The ever changing engineering workforce has led to a competitive job market with companies looking to hire people who possess a technical and professional skillset. The Department of Civil & Environmental Engineering offers a graduate degree which will prepare you for career advancement.

- A faculty adviser assigned to you will create a student experience around your career goals, which allows you to obtain the exact knowledge and skills needed to move your career forward in a highly competitive job market.
- Within the School of Engineering, faculty are primarily focused on teaching in their discipline.
- The Citadel is ranked by U.S. News & World Report (2012-2016) as the No. 1 Best Public University in the South offering up to a master’s degree.

Your Graduate Experience

Student Learning Outcomes

Demonstrate breadth of advanced knowledge in complimentary areas of civil engineering that promotes an awareness of and skill in interdisciplinary problem solving.

Demonstrate a depth of knowledge in a chosen focus area of civil engineering that allows graduates to apply innovative techniques to solve problems.

Demonstrate knowledge in methods of advanced analysis appropriate for professional use when solving problems.

Demonstrate knowledge of contemporary issues in their chosen focus area.

Demonstrate the professional skills relevant to graduate level work to include the ability to formulate problems, synthesize and integrate information, work collaboratively, and to communicate effectively.

Demonstrate preparation for advancement in successful careers in industry or continued graduate work and an ethic for lifelong learning.

Why The Citadel is Right for You

Students are our Focus
We believe that education, development, empowerment, and welfare of our students are the primary focus of our efforts.

Civil Engineers as Principled Leaders
We believe the engineering profession requires the highest professional and ethical standards, which we seek to model, teach and prepare our graduates to embrace.

Collaborative Teaching and Learning Environment
We believe a collaborative collegial environment among our faculty, staff and students is critical in sustaining advancement in educational excellence.

Growth through Assessment
We believe in data-driven feedback and improvement will lead us to sustained advancement in cutting edge curriculum.
Why choose the MSCE or Graduate Certificate at The Citadel?

- Program design for the practicing engineering professional
- Technically qualified faculty dedicated to teaching
- Small classroom setting
- Emphasis on design application in engineering practice

Program Overview

The Citadel Master of Science in Civil Engineering will require 30 credit hours where 18 credit hours will be technical and 12 credit hours can be non-technical (business management, finance, leadership, program management, etc.). Students have the option to pursue a graduate certificate in conjunction with their MSCE degree.

Graduate certificate candidates in Structural Engineering, Transportation Engineering or Geotechnical Engineering will need to complete four civil engineering technical courses in the appropriate sub discipline totaling 12 credit hours.

Graduate certificate candidates for the Built Environment and Public Health must complete at least two courses from those offered at The Citadel in Civil and Environmental Engineering including Public Health, Physical Activity, and Design of the Built Environment, which is a required course. The remaining two courses may be selected from a list of approved courses in the appropriate sub discipline totaling 12 credit hours.

Technical Courses

- Built Environment & Public Health
  - CIVL 640 Urban Mobility Infrastructure Policy and Planning
  - CIVL 642 Public Health, Physical Activity, and Design of the Built Environment

- Geotechnical Engineering:
  - CIVL 730 Geotechnical Earthquake Engineering
  - CIVL 731 Geo-environmental Engineering
  - CIVL 732 Advanced Soil Mechanics
  - CIVL 733 Advanced Foundations Design
  - CIVL 734 Soil Behavior

- Structural Engineering
  - CIVL 504 Designing for Natural and Manmade Hazards
  - CIVL 608 Structural Loads and Systems
  - CIVL 610 Wood Design
  - CIVL 655 Masonry Structural Design
  - CIVL 657 Indeterminate and Matrix Structural Analysis
  - CIVL 711 Design of Masonry, Wood and Cold Formed Steel Structures
  - CIVL 712 Design of Coastal Structures and Bridges
  - CIVL 713 Design of Civil Engineering Systems for Natural and Manmade Hazards
  - CIVL 714 Advanced Steel Design
  - CIVL 715 Advanced Reinforced Concrete Design
  - CIVL 716 Analysis and Design of Prestressed Concrete Members
  - CIVL 718 Matrix and Finite Element Analysis
  - CIVL 719 Elastic Stability of Structures
  - CIVL 720 Dynamic Analysis of Structures
  - CIVL 721 Earthquake Engineering for Structural Engineers

Transportation Engineering

- CIVL 676 Geographic Information Systems
- CIVL 576 Roadway Geometric Design
- CIVL 612 Urban Transportation Planning
- CIVL 740 Transportation Safety Engineering
- CIVL 741 Travel Demand Forecasting

Non-Technical Courses

- Business Administration
  - BADM 604 Foundations of Economics
  - BADM 609 Foundation of Management and Organization
  - BADM 713 Communication for Leadership
  - BADM 716 Legal and Ethical Environment for Decision Makers
  - BADM 722 Leadership in Organizations

- Engineering Leadership and Program Management
  - PMGT 650 Overview of Tech Project Management
  - PMGT 651 Technical Project Planning & Scheduling
  - PMGT 652 Applications in Quality Management
  - PMGT 653 Tech Project Support & Operations
  - PMGT 661 The Legal and Contractual Aspects of Program Management
  - PMGT 671 Project Manager Leadership Development
  - PMGT 672 Applied Leadership Concepts

- Leadership
  - LDRS 710 Ethics, Values and Principled Leadership
  - LDRS 711 Leading Change: Organization Development and Transformation
  - LDRS 712 Leading Teams: Coaching, Culture, Diversity, and Globalization
  - LDRS 713 Leadership Self-Appraisal, Development And Critical Thinking
  - LDRS 714 Strategic Leadership, Vision, Mission and Contemporary Issues

Technical Areas

- Built Environment and Public Health
  - Mobility, infrastructure, urban land use policies and development that lead to improved public health outcomes.

- Geotechnical Engineering
  - Geotechnical aspects of earthquake engineering, design of waste containment systems, mechanical properties of geo materials, analyses and design of foundation systems, soil structure interaction and theory of plasticity.

- Structural Engineering
  - Earthquake engineering, structural dynamics, advanced concrete design, advanced steel design, masonry, timber, and CFS design, design of structures and bridges, finite element analysis, and advanced modeling of structural systems.

- Transportation Engineering
  - Transportation policy, safety, facility design, traffic operations, travel demand and road design.

"The expansion of the Citadel's graduate program offerings is fantastic. The quality of the undergraduate education I received at the Citadel was excellent and I am excited to have the opportunity to continue my education at an institution which has already exceeded my expectations. These new programs are a testament to the dedication that the Citadel has to the people and businesses of the Lowcountry."

Skyler Lowery
Summerville, SC