

# Computer Engineering

## Bachelor of Science

### Description

The Bachelor of Science (BS) in Computer Engineering program equips students with the knowledge and skills necessary for successful careers in technology-driven fields. Students combine computer science, engineering, and mathematics to evaluate problems and design solutions for digital systems. Given the broad scope of the computer field, students gain knowledge in software, hardware, and related areas such as embedded systems, applications, electronic circuits, and microprocessors. The integrated BS/MS option allows completion of a bachelor's and master's degree in five years if continuously enrolled, placing our students at the forefront of Industry 4.0 (or 4IR) and beyond.

### 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:

[CH 110 - General Chemistry I w/Lab](#)

4 Credit Hours

[GC 205 - Calculus I](#)

3 Credit Hours

[PY 210 - General Physics I w/Lab](#)

4 Credit Hours

#### Professional Core (73 Credit Hours)

[CN 100 - Introduction to ComputerEngineering](#)

1 Credit Hour

[CN 490 - Senior Project I](#)

3 Credit Hours

[CN 495 - Senior Project II](#)

3 Credit Hours

[CS 105 - Introduction to Computer Science](#)

3 Credit Hours

[CS 110 - Programming I](#)

3 Credit Hours

[CS 111 - Programming II](#)

3 Credit Hours

[CS 205 - Python Programming](#)

3 Credit Hours

[CS 210 - Algorithms and Data Structures](#)

3 Credit Hours

[CS 330 - Networking](#)

3 Credit Hours

[CS 340 - Computer Architecture and Organization](#)

3 Credit Hours

[CS 410 - Operating Systems](#)

3 Credit Hours

[CS 430 - Computer Security Fundamentals](#)

3 Credit Hours

[CS 435 - Ethical Hacking](#)

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 335 - Semiconductor Devices w/Lab](#)

4 Credit Hours

[EL 305 - Embedded Systems](#)

3 Credit Hours

[EL 470 - Digital Signal Processing w/Lab](#)

4 Credit Hours

[EL 480 - Microprocessor and Microcontroller with Lab](#)

4 Credit Hours

[GC 206 - Calculus II](#)

3 Credit Hours

[MA 205 - Calculus III](#)

3 Credit Hours

[MA 310 - Linear Algebra](#)

3 Credit Hours

**Professional Electives [Select from any CS, EL, or IS Course] (12 Credit Hours)**