THE CITADEL
SCHOOL OF ENGINEERING

The Citadel's Electrical Engineering Program is nationally accredited by the Engineering Accreditation Commission of ABET (www.abet.org). ABET ensures engineering programs prepare students for professional practice and licensure. The Citadel is accredited by the Southern Association of Colleges and Schools Commission on Colleges.

For information on Electrical Engineering:
www.citadel.edu/ece
ece@citadel.edu

*To apply to The Citadel contact **The Citadel Admissions** at:*

***Phone:** (843) 953-5230*
***Email:** admissions@citadel.edu*

or at or apply online at:
www.citadel.edu/admissions

The South Carolina Corps of Cadets

BACHELOR OF SCIENCE
IN ELECTRICAL ENGINEERING

THE CITADEL
THE MILITARY COLLEGE OF SOUTH CAROLINA

Your Undergraduate Experience

The ever changing engineering workforce has led to a job market with companies looking to hire talented team members who possess a technical and professional skillset. The Electrical Engineering program will prepare you for career advancement in industry or the military.

- 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 an innovative world.
- Within the School of Engineering, faculty are primarily focused on teaching in their discipline.
- The School of Engineering has been ranked in the Top 25 U.S. News & World Report (2014, 2015, 2016, 2017, 2018) for best undergraduate engineering programs at schools offering up to a masters degree.
- Our graduates thrive in competitive job markets, graduate programs, or the military.

About the Electrical Engineering Program

Personal
Established in 1941, The Citadel's Department of Electrical and Computer Engineering employs small classes and hand-on laboratories taught by full-time faculty, to provide an environment highly conducive to both learning and to the development of close student-faculty relationships.

Practical
Engineering design is embedded throughout the curriculum to develop the student's ability to address practical engineering problems. Design problems and concepts are brought together in the two-semester senior capstone in which student teams undertake significant design projects.

Small Class Sizes
Students in The Citadel's Electrical Engineering Department enjoy a very high faculty to student ratio. As a student here, you will almost never be in a class larger than 30 students, and very often it will be less than 15.

Professional
Convinced of the great value of practical experience, Electrical and Computer Engineering students are encouraged to intern in electrical engineering or a related field for one or more summer terms.

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.

Electrical 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 students 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 inquiry and improvement will lead us to sustained advancement in educational excellence.

Electrical Engineering Program
The curriculum combines a liberal education base with a strong background in mathematics and basic sciences, and a logical sequence of electrical and computer engineering courses ensure the breadth and depth needed for professional growth in today's technological society. Emphasis areas include computer engineering, control systems, communication systems, electronics, or power systems.

Computer Engineering
Required Digital Logic and Digital Systems courses and electives covering Microarchitecture, Digital Signal Processing and Computer Network Architecture can hone an interest in computer development. With permission, Computer Science courses can broaden this emphasis area into the sphere of software development.

Control Systems
Required courses in Electronics, Machines, and Signals and Systems, can be supplemented with professional electives in Electronics, System Theory and Measurements and Instrumentation to provide depth and breadth of study of Control Systems.

Communication Systems
An Optics course coupled with professional electives in Communications Engineering, Network Architecture, Digital Signal Processing, and Antennas and Propagation cover not only the technological foundations of communications, but also the latest digital methods underlying electronic communications in modern society.

Electronics
A required Electronics course can be supplemented with a course in Thermodynamics and professional electives in Advanced Electronics, Advanced Digital Systems, Solid State Devices, and Measurements and Instrumentation to bring this broad field of study into sharp focus.

Power Systems
Required courses in Electromagnetics and in Electromechanical Energy Conversion can be paired with study of Nuclear Engineering, Electric Power Systems, Measurements and Instrumentation, Energy Systems Engineering, Advance Systems Theory and Statics and Mechanics of Materials to provide a thorough background for employment in this critical field.

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING CURRICULUM

Freshman Year

Fall Semester
ENGL 101 Composition and Literature I - 3
MATH 131 Analytical Geometry and Calc I - 4
HIST 103 Western Civilization I - 3
ELEC 106 Fundamentals of Elect Engineering - 3
RPED 250 Required Physical Education - 2
LDRS 101 First Year Seminar - 1

Spring Semester
ELEC 206 Computer Apps for Elec Eng - 3
MATH 132 Analytical Geometry and Calc II - 4
ENGL 102 Composition and Literature II - 3
HIST 104 Western Civilization II - 3
( ) Social Science Core Course - 3
RPED 251 Required Physical Education - 2
LDRS 111 Freshmen Ethical Fitness Seminar - 0

Sophomore Year

Fall Semester
( ) Approved English - 3
MATH 231 Analytical Geometry and Calc III - 4
PHYS 221 Physics with Calculus I - 3
PHYS 271 Physics with Calculus I Lab - 1
ELEC 201 Electric Circuit Analysis I - 3
ELEC 311 Digital Logic & Circuits - 3
RPED Required Physical Education - 0
LDRS 201/11 Sophomore Seminar/Laboratory - 1

Spring Semester
COMM 260 Technical Writing - 3
MATH 234 Applied Mathematics I - 4
PHYS 222 Physics with Calc II - 3
PHYS 272 Physics with Calc II Lab - 1
ELEC 202 Electric Circuits Analysis II - 3
ELEC 204 Electrical Laboratory - 1
ELEC 330 Digital Systems Engineering - 3
RPED Required Physical Education - 0

Junior Year

Fall Semester
( ) Approved Science Course - 3
( ) Approved Science Lab - 1
MATH 335 Applied Mathematics II - 3
ELEC 309 Signals and Systems - 3
CIVL 314 Engineering Administration - 2
ELEC 306 Electronics I - 3
ELEC 313 Electronics Lab - 1
LDRS 311 Junior Ethics Enhancement Sem. - 0

Spring Semester
ELEC 312 Systems I - 3
ELEC 316 Electromech. Energy Conversion - 3
ELEC 302 Electrical Machinery Lab - 1
( ) Approved Science Course - 3
( ) Approved Science Lab - 1
( ) Technical Elective - 3
ELEC 318 Electromagnetic Fields - 3

Senior Year

Fall Semester
ELEC 421 Design I - 3
( ) Non-Department Elective - 3
ELEC 412 Applied Prob & Stats for Engineers - 3
ELEC 4XX Approved Dept. Elective - 3
ELEC 4XX Approved Dept. Elective - 3
LDRS 411 Senior Leadership Seminar - 0

Spring Semester
ELEC 422 Design II - 3
ELEC 4XX Approved Dept. Elective - 3
ELEC 4XX Approved Dept. Elective - 3
ELEC 4XX Approved Dept. Elective - 3

*Basic ROTC during each semester of freshmen and sophomore years. Advanced ROTC or Leadership required each semester junior and senior year.

Why Study Electrical Engineering?

Electrical engineers change the world. They design the devices and technologies that define generations: television, cell phones, the internet, gaming systems...the list goes on. An electrical engineering degree can be a starting point for nearly any career too. Citadel electrical engineers have gone on to become pilots, lawyers, doctors, high ranking military leaders, and highly successful entrepreneurs.

"The Citadel is a great place to study engineering because it offers an environment where you can interact one-on-one with faculty in a smaller classroom setting. Through my senior design project I was able to work on a diverse team, solve an everyday problem with the skills I obtained in my courses, and create a final product. I know I can take the hands on knowledge that I've gained throughout my four years and transition confidently into my new career."

Carson Smith, Class of 2015