Electronics and Electrical Engineering

Bachelor of Science

Description

The Bachelor of Science (BS) in Electronics and Electrical Engineering is cutting-edge and the curriculum is designed to equip students with the skills needed to excel in the high-demand technology sector. Students master problem-solving, data analysis, and experimental techniques while understanding the broader social, environmental, and economic impacts of engineering. Commit to ethical practices, effective communication, and continuous learning to become a forward-thinking leader in the ever-evolving tech landscape. Students can also embrace the future of Industry 4.0 with our integrated BS/MS program, completing both degrees in just five years if continuously enrolled, paving the way for lucrative careers and leadership roles.

Admissions Requirements

- A high school diploma or GED
- Credentials earned outside of the US must be evaluated by an approved agency
- GPA of 2.0 or higher
- Official transcripts from all previously attended institutions
- Completed application with Carolina University

Graduation Requirements

- Shall have maintained a minimum cumulative GPA of 2.0;
- Shall have passed all courses in the curriculum and made a C or better in professional core courses;
- Shall have completed at least 24 of the final 30 hours with Carolina University.

Courses

General Education Core (38 Credit Hours) - must include the following:

GC 111 - Mathematics I
3 Credit Hours
GC 112 - Mathematics II
3 Credit Hours
PY 210 - General Physics I w/Lab
4 Credit Hours
PY 215 - General Physics II w/Lab
4 Credit Hours

or

CH 110 - General Chemistry I w/Lab
4 Credit Hours

Professional Core (60 Credit Hours)

EL 100 - Introduction to Electrical Engineering
3 Credit Hours
CS 110 - Programming I
3 Credit Hours
CS 111 - Programming II
3 Credit Hours
GC 205 - Calculus I
3 Credit Hours
GC 206 - Calculus II
3 Credit Hours
MA 205 - Calculus III
3 Credit Hours
MA 305 - Calculus IV
3 Credit Hours
EL 205 - Digital System Design w/Lab
4 Credit Hours
EL 210 - General Principles of Electric Circuits I w/Lab
4 Credit Hours
EL 215 - General Principles of Electric Circuits II w/Lab
4 Credit Hours
EL 250 - Analog Electronics w/Lab
4 Credit Hours
EL 310 - Signals and Systems
3 Credit Hours
EL 335 - Semiconductor Devices w/Lab
4 Credit Hours
EL 420 - Introduction to Electromagnetics with Lab
4 Credit Hours
MA 310 - Linear Algebra
3 Credit Hours
MA 315 - Ordinary Differential Equations
3 Credit Hours
EL 490 - Senior Design I
3 Credit Hours
EL 495 - Senior Design II
3 Credit Hours

Professional Electives (Choose 15 Credit Hours)

EL 220 - Engineering Graphics
2 Credit Hours
EL 240 - Engineering Mechanics
3 Credit Hours
EL 320 - Random Signals and Noise
3 Credit Hours
EL 330 - High Frequency Communication Circuits with Lab
4 Credit Hours

EL 390 - Internship I
3 Credit Hours
EL 399 - Special Topics in Engineering
3 Credit Hours
EL 410 - Digital Signal Processing
3 Credit Hours
EL 430 - Control Systems with Lab
4 Credit Hours
EL 440 - Communication Systems with Lab
4 Credit Hours
EL 445 - RF & Microwave Circuits for Wireless Communication w/Lab
4 Credit Hours
EL 450 - Advanced Digital System Designwith FPGA with Lab
4 Credit Hours
EL 480 - Microprocessor and Microcontroller with Lab
4 Credit Hours
EL 499 - Internship II
3 Credit Hours

MA Courses (Choose 6 Credit Hours)

MA 300 - Introduction to Probability and Sta
3 Credit Hours
MA 320 - Discrete Mathematics
3 Credit Hours
MA 410 - Partial Differential Equations
3 Credit Hours
CS Courses (Choose 6 Credit Hours)
CS 150 - Scripting
3 Credit Hours
CS 205 - Python Programming
3 Credit Hours
CS 210 - Algorithms and Data Structures
3 Credit Hours
CS 220 - Object Oriented Programming
3 Credit Hours
CS 222 - C# Programming
3 Credit Hours
CS 250 - Cloud Computing
3 Credit Hours