



UNIVERSITY OF SOUTH ALABAMA

Department of Civil, Coastal, & Environmental Engineering Graduate Program

Each student will have a graduate advisory committee and a faculty advisor. The student's program of study must be approved by the advisory committee and all courses taken must have the approval of the student's faculty advisor.

Two plans of study are offered: thesis and coursework-only. The thesis option includes six hours of credit for the thesis.

Requirements for a Degree

Thesis Option: 30 credit hours

- 15 to 18 semester hours course work in engineering
- 6 to 9 semester hours course work in supporting areas
- 6 semester hours of thesis credit

Coursework-Only Option: 30 credit hours

- 18 to 21 semester hours course work in engineering
- 9 to 12 semester hours course work in supporting areas

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 and coursework-only), are described under the College of Engineering section of the University Bulletin. Most on-campus graduate courses in Civil Engineering are offered in late afternoon or early evening to accommodate practicing engineers. Some graduate courses are offered online.

Admission to the MSCE Program

The following criteria supplement the College of Engineering admission criteria ([from the University Bulletin entry](#)):

- Either*: for **Regular Admission**, a grade-point average of 3.0 or greater (A = 4.0) on all undergraduate work; *or*: for **Provisional Admission**, a grade-point average of 2.5 to 2.9 (A = 4.0) on all undergraduate work
- A minimum score of 151 on the GRE quantitative section and a minimum score of 146 on the GRE verbal section (official scores must be submitted; this requirement is waived for students who received the BSCE degree from the University of South Alabama.
- 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
- Verification of registration by examination as a Professional Engineer (P.E.) can be substituted for the GPA and GRE requirements for **Regular Admission**
- International students whose native language is not English must submit documentary evidence showing TOEFL test scores of 71 on the internet-based test or IELTS band score of 6.5 or higher.

MSCE Curriculum Options

Students choose a subdiscipline focus area (structural, coastal, transportation, geotechnical or environmental).

Required Courses:

CE 503 Civil Engineering in the Coastal Environment, 3 credits

SE 601 Systems Engineering Fundamentals, 3 credits

1. Structural Engineering Courses:

CE 582 Timber Design

CE 583 Advanced Steel Design

CE 584 Advanced Structural Analysis

CE 587 Advanced Concrete Design

CE 588 Prestressed Concrete Design

CE 590 Bridge Design

CE 590 Structural Modeling

2. Coastal Engineering Courses

CE 560 Coastal Hydrodynamics

CE 563 Hydrodynamic Modeling

CE 566 Coastal and Harbor Engineering

CE 590 Coastal Processes

3. Transportation Engineering Courses

CE 551 Traffic Engineering

CE 552 Transportation Geometric Design

CE 590 Special Topics: Highway Safety

CE 590 Special Topics: Pavement Design

CE 590 Special Topics: Transportation Systems Evaluation & Analysis

CE 590 Special Topics: Intelligent Transportation Systems

4. Geotechnical Engineering Courses

CE 540 Advanced Soil Mechanics

CE 542 Foundation Engineering

CE 547 Groundwater

CE 590 Special Topics: Pile Foundations

5. Environmental Engineering Courses

CE 571 Biological Wastewater Treatment

CE 572 Physical Wastewater Treatment

CE 574 Industrial Waste Treatment

CE 590 Special Topics: Small Community & Onsite Wastewater Management

CE 590 Special Topics: Water Chemistry

Supporting Courses:

BLY 515 Ecotoxicology

CE 510 Construction Engineering

CE 512 Management & Sustainability of Civil Infrastructure

CE 542 Foundation Engineering

CE 566 Coastal and Harbor Engineering

CH 514 Environmental Chemistry

CSC 416 AI Theory and Programming

CSC 533 Artificial Intelligence & Heuristic Programming
GIT 560 Intro to GIT
GIT 561 GIT Apps I-Environment – C
GIT 562 GIT Apps II-Business/Soc Sci
GY 575 Hydrology
GY 576 Contaminant Hydrogeology
MA 567 Operations Research
MBA 503 Managing in the Bus. Env't
MBA 505 Managing People
ME 575 Continuum Mechanics
MGT 522 Supply Chain and Operations Mgt
PSC 550 Managing the Public Budget
SE 500 Engr Probability & Statistics
SE 501 Engineering Optimization
SE 602 Risk and Failure Analysis
SE 603 Integration, Test & Evaluation
SE 605 Project Engineering
SE 608 Reliability Engineering
SE 609 Engineering Research Methods
ST 540 Stat in Research I
ST 545 Stat in Research II
ST 550 Environmental Statistics
ST 575 Statistical Computing and Graphics
ST 590 Special Topics: Multivariate Analysis

Note that alternative subdiscipline or supporting courses may be approved by the student's graduate advisor or committee.