Program of Study: Computer Engineering
Bachelor of Science in Engineering (B.S.E.)
College of Engineering and Computing
Department of Computer Science & Engineering
Catalog Year: 2017-2018

Program of Study

Degree Requirements (125 hours)

1. **Carolina Core (35-44 hours)**
   a. **CMW** (6 hours) –*must be passed with a grade of C or higher*
      i. ENGL 101 - Critical Reading and Composition
      ii. ENGL 102 - Rhetoric and Composition
   b. **ARP** (8 hours) –*must be passed with a grade of C or higher*
      i. MATH 141 - Calculus I
      ii. MATH 142 - Calculus II
   c. **SCI** (8 hours)
      i. CHEM 111 - General Chemistry I
      ii. CHEM 111L - General Chemistry I Laboratory
      iii. PHYS 211 - Essentials of Physics I –*must be passed with a grade of C or higher*
      iv. PHYS 211L - Essentials of Physics I Lab –*must be passed with a grade of C or higher*
   d. **GFL** (0-6 hours): Students in the College of Engineering and Computing are required to demonstrate proficiency in one foreign language equivalent to the 121 course by 1) a score of two or better on the foreign language placement test; or 2) completion of the 109 and 110 courses in FREN, GERM, LATN, or SPAN or completion of the 121 course in another foreign language.
   e. **GHS** (3 hours): any approved CC-GHS course
   f. **GSS** (3 hours): any approved CC-GSS course
   g. **AIU** (3 hours): any approved CC-AIU course

   Carolina Core Stand Alone or Overlay Eligible Requirements:
   Up to two of these requirements may be met in overlay courses. At least one of these requirements must be satisfied by a course not applied elsewhere in general education. (3-9 Hours)

   h. **CMS** (3 hours)
      i. SPCH 140 - Public Communication
   i. **INF** (0-3 hours): ENGL 102 *or* any approved overlay or stand-alone CC-INF course
   j. **VSR** (1 hour)
      i. CSCE 390 - Professional Issues in Computer Science and Engineering –*must be passed with a grade of C or higher*

2. **College Requirements:** None required by the College of Engineering and Computing

3. **Program Requirements (57 hours)**
   a. **Supporting Courses** (36 hours)
      i. MATH 241 - Vector Calculus
      ii. MATH 242 - Elementary Differential Equations –*must be passed with a grade of C or higher*
      iii. MATH 344 - Applied Linear Algebra
      iv. MATH 344L - Applied Linear Algebra Lab
      v. MATH 374 - Discrete Structures –*must be passed with a grade of C or higher*
      vi. PHYS 212 - Essentials of Physics II
      vii. PHYS 212L - Essentials of Physics II Lab
      viii. STAT 509 - Statistics for Engineers
      ix. ENGL 462 - Technical Writing *or* ENGL 463 - Business Writing
      x. **Lower Division Computing** (22 hours) –*must be passed with a grade of C or higher*
         1. CSCE 145 - Algorithmic Design I
         2. CSCE 146 - Algorithmic Design II

3. CSCE 190 - Computing in the Modern World
4. CSCE 211 - Digital Logic Design
5. CSCE 212 - Introduction to Computer Architecture
6. CSCE 215 - UNIX/Linux Fundamentals
7. CSCE 240 - Introduction to Software Engineering
8. CSCE 274 - Robotic Applications and Design

xi. **Electrical Engineering** (12 hours)
1. ELCT 102 - Electrical Science *–must be passed with a grade of C or higher*
2. ELCT 221 - Circuits *–must be passed with a grade of C or higher*
3. ELCT 222 - Signals and Systems *–must be passed with a grade of C or higher*
4. ELCT 371 - Electronics

4. **Major Requirements (33 hours)** *–must be passed with a grade of C or higher*
   a. **Major Courses** (24 hours)
      i. CSCE 311 - Operating Systems
      ii. CSCE 313 - Embedded Systems
      iii. CSCE 317 - Computer Systems Engineering
      iv. CSCE 350 - Data Structures and Algorithms
      v. CSCE 416 - Introduction to Computer Networks
      vi. CSCE 490 - Capstone Computing Project I
      vii. CSCE 492 - Capstone Computing Project II
      viii. CSCE 611 - Advanced Digital Design
   b. **Major Electives** (9 hours) Choose from:
      i. CSCE 330 - Programming Language Structures
      ii. CSCE 355 - Foundations of Computation
      iii. ELCT 321 - Digital Signal Processing
      iv. ELCT 331 - Control Systems
      v. Other approved CSCE courses numbered 510 and higher.

Major GPA
Major GPA requirement policies are described in the College of Engineering and Computing section of this bulletin. For the purpose of these policies, the following courses are used to determine the Major GPA for the Computer Engineering B.S.E. program: all Lower Division Computing, Computer Engineering Major, Computer Engineering Electives, Electrical Engineering Cognate courses, and CSCE 390.

Exclusions
No Lower Division Computing, Computer Engineering Major, or Computer Engineering Elective course may be counted toward a minor. All other required courses and electives may be used for a minor as appropriate. CSCE 101 and CSCE 102 are not major courses and may not be used for degree credit.