematics including algebra, geometry, and trigonometry and two years of laboratory science such as biology, chemistry, or physics. Prospective freshmen who have not taken these courses or who have received less than B grades in them will not be automatically excluded from the department. Similarly, if you have taken the SAT, your scores should be greater than 600 in mathematics and 550 in verbal. Again, these are not absolute requirements, but they are strong indicators of future success in the department. All decisions on the admission of freshmen are made by the Dean of Admissions.

6.2 Off-Campus Transfers

If you have had previous post-secondary educational experience and are not currently enrolled at Seattle University, you may directly enter the Department of Civil and Environmental Engineering by submitting an application to the Admissions Office. Minimum qualifications for admission to the department are an overall grade point average (GPA) of 2.5 or better on a scale of 4.0 and a composite average of 2.5 in all of your technical courses. These include all mathematics, science, and engineering courses that you have taken. In both cases, the GPA calculation is based on all courses that are transferable to Seattle University regardless of whether or not they apply to the BSCE degree. Note, however, that grades earned in engineering technology programs are not included in GPA calculations because engineering technology courses are not transferable to Seattle University.

The decision to admit off-campus transfers directly into any program within the College of Science and Engineering is made by the Associate Dean. If you are denied direct admission to the department, you may still wish to enroll in the College of Science and Engineering as a general science major or in the College of Arts and Sciences as a pre-major. If either of these possibilities is of interest to you, then you

should make that clear at the time of application. After improving your record, you can seek a transfer to civil engineering according to the criteria given in Section 6.3.

6.3 On-Campus Transfers

Seattle University students majoring in programs other than civil and environmental engineering may apply for a change of major into the department at any time. The requirements for such a transfer vary somewhat depending upon whether or not you are already an engineering student.

6.3.1 Non-Engineering Students

Students with non-engineering majors must have completed a minimum of 25 credit hours at Seattle University. Of these, 15 credit hours must have been earned in the College of Science and Engineering. Both your overall and your science/engineering GPA at Seattle University must be at least 2.5.

6.3.2 Engineering Students

Students in good standing as electrical, mechanical, computer science, or undecided engineering majors may transfer to civil engineering after having completed at least one quarter at Seattle University.

If you wish to change your major to civil engineering you should make an appointment with the Chair of the Department of Civil and Environmental Engineering through the departmental administrative assistant (Engineering 525) to discuss your individual situation. Do so well in advance of registration for the quarter in which you want to transfer. Be sure to bring your advising folder to the appointment so that all relevant information will be available.

The decision to admit you will be made by the Chair of the Department of Civil and Environmental Engineering, but a signature will also be needed from the chairperson of your previous department to release your advising file.

6.4 Second Degree Students

Students who have completed baccalaureate degrees in fields other than civil engineering occasionally apply for admission to the department. The admissions procedures and requirements are the same as for other prospective students. Such students should contact the University Admissions Office. University Core requirements are significantly altered for second degree students, but all other degree

requirements must be met. Students staying on at Seattle University for a second degree should consult the Registrar's Office for rules specific to this situation.

6.5 Returning Students and Leaves of Absence

Anyone who has previously been a student in the department and who wishes to be readmitted will be considered on his or her merits as they compare with the other current applicants. Students who for personal rather than academic reasons must leave the University for a period of time should apply for an official leave of absence in order to reserve a spot upon returning. The Associate Dean of Science and Engineering should be consulted prior to taking a leave of absence in order to ensure a smooth re-entry when you return to school.

If you fail to register for four consecutive quarters, the university will assume that you have left school. Your priority for enrolling in civil engineering classes will be lost and you will have to request readmission to the university. Students who withdraw from the university for one calendar year or more are subject to the degree requirements in effect at the time of their readmission. Readmission decisions are made by the Associate Dean of the College of Science and Engineering.

6.6 Non-Matriculated Students

Occasionally a working professional or a student not in the Department of Civil and Environmental Engineering will want to take some CEEGR courses without the intention of obtaining a degree. The department is willing to accommodate these individuals on a space-available basis. The student must, of course, have the proper background for the desired courses. Such arrangements are at the discretion of the Chair of the Department of Civil and Environmental Engineering. In addition to talking to the chair, those not already enrolled at Seattle University must contact the Admissions Office.

If a non-matriculated student decides to apply for admission to the civil engineering program, a maximum of 30 credits taken at Seattle University in non-matriculated status may be applied toward the degree.

7. FINANCIAL AID

Financial aid is an important consideration for many of our students. Consult the current *Undergraduate Catalog* for general information on financial aid at Seattle University or the web site: <http://www.seattleu.edu/sfs/>. You may also wish to contact Student Financial Services directly for specific information regarding application procedures. Many of our students have financial aid packages including scholarships, loans, and work-study opportunities.

Since 1996, the College of Science and Engineering has been proud to be able to recognize a number of talented upper division students (juniors and seniors) with scholarship awards of up to \$5,000 per year. These awards are made possible with endowed funds from the estate of Arline and Thomas Bannan, long time friends and supporters of Jesuit education, Seattle University, and the College of Science and Engineering. Bannan Scholars are chosen from among both continuing Seattle University students and students transferring from other institutions. Information concerning qualifications and application procedures can be obtained from the web site: <http://www.seattleu.edu/scieng/Inner.aspx?id=7786>.

Information on other scholarships from professional organizations that relate to Civil and Environmental Engineering, such as the American Society of Civil Engineers, American Water Works Association, American Public Works Association, and Society of Women Engineers, are posted on the department's bulletin board.

8. ADVISING AND REGISTRATION

Seattle University uses an on-line registration system. Students register via the website, <https://www.suonline.seattleu.edu>. The quarterly Schedule of Classes is also on this website and the annual schedule for the upcoming academic year is posted in May. In the "Search for Classes" you will be able to search for courses by school, department, academic level, start and end time, days, key words in the comments section, key words in the title of the course, and by credits.

New freshmen are registered through New Student Registration (NSR). For fall quarter admits, a packet of information is mailed in mid-May to freshmen who have paid their registration deposit. This packet includes information on orientation events and a form is at <http://www.seattleu.edu/admission/undergraduate/default.aspx?id=37112>. Once NSR receives the completed form, they will make a schedule and register the student. The civil engineering department chair provides NSR with a list of courses for incoming freshmen.

All new off-campus transfer students meet initially with the College's transfer coordinator, Mary Kelly. Students may also meet with the chair of the department to review their transfer credits and select a program of study. The department chair serves as the new student's advisor until after registration for their first quarter at Seattle University. Students may then be assigned to another faculty advisor for the remainder of their time in the department. If students prefer a specific advisor or wish to change advisors, they may do so with permission of the chair. This system minimizes the number of different advisors experienced by a given student and enables faculty members to get to know their advisees well.

New international students will not receive their schedules until they check in with the International Student Center located in the Student Center Pavilion.

Continuing students normally register for classes during Advance Registration. This is a period of time (usually about the seventh week of every quarter) during which you may register for the following quarter. It is our department policy that all students must make an appointment to see their advisors during the advising period. Each quarter, you will receive an email announcement from the department chair with instructions for advising week. Faculty will post sign-up sheets on their office doors for appointments.

To make the most effective use of your advising appointment, an Advising Worksheet, can be downloaded at: <http://www.seattleu.edu/scieng/cee/Default.aspx?id=9550> and can be filled out as completely as possible, prior to the appointment. Your advisor will discuss your progress with you, assist if necessary, in your selection of classes, and sign your registration form. A copy of this form is kept in your student file. It is the only record of which classes you and your advisor agreed you should be taking.

You will not be able to register until you have consulted your advisor. After you and your advisor have agreed on which courses you should take during the next quarter, the department administrative assistant will release your advising hold and you may register. At the start of each quarter, advising holds are placed on all student files. Only your department's administrative assistant or advisor may remove them. It is the student's responsibility to meet with his or her advisor each quarter during Advising Week. It is to your advantage to sign up for classes during the advance registration period rather than to wait until the quarter begins. Your chances of getting into the classes you desire will be much greater. Even if you are not able to register during the advance registration period, use the scheduled advising period to make an appointment to see your advisor. You may register or change your schedule during the times listed in the Schedule of Classes. If you change your schedule, please inform your advisor so that a note of the changes may be made in your file.

There is an official add/drop period for about one week at the beginning of every quarter. Beyond this period, you may not add classes, but you may withdraw from classes according to the rules of the University. However, your tuition for classes dropped beyond the official add/drop period will not be refunded in whole. Withdrawal from a class requires both your advisor's and the instructor's signatures.

9. FACULTY ADVISOR

Upon being admitted to the department, you will be assigned to one of the department's faculty members who will act as your advisor. Your advisor will assist you prior to

registration each quarter, and can discuss academic and career paths with you. He or she will also be happy to talk to you about any problems you might have that affect your work at the university.

A list of all civil engineering students and their advisors is maintained by the departmental administrative assistant and posted on the bulletin board just outside the department office (Engineering 525). If, for any reason, you are not happy with the advisor to whom you have been assigned or wish to have another particular advisor, simply tell the departmental administrative assistant and a change will be made.

The SU Student Academic Services Office, which includes the Learning Center, can assist students enhance their academic performance by providing workshops and individual counseling on topics such as study skills, note-taking and exam performance. The Student Academic Services Office also provides information and assistance regarding academic policies and procedures, scheduling of classes, or choosing a major. They can also help you connect to other campus resources. The Counseling Center is located in the Student Center Pavilion (P-120). There you can find, among other services, counselors who are trained to help you with personal problems should the need arise.

10. JUNIOR CANDIDACY

The three engineering departments at Seattle University have a policy allowing students to register for upper-division courses (300- and 400-level) only after they have completed their freshman- and sophomore-level prerequisites. This process is called Junior Candidacy. The progression rules for engineering students must also be satisfied. The most important of these rules is that both your overall GPA and your science and engineering GPA must be 2.5 or better. Only grades for courses taken at Seattle University are used in computing these GPAs. Before you may enroll in any upper-division civil engineering courses, you must have completed all of your science, mathematics, and engineering requirements from the freshman and sophomore years as well as ENGL 110 (or its equivalent) with a composite grade point average in those courses of 2.5 or better.

When you register for your first 300-level classes in the civil engineering program, your advisor will help you determine if you are eligible for junior candidacy. Because some of the upper level courses are offered only once or twice a year, the department tries to be flexible in evaluating a student's request for candidacy status. If you are only one or possibly two courses short of meeting the candidacy requirements and if you can present a workable plan for completing these courses in a reasonable amount of time, then you may be allowed into the upper-division civil engineering courses.

11. REQUIREMENTS TO ENTER THE SENIOR DESIGN SEQUENCE

Before students are allowed to enter the senior design sequence (CEEGR 487-488-489) they must satisfy the following requirements:

1. Have a Major GPA of 2.40 (no exceptions)
2. Have successfully completed the 300-level courses in their junior year.
3. Have completed all prerequisites required to take the following classes:

CEEGR 445 (Structural Mechanics), or

CEEGR 473 (Principles of Environmental Engineering).

Because many of our classes are taught only once a year, sometimes meeting these requirements might mean that a student will have to spend an extra year at Seattle University. The department realizes this and will allow a student to be deficient in at most three of the above courses. If a student is missing more than three required courses, admission is at the chair's discretion upon consultation with the faculty.

It is important for students to realize that even if they have not completed all their junior course work, they have a responsibility toward their fellow senior project team members to have a basic knowledge of the material covered in junior courses they may not yet have completed.

12. TRANSFER CREDITS

If you have attended schools other than Seattle University, you will naturally want previous pertinent work to apply toward your SU degree. Being properly credited for such work is usually straightforward. **It is your responsibility to have complete, official, transcripts sent to the Admissions Office (if you are a new transfer student) or the Evaluations Unit of the Registrar's Office (if you are already enrolled).** If you are enrolled in another school at the time you apply for admission to Seattle University, be sure to have updated, complete transcripts sent when you complete your last term's work. Specialists will evaluate the transcript(s) and indicate which course requirements for your Seattle University degree have been satisfied. Failure to submit all previous transcripts at the time of application for admission (if you are a new transfer student) or in the allowed period of time (if you are already enrolled) may mean that courses will not be transferred. This process seems simple, but

probably no other interaction with the university causes as much distress and misunderstanding among our students as does the issue of transfer credits.

Upon admission and whenever you submit transcripts from other schools, you will receive an academic evaluation for the degree audit that indicates transfer credit granted. When you receive a degree audit, study it carefully to make certain that all transfer credit has been correctly applied. If you think there are discrepancies, discuss them with the transfer evaluator in the Registrar's Office to whom you have been assigned and with your advisor. When you are admitted to Seattle University, you should begin working with the department chair and your advisor to make sure that you understand exactly how much of your previous work has been credited and what degree requirements remain to be completed. It is best to be cautious on this point. Do not assume that you will receive transfer credit until it has officially been granted.

New transfer students are sometimes surprised to learn that not all of their course work from other schools can be applied to their degree at Seattle University in the way they expect. Particular courses that sometimes cause difficulties in terms of transfer are in the areas of mathematics, physics, and mechanical engineering. Guides that list the Washington State community college courses and the equivalent courses at Seattle University can be found at www.seattleu.edu/registrar/.

Mathematics: The BSCE curriculum requires three quarters (15 credits) of basic calculus, 3 credits of multivariable (advanced) calculus, 3 credits of linear algebra, 4 credits of differential equations, and 5 credits of probability and statistics.

Physics: Each of the required engineering-oriented physics courses (PHYS 121, 122, 123) contains a laboratory component.

Mechanical Engineering: Civil and Environmental Engineering students are required to take three mechanical engineering courses: MEGR 210, 230, and 281.

MEGR 210 and 230 introduce the principles of statics and dynamics, respectively. Application to engineering design is an integral component of these courses.

MEGR 281 teaches the application of computers to solve problems encountered in engineering.

Specific rules governing the transfer of credit to Seattle University from other institutions include the following:

- a) Credit can be transferred only for courses whose content is substantially equivalent to those within the curriculum of the Department of Civil and Environmental Engineering at Seattle University. You must have earned at least a grade of C or better (2.0 on a scale of 4.0) for each course to be transferred.
- b) If a course is transferred and it is of fewer credits than the equivalent course at Seattle University, the shortfall in credits must be made up with courses in the same general area so that you graduate with the proper number of total credits (presently 192). Note: To be considered equivalent, the transfer course must be within one credit of the corresponding course at Seattle University.
- c) A maximum of 90 quarter credit hours can be transferred from community colleges. A maximum of 147 credit hours can be transferred when work from four-year colleges or universities, is included. (Two semester hours are equivalent to three quarter hours.)
- d) **Recognition of content:** Once you have attained upper division standing (90 or more total Seattle University and transfer credit hours) you may **not** transfer additional credit hours from any two-year schools. In some instances, however, a course taken beyond the 90-credit limit may be recognized for its content in such a way that you will not be required to take the equivalent course at Seattle University. In such cases you will be required to make up the credits so that you graduate with the correct total (192).
- e) The evaluation specialists in the Registrar's Office look at transcripts for transfer students chronologically. That is, courses taken at other schools are considered in the order in which they were taken. Once these total 90 credit hours, no further course work from two-year institutions can be transferred for credit. This is regardless of whether or not all of the first 90 could be counted toward your BSCE degree. For example, assume that you have 97 college-transferable credits from XYZ Community College. Of the first 90 credits taken, 53 were transferred and 37 did not relate to your chosen degree program in civil and environmental engineering. Despite the fact that only 53 credits helped you toward your degree requirements, none of the last 7 credit hours (those beyond the 90-credit limit) will be transferred for credit regardless of what they were. They may, however, be recognized for content as described in Item d). If, however, the last 7 credits were from ABC University they will be transferred if they are applicable toward your degree.
- f) No course work from engineering technology programs can be transferred. No work-related experience can be counted toward your degree requirements. (See Section 14 for rules governing credit by examination.)
- g) You may not simultaneously take courses at Seattle University and another school and expect them to count toward your SU degree without **prior permission**. Except during summer quarter, permission is normally granted only to relieve scheduling

conflicts that would impede your progress in your degree program and delay your graduation. To request simultaneous enrollment, complete a Transfer Verification Form (<https://www.seattleu.edu/registrar/Forms.aspx>), well in advance of the quarter for which the simultaneous enrollment is planned. Your advisor must sign the form. Final approval is determined by the Associate Dean of the College of Science and Engineering.

h) The final 45 credits counted toward your degree must be taken at Seattle University.

i) Students transferring with 90 or more credits and who have no religious studies courses transferred for the theology and religious studies (TRST) requirement may have one religious studies course waived. The one TRST course that will be required of such students must be in Phase II (200-level). The waived TRST course must be replaced with humanities/social sciences, not technical courses such as mathematics or engineering. Regardless of background, all transfer students are required to have at least one religious studies course.

j) Students transferring with 90 or more credits and who have no philosophy courses will have PHIL 110 waived as a requirement, but it must be replaced by a humanities or social science course. Also, in place of PHIL 220, such students should take the PHIL 210 bridge course listed for junior and senior transfer students in the quarterly Schedule of Classes. Details are given in Seattle University Policy #76-14 (revised 9/92).

k) Students who have earned a **transferable associate degree from a Washington State community college** prior to first admission to Seattle University will have ENGL 120, HIST 120, and Social Science I waived in addition to the religious studies and philosophy courses described above. Not all associates degrees are transferable. A list of community college transfer guides may be found at: <https://www.seattleu.edu/registrar/TransferGuides.aspx>. Consult the Registrar's Office if you have questions. As in items i) and j), the credits for the waived classes will have to be earned through course work in similar areas. This is frequently accomplished by using transferable humanities and social science credits from your community college record.

l) Students who have previously attained a baccalaureate degree at another American university will have the University Core waived except for the Phase II religious studies course and the philosophy course in ethics. Students whose first baccalaureate degree was from a foreign institution must satisfy the entire University Core either through transfer credits or courses taken at Seattle University.

m) Waived courses are indicated on your degree audit. This is a waiving of the content of the course. As described above, the credits for a waived or not required course must be made up in some way by a course of similar type. All students must have received

at least 45 college level credits in history, social science, and humanities, and fine arts to fulfill the Core requirement. If a specific course in the Core is waived, the 45 credits must be reached by additional courses in one of the Core areas or foreign language. It is also possible to simply take the waived course itself to fulfill the credit requirement.

n) Students with Advance Placement scores of 3 or higher from high school mathematics, English, chemistry, etc. will receive credit for courses according to Seattle University Policy #75-16.

o) Once admitted to the Department of Civil and Environmental Engineering, students may not normally transfer civil engineering courses from other institutions. Occasionally, students will transfer from other schools after having already taken a number of civil engineering courses. These will be evaluated by the department on a case-by-case basis.

p) Deadlines are established for submitting transcripts for courses taken at other institutions. These deadlines are the same for work in progress at other institutions at the time you are admitted, work done during a period away from SU (usually during the summer), or work completed while simultaneously enrolled at SU and another institution.

New students frequently neglect to send a final transcript from the last school attended. If you believe that your program evaluation is incomplete, go to the Admissions Office to be sure that all transcripts have been received and evaluated. Work reflected on transcripts received after the above deadlines will not be transferred without a Petition for Exception to Policy initiated by your advisor.

Seattle University has established these and other rules regarding transfer credits primarily to safeguard the integrity of its degree programs. All colleges, both public and private, have similar sets of rules. Each institution has its own philosophy of education and Seattle University is no exception. The only way that we can be sure that our students are exposed to the Jesuit traditions of liberal education and service to society is to make sure that the courses that they take reflect this viewpoint.

The civil engineering program is accredited by a national organization (ABET) that sets the standards for engineering education in the United States. Our ABET accreditation would be seriously jeopardized if our students were allowed to freely substitute courses from other schools in place of our own offerings.

13. MATHEMATICS PLACEMENT

It is important that new freshmen and transfer students with no previous college-level mathematics be placed in mathematics courses appropriate to their mathematics

background and level of accomplishment. Seattle University's Mathematics Department makes this determination based on the student's SAT mathematics or ACT score. If you feel that you should be placed at a higher level than that determined by your SAT or ACT scores, you may choose to take a diagnostic test offered by the Mathematics Department. An SAT score of over 640 or a score of 25-30 with a trigonometry score of 6 or better on the department's test is needed for placement in MATH 134 - Calculus I. Your placement will be based on the better of your two scores. Most engineering students will be placed in MATH 134. Some will be placed in MATH 120 - Pre-calculus: Algebra, MATH 121 - Pre-calculus: Trigonometry or earlier mathematics classes. These courses are not part of the BSCE curriculum, but they provide the background that the Mathematics Department feels the student needs for success in later courses.

The BSCE curriculum assumes that students have had sufficient mathematical preparation for immediate entry into freshman calculus. If this is not the case, and additional courses must be taken, the time required to get your degree could be extended, perhaps considerably.

Placement in mathematics can also be affected by having taken the AP examination following high school. Freshmen who have taken calculus in high school but who have not taken the AP examination may take a special examination from the Mathematics Department to see if they can skip MATH 134 and start with MATH 135. If this is done and MATH 135 is successfully completed with a grade C or better, the student will be granted credit for MATH 134. In other words, the skipped course will not have to be made up in any way. Students interested in this possibility should discuss it with the Chair of the Mathematics Department.

14. CREDIT BY EXAMINATION

If you feel that you have mastered a subject through personal study or work experience you may receive credit and a grade for the course(s) by examination. The rules for credit by examination are outlined in the Seattle University *Undergraduate Catalog*. The Department of Civil and Environmental Engineering normally administers such examinations by having you take the final examination for the class when normally offered.

15. GRADING OPTIONS

All courses to be counted toward the BSCE degree must be taken for letter grades. The one exception to this rule is for transfer students who are required to take PHYS 296, 297, or 298 to make up for a lack of physics laboratories. These three courses are offered only under the pass/fail option.

Electives not to be counted toward your BSCE degree may, of course, be taken under one of the alternative grading modes such as pass/fail described in the *Undergraduate Catalog*. Core electives do count toward your degree and must be taken for a letter grade.

Officially withdrawing from a course is an action initiated by the student. This will result in a grade of 'W', which will not affect your GPA. If the course is required for graduation you will, of course, have to enroll in it again and complete it.

Students who, for reasons beyond their control, are unable to complete their coursework during the quarter may receive a grade of Incomplete (I). Incompletes are intended for students experiencing illness or a family emergency. You must have a passing grade at the time you are given the Incomplete. More information on I grades can be found in Policy 97-3, <https://www.seattleu.edu/registrar/Policies.aspx>.

16. REPEATING COURSES

The university's policy on repeating courses is explained in the *Undergraduate Catalog*. Under the limitations described in that policy, you may repeat a course in which you received a grade of C- or lower. Both grades will appear on your SU transcript, but only the grade from the repeated course will be used in computing your GPA. When you are repeating a course you must fill out a Notification of Repeated Course Form and file it with the Registrar. Otherwise, your academic record will not be adjusted to reflect the repeat of the course. It is not necessary to repeat courses in which you received lower than a C. It is an option that may help to satisfy the requirement of maintaining a GPA of at least 2.5. Failed courses (grade F) must be repeated if they are to count toward your graduation requirements.

Once a course has been taken and a grade received at Seattle University, it may not be repeated at another institution for purposes of transferring the credit. A course may be repeated at Seattle University only three times including withdrawals. If you register for a course and then drop it before the end of the normal add/drop period, this will not count toward the total.

17. SATISFACTORY PROGRESS AND ACADEMIC PROBATION

Once admitted to the Department of Civil and Environmental Engineering, a full-time student is guaranteed entry to department courses in the normal sequence to complete the degree program. The student must, however, maintain satisfactory progress as described in Policy #81-4 (<https://www.seattleu.edu/registrar/Policies.aspx>). Primarily this requires that you maintain both your overall and science/mathematics/engineering GPAs at 2.5 or better. Students who fail to maintain satisfactory progress may lose

priority for entrance into civil engineering courses. Scholastic difficulties can lead to probation and ultimately dismissal from the department, college, and university.

Students in danger of probation or dismissal will receive ample notification from the Associate Dean of Science and Engineering so that they might have the opportunity to correct the problem. Please refer to Policy #81-4 for details, <https://www.seattleu.edu/registrar/Policies.aspx>.

18. LEARNING CENTER

The Learning Center at Seattle University provides additional support to students who wish to strengthen their learning skills. The Learning Center offers the following services: tutoring, study skill development, personalized academic assistance, learning assessments, and handouts and reference material support. By using these services, students can improve their skills in note taking, time management, study strategies, and test-taking. The Learning Center is available to all Seattle University students and is located on the second floor of the Lemieux Library.

19. CLOSED CLASSES

During registration, if a class that you wish to take is closed, you may check with the chairperson of the department in which the class is offered. It is possible, although not at all guaranteed, that you may be permitted to enroll in the class. You will need a Request to Enter a Closed Class form signed by the department chair involved. You must then register for the class in person at the Registrar's Office.

In the Department of Civil and Environmental Engineering, it is our policy to set section sizes at their projected enrollments. This sometimes means that classes are closed when several students still need to enroll. If you have the necessary prerequisites, you will be permitted to take required classes, but we cannot guarantee enrollment in a specific laboratory section, if another section is not yet closed. You may obtain a Request to Enter a Closed Class form from either the Registrar or the departmental administrative assistant.

20. STUDENT PERCEPTION OF TEACHING

The department and the university strive to provide students with an educational experience of high quality. Several components go into making up this experience; the most obvious to you will be the courses that you take. As an aid in improving the quality of the teaching in its courses, the department asks students to fill out Student Perception of Teaching Forms. These will generally be done sometime during the last week of every quarter.

The purpose of seeking this information is two-fold. First, it acts as feedback to your instructors so that they might identify and respond to areas that students feel are in need of attention. Secondly, the university uses the information as one of several measures of the work performance of its faculty. Teaching is only one of several dimensions to a faculty member's job, but at Seattle University it is by far the most important. Student feedback is the primary method that the university has for evaluating the effectiveness of its faculty with regard to teaching, and it places great importance on them.

The university is quite serious about the evaluation process and we ask you to be equally sincere. Feel free to state any negative impressions that you have. It is through these that improvements can be made. Feel free also to express positive observations. Instructors, like students, are always pleased to know when their efforts are well received. We do ask you to avoid personal or humorous remarks because these can be easily misinterpreted when read by anyone other than the instructor.

21. ENGINEERING STUDENT ORGANIZATIONS

Students in the civil engineering program are strongly encouraged to participate in professional activities while at Seattle University. We have an active student chapter of the American Society of Civil Engineers (ASCE). Coordinated through the ASCE Seattle Section University Advisory Committee (UAC), students participate in a mentoring program, job site and project site visits, professional meetings, and workshops on resume-writing and interviewing techniques.

Other professional organizations in which our students participate include the Society of Women Engineers, the Society of Environmental Engineers and Scientists (a student chapter of the Water Environment Federation), and Tau Beta Pi. Tau Beta Pi, the national engineering honor society, was established to recognize engineering students with outstanding academic records. Membership is by invitation. If you are eligible, you will be contacted by student officers of the society. The Society of Women Engineers (SWE) is open to all engineering and science students.

A student chapter of Engineers Without Borders was initiated in fall 2004. The mission of Engineers Without Borders is to partner with disadvantaged communities to improve their quality of life through implementation of environmentally and economically sustainable engineering projects, while developing internationally responsible engineering students. More information is located at: www.su-ewb.org.

Students in mechanical and electrical engineering have organizations similar to ASCE. There are also student clubs in the science departments. Depending on your interests, you might wish to associate with those groups also.

Your education extends beyond the walls of the classroom and the topics of textbooks. Participation in student organizations provides you with opportunities to develop your social and leadership skills. We encourage you to be active participants.

22. PART-TIME EMPLOYMENT

With the high costs associated with going to school, many students find it necessary to work part time. This can be a valuable experience, particularly if you can find employment in a technical area. Many companies in the Puget Sound region have employment opportunities available for students while they are attending school. These can be thought of as an extension of your engineering education. Positions such as these are often the first step toward securing permanent employment upon graduation.

Although part-time employment while attending school has some obvious benefits, it can also detract from a student's education. Engineering is a demanding course of study that requires a considerable degree of attention. Time spent on the job is time not devoted to studies. Most students can handle ten hours of work per week without it affecting their performance in school. Strong students can work up to twenty hours per week and still perform well in their studies. Beyond that, however, compromises must be made.

If your personal financial situation requires you to work a significant number of hours per week or if you find a particularly attractive job opportunity that you want to take advantage of, we urge you to consider attending school on a part-time basis. Otherwise, your grades are likely to suffer. Much more serious than poor grades, however, is potentially compromising the quality of your education. Learning takes place throughout your career and throughout life. Your time as an undergraduate, however, provides you with a nearly unique opportunity to study and master topics comprehensively and from basic principles.

The department and individual faculty sometimes become aware of job openings for engineering students. These are usually announced through the **cee-students@seattleu.edu** e-mail alias that all civil engineering students are expected to join. In addition to talking to department faculty, check for job postings our Facebook page, accessible through Seattle University's homepage, www.seattleu.edu/scieng/cee.

The department and university offer some part-time student employment opportunities. Students grade papers for classes, assist in the laboratories, and work in computer laboratories. Inquire with faculty and in departmental offices to learn about these jobs.

23. COMPUTER ACCESS AND ELECTRONIC MAIL

Primary access to computers for all students is in the University computer laboratories located in Rooms 309-310 of the Engineering Building. The Departments of Civil and Environmental Engineering and Mechanical Engineering also maintain IBM-compatible computers in Engineering Rooms 401 and 404 for students in both departments. These computers are also connected to the campus network through which students can use electronic mail (e-mail) and connect to the Internet for worldwide communication. Computer accounts are available with no charge to Seattle University students and you are encouraged to obtain an account as soon as you can. First, you must get your student identification card from the Campus Card Office located in Engineering 306B.

The Office of Information Technology has brochures on our computer and e-mail systems available at their offices on the 6th floor of the Engineering Building. The Department of Civil and Environmental Engineering makes extensive use of e-mail for communication among students and faculty. The e-mail addresses for our faculty are listed in Section 32 of this Handbook along with their office locations and phone numbers. We have an e-mail “alias” for all civil engineering students. The e-mail address for this list is **cee-students@seattleu.edu**. Announcements of events and notices of interest to students are posted to **cee-students**. To be added to the list, please send an e-mail to “Listserver@seattleu.edu”, and in the body of the message, write: **subscribe cee-students**.

24. BSCE DEGREE PROGRAM

24.1 Degree Requirements

To graduate with a BSCE degree, students must complete all required courses as shown on the academic evaluation. Students may review their own academic evaluation at any time using the <https://suonline.seattleu.edu> web site. Students must have GPAs of 2.5 or better based both on their science and engineering courses alone and also on all courses taken at Seattle University.

In addition to the course requirements, all students must take the Washington State Fundamentals of Engineering (FE) examination (previously called the EIT). It is not necessary to pass the examination to graduate. Additional details regarding the FE examination can be found in Section 25.

Detailed degree requirements and course descriptions are contained in the current Seattle University *Undergraduate Catalog*, which can be viewed at: <http://catalog.seattleu.edu>.

24.2 Options Within the Civil Engineering Program

The civil engineering program has two primary tracks, both designed for flexibility to serve students with varying interests within civil engineering. These tracks are traditional civil engineering and civil engineering with an environmental specialization within the accredited civil engineering program. Students in both tracks take the same mathematics and fundamental engineering courses such as statics, dynamics, mechanics of materials, soil mechanics, and fluid mechanics. Building on these fundamental courses, a number of electives are available for those who prefer to orient their programs in directions of environmental, geotechnical, hydraulics/water resources, or structural engineering. The same degree, Bachelor in Civil Engineering, is awarded for either track.

Program check sheets showing required and elective courses in both tracks, as well as recommended sequencing of courses by quarter and year, are found at: <https://www.seattleu.edu/scieng/cee/Default.aspx?id=9550I>, and a detailed description of the departmental courses is shown in the current *Undergraduate Catalog*, <http://catalog.seattleu.edu>.

24.3 University Core Curriculum

The University Core Curriculum introduces all Seattle University students to the tradition of Jesuit liberal education. This curriculum is described in detail in the *Undergraduate Catalog*. Civil engineering students are required to take the courses of the University Core Curriculum with the following exceptions:

- 1) Fine Arts 120 is not required.
- 2) CEE 302 substitutes for the Social Sciences II requirement. Social Science I cannot be economics.
- 3) The senior synthesis requirement of the Core is met by the senior Design Project.
- 4) The interdisciplinary requirement of the Core is met by CEE 487, Senior Design I.

Transfer students may have some of their University Core requirements modified or waived. Additional information about the University Core requirements for transfer students is available from the Registrar's Office.

24.4 Course Alternatives in Non-Engineering Areas

In the civil engineering curricula, courses from the following lists can be taken to fulfill requirements in the areas shown below:

Social Science Core

PSYC 120 Introductory Psychology
PLSC 120 The Trouble with Government
CISS 120 Poverty in America
SOCL 120 Introductory Sociology
ANTH 120 Introduction to Anthropology

THRS Phase II

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

THRS Phase III

Any approved five-credit course selected from THRS 300-399.
(Not required for transfer students.)

PHIL – Ethics

PHIL 345 Ethics
PHIL 451 Business Ethics
PHIL 352 Health Care Ethics
PHIL 353 Ethical Issues in Science and Technology

24.5 Senior Engineering Design

All senior engineering and computer science students participate in a sequence of courses which is considered to be a capstone design experience bringing together all aspects of their own departmental curricula as well as the interdisciplinary nature of solving "real world" problems. Through the Science and Engineering Project Center, student design teams work on industrially sponsored projects under the direction of a faculty member and a liaison engineer from the sponsoring company. This experience

is one of the distinct features of engineering education at Seattle University and is an embodiment of the Jesuit concept of “education for the world”.

It is recommended and stated in the *Undergraduate Catalog* that students enrolling in senior design have senior standing, with the completion of all junior level courses. For those who have not completed all junior level courses, senior design can still be taken if the student is able to graduate no later than the end of the fall quarter after completion of the design sequence. If a student would have to stay for winter quarter anyway, he or she should delay enrolling in CEE 487 for another year, which would extend graduation by one quarter.

The culmination of the senior design experience is **Projects Day**. Held on a Friday in early June, Projects Day consists of student teams making formal presentations of their year’s work to an audience of project sponsors, faculty, and fellow students. In addition to the talks, students prepare demonstrations and have a poster session to further describe the projects. It is an exciting end to the year, and a fitting conclusion to an engineering student’s undergraduate career.

24.6 Curriculum Changes

The civil engineering curriculum is under constant review by the faculty to enhance and improve our course offerings. From time to time, changes are made in the degree requirements. Students entering the program after such a change will be subject to the new degree requirements, which will be published in the *Undergraduate Catalog*. Students already enrolled will be allowed to complete the degree program under the requirements that existed when they entered, provided they are full-time students following the suggested sequence of courses and maintaining satisfactory progress. Part-time students or others who have not followed the suggested sequence of courses will have individual assessments of the courses needed for graduation. Such students will be provided an accredited program of study that may include courses from both the old and new curricula.

24.7 Laboratory Program

The Department of Civil and Environmental Engineering has a major commitment to the important "hands-on" experience provided by laboratory courses. There is an additional fee for laboratory courses, which is published each year in the *Undergraduate Catalog*.

Eleven CEE laboratory courses are provided for the students. These include two stand-alone courses:

CEEGR 222 - Mechanics of Materials Laboratory I

CEEGR 337 - Fluids Laboratory

There are also nine courses where laboratory experience is an important component of a lecture course. These are:

- CEEGR 311 – Engineering Measurements
- CEEGR 323 – Mechanics of Materials II
- CEEGR 341 – Applied Environmental Biology
- CEEGR 353 – Soil Mechanics
- CEEGR 335 – Applied Hydraulics
- CEEGR 472 – Water Resources II
- CEEGR 473 – Principles of Environmental Engineering
- CEEGR 474 – Water Supply & Waste Water Engineering
- CEEGR 475 – Hazardous Waste Engineering

25. THE FUNDAMENTALS OF ENGINEERING EXAMINATION

Taking the Fundamentals of Engineering (FE) Examination (formerly known as the Engineer in Training Examination) is required for graduation. Your graduation from Seattle University will not be affected by how well you do on the examination. You may choose to take the examination in a state other than Washington, and please see your department chair if you intend to do so.

The examination consists of two written (multiple-choice) sessions. A four-hour morning session covers a wide range of engineering and related topics. In the afternoon session you may choose one of six possible specialty examinations (i.e., general, civil, environmental, mechanical, electrical, or chemical engineering). The morning and afternoon sessions are weighted equally. What is the purpose of the FE Examination? For the department, the examination acts as an assessment of our graduates and, by extension, of our program. All students in the civil engineering program are required to take the FE exam prior to graduation. The names of all students who sit for the exam are reported directly to the program by the test providers NCEES, and this list is sent to the Office of the Registrar to indicate fulfillment of this graduation requirement.

For the individual student, the FE Exam is a step beyond obtaining an engineering degree in establishing credentials as a professional engineer. When the FE Exam has been successfully passed and the individual has gained sufficient work experience, the Professional Engineering Examination may be taken. Although a professional license is not required for many civil engineering careers, it is essential if you wish to do consulting or work for governmental agencies. Licensing is more important for some specialties (such as power engineering) than it is for others. Even if your career does not require it, licensing is a mark of distinction that indicates a superior level of accomplishment in your chosen profession.

In the State of Washington, the FE Examination is administered by an office of the Department of Licensing. The examination is offered twice per year, once in late April and again in late October/early November. **Applications are typically submitted four months prior to the time of the examination.** Information regarding the exam schedule and process, as well as the application forms to take the FE Examination may be obtained online at <http://www.dol.wa.gov/business/engineerslandsurveyors/>.

We strongly encourage all students to wait until the spring of their senior year to take the FE Exam. Historical data indicates that students who take the exam in the spring have a significantly higher chance of passing. Since passing the exam is not required for graduation and since there is no limit to the number of times it can be taken, there should be no hurry to take the exam before the spring of the senior year.

26. MINORS AND DOUBLE MAJORS

Some students majoring in civil engineering are interested in obtaining minor degrees or even a second major. The Seattle University's policy regarding undergraduate minors and the specific requirements for each discipline are described in the *Undergraduate Catalog*, <http://catalog.seattleu.edu>.

Civil engineering students will have thirty credits of mathematics. This typically qualifies them for minors in mathematics (subject to certain restrictions as outlined in the *Bulletin*), but the minor must be applied for. Over the years, civil engineering students have obtained minor degrees in a wide variety of fields. The most common of these are physics, mathematics, and computer science because of the close connection of those fields to civil engineering. If you wish to obtain a minor in a particular discipline, you must complete the form to apply for the minor and obtain the required signatures of the appropriate department chairs in order for the minor to be listed on your transcript. The policies on double majors and second baccalaureate degrees at Seattle University are in Policy #76-2, <https://www.seattleu.edu/registrar/Policies.aspx>.

27. APPLYING FOR GRADUATION

You should apply for graduation at the beginning of the academic year in which you intend to finish your studies. Graduation Work Sheets are included in the graduation package that is sent to you and are also available at the Registrar's Office. Submit the form to the Department of Civil and Environmental Engineering. The department chair will verify which courses remain to be taken and send the form back to the Registrar. You will then receive a notice from the Registrar of your remaining course requirements.

It is to your advantage to submit a Graduation Work Sheet well in advance of your intended graduation date because the response you get back from the Registrar's Office

represents an agreement between you and the university as to exactly what remains to be done. Once this process has been completed there can be no misunderstanding about remaining requirements. The deadline for submitting applications is November 1 for graduation during the current academic year. If you do not apply for graduation by the deadline, conferral of your BSCE degree may be delayed until the following quarter.

If you plan to finish your degree requirements in fall quarter, you may apply for graduation during the previous academic year, but you must apply no later than October 15 of the fall quarter. Students who will have 18 or fewer credits remaining to complete their degree requirements at the end of spring quarter may participate in the university's commencement exercises in June in accordance with the university's policy on Commencement with Deficiencies. This policy is described in the *Undergraduate Catalog*. If you plan to participate in Commencement with deficiencies, you must file your application for graduation by the November 1 deadline.

28. CAREER SERVICES CENTER

The ultimate goal of most civil engineering students is to work as a practicing civil engineer. Seeking your first job is a process that should begin up to a year prior to graduation. To aid in this process, the university has a Career Services Center. This office is located in the Student Center Pavilion (P-110) on campus. Professionals there can help you to develop a good resume and give you tips on how best to present yourself in interviews. The center is the focal point on campus for recruiters from companies.

The department tries to help in this process also. Talk to faculty members who are most familiar with your background. Sometimes they might even have contacts in local industry and know of companies that are hiring. Consult the bulletin board outside the department office. Job notices are sometimes posted there, as well as electronically via the department's e-mail list server. Your job search should begin early in the year in which you intend to graduate. In times when jobs are scarce, much time may be needed in order to secure a position. Even when jobs are more plentiful, give yourself sufficient time to find the best possible situation.

29. GRADUATE SCHOOL

Undergraduate programs in engineering provide a broad-based general education to those wishing to enter the engineering profession. Elective courses allow for a certain amount of specialization, but for the most part depth is sacrificed in favor of breadth. It is expected that practicing engineers will be life-long self learners in order to keep abreast of new developments and to gain the level of expertise required of particular job assignments. Graduate school provides a formal way of obtaining expert status in subfields of civil engineering. Some students enter graduate school directly upon

finishing their undergraduate studies. Others may wait until they have gained a few years experience in the work place. If you think you may be interested in continuing your studies at the graduate level, talk to your advisor and other faculty members. All have attended graduate school themselves and can talk to you about what to expect and help you with strategies for selecting and applying to graduate schools that would be appropriate for your goals.

Some engineering graduates go on to studies in other professional areas such as business, law, or medicine. If interested in these fields, you can find resources at Seattle University to help guide you through the application process.

30. ASCE CODE OF ETHICS

Engineering is not merely a job, it is a profession. This implies that engineers have a responsibility to society and should strive to maintain high levels of ethical and moral conduct. This sense of ethical behavior should definitely be a part of your conduct as a student. For your reference the ASCE Code of Ethics is at: <http://www.asce.org/Leadership-and-Management/Ethics/Code-of-Ethics/>

31. ACADEMIC HONESTY POLICY

Seattle University is committed to the principles of academic honesty and integrity. Thus, the university has developed a policy that defines the standards of conduct, procedures, and penalties imposed by the faculty member (or dean or provost) on a student found to have violated the academic honesty policy (Policy #2004-01, <https://www.seattleu.edu/registrar/Policies.aspx>). The Department of Civil and Environmental Engineering strictly adheres to the university academic honesty policy and has high expectations of our students to be honest and ethical in their conduct. Acts of academic dishonesty include, but are not limited to, committing plagiarism, cheating on exams and other assignments, submitting false data, submitting work for multiple purposes, and falsifying academic documentation.

32. FACULTY

All faculty information for the Department of Civil and Environmental Engineering can be found at: <http://www.seattleu.edu/scieng/cee/Directory.aspx>