

Civil Engineering (MS)

Degree Requirements

The program leading to the Master of Science in Civil Engineering focuses on civil engineering in the coastal environment and allows for specialization in several possible civil engineering sub-disciplines: Environmental Engineering, Geotechnical Engineering, Structural Engineering, Transportation Engineering, or Water Resources/Coastal Engineering. Program admission and MS Degree requirements, as well as plan of study options (thesis, project, and coursework only), are described under the College of Engineering section of this Bulletin. Many graduate courses in Civil Engineering are offered in late afternoon, early evening, or online to accommodate practicing engineers. See the detailed degree requirements.

Admission To The MSCE Program

The following criteria supplement the College of Engineering admission criteria ([see Admission To Graduate Programs](#)):

1. Regular Admission requirements
 - a. A grade-point average of 3.0 or greater (A=4.0) on all undergraduate work.
 - b. A minimum score of 151 on the GRE quantitative section and a minimum score of 146 on the GRE verbal section.
 - c. Names and e-mail addresses of three references who can evaluate the applicant's previous academic and professional work must be submitted with the application.
 - d. Verification of registration by examination as a Professional Engineer (P.E.) can be substituted for GPA and GRE requirements.
 - e. International students whose native language is not English must submit documentary evidence showing a score of 71 or higher on the internet-based TOEFL or an IELTS band score of 6.5 or higher.
2. Provisional Admission requirements
 - a. A minimum grade-point average of 2.5 (A=4.0) on all undergraduate work.
 - b. A minimum score of 151 on the GRE quantitative section and a minimum score of 146 on the GRE verbal section.
 - c. Names and e-mail addresses of three references who can evaluate the applicant's previous academic and professional work must be submitted with the application.
 - d. International students whose native language is not English must submit documentary evidence showing a score of 71 or higher on the internet-based TOEFL or an IELTS band score of 6.5 or higher.

Applicants for admission to the MSCE program must submit official scores obtained on the Graduate Record Exam (GRE). This requirement is waived for students who received the BSCE degree from the University of South Alabama. Those students may be required, however, to present GRE scores to be eligible for some assistantships or fellowships.

The minimum credit hour requirements for the different options for the MSCE degree are:

- Thesis Option: 30 credit hours
- Course Option: 30 credit hours

Thesis Option First Year	Credit Hours
Fall	9 hrs
CE 503	3 hrs
CE Sub-Discipline Course	3 hrs
SE 601	3 hrs
Spring	6 hrs
CE Sub-Discipline Course	3 hrs
Supporting Course	3 hrs
Summer	3 hrs

CE Sub-Discipline Course	3 hrs
--------------------------	-------

Second Year		Credit Hours
Fall		6 hrs
CE Sub-Discipline Course	3 hrs	
Supporting Course	3 hrs	
Spring		6 hrs
CE 599	3 hrs	
CE 599	3 hrs	

Course Option First Year		Credit Hours
Fall		9 hrs
CE 503	3 hrs	
CE Sub-Discipline Course	3 hrs	
SE 601	3 hrs	
Spring		6 hrs
CE Sub-Discipline Course	3 hrs	
Supporting Course	3 hrs	
Summer		3 hrs
CE Sub-Discipline Course	3 hrs	

Second Year		Credit Hours
Fall		6 hrs
CE Sub-Discipline Course	3 hrs	
Supporting Course	3 hrs	
Spring		6 hrs
CE Sub-Discipline Course	3 hrs	
Supporting Course	3 hrs	

Department Information

Department of Civil, Coastal, and Environmental Engineering Staff		(251) 460-6174
Interim Chair		John Cleary
Professors		Webb
Associate Professors		Islam, Steward, Cleary, Kang
Assistant Professors		Macdonald, Patch, Smyl, Venkiteswaran, Wu

Department of Civil, Coastal, and Environmental Engineering website
<https://www.southalabama.edu/colleges/engineering/ce/index.html>

Civil Engineering involves the design and construction of systems necessary for our modern society to function. It encompasses many technical specialties whose focus is the design of large, normally one-of-a-kind, facilities such as bridges, buildings, tunnels, highways, dams, waterways, airports, flood control systems, coastal protection systems, water supply networks, and waste treatment plants. As our society expands, challenging opportunities will continue to be available for Civil Engineers practicing in their own private firms, in large companies, or in governmental agencies.

BSCE Program Educational Objectives:

The educational objectives of the Civil Engineering undergraduate program are that, within a few years of program completion, graduates will have used the knowledge and skills gain through academic preparation and post-graduation experience so they have:

1. Advanced in the civil engineering profession, obtained professional licensure, and applied engineering knowledge and problem-solving skills to multi-disciplinary projects.
2. Incorporated economic, environmental, social, regulatory, constructability, and sustainability considerations into the practice of civil engineering.
3. Exhibited effective communication, teamwork, leadership, initiative, project management, and professional and ethical behavior as complements to technical competence.
4. Continued their technical and professional development, which may include graduate level education, continuing education, and participation in professional organizations.

BSCE Student Outcomes:

By the time of graduation from the BSCE Program, students should attain the following outcomes:

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

The Bachelor of Science in Civil Engineering program is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>.

The curriculum builds on a strong base in mathematics, physical sciences, engineering sciences, and humanities developed primarily during the freshman and sophomore years. During the junior year, students develop an understanding of the fundamentals of each area of Civil Engineering. The specialty areas include:

- Environmental Engineering
- Geotechnical Engineering
- Structural Engineering
- Transportation Engineering
- Water Resources/Coastal Engineering

The senior year focuses on design, construction practices, and the integration of more advanced knowledge in civil engineering. A comprehensive project with students participating in a design team prepares them to enter professional practice.

Satisfactory completion of the program outlined in this Bulletin leads to a degree of Bachelor of Science in Civil Engineering. Students must also comply with the College of Engineering Requirements for a Degree which are covered in this Bulletin under College of Engineering.

BSCE Accelerated Bachelor's To Master's (ABM) Degree Option

The Department of Civil, Coastal, & Environmental Engineering allows well-qualified undergraduates in the program to follow an “Accelerated Bachelor’s to Master’s” study plan. This plan permits up to six credit hours of graduate coursework to count towards both the Bachelor’s (as Technical Electives) and the Master’s degrees, so that the Master’s degree is earned faster than usual. (The coursework concerned must individually satisfy the requirements of both degrees.) See a departmental advisor for specific details.