CCE Program Requirements

General Education Program (30 credits)

- ENMG 400: Engineering Economy
- Arabic course
- ENGL 206: Technical English
- One other English course (excluding ENGL 204 and 208)
- Two social science courses
- Three humanities courses
- ENMG 504: Ethics course

CCE students must select humanities and social science elective courses from the approved GE program course list on the Registrar's homepage.

Mathematics (18 credits)

- MATH 201: Calculus and Analytic Geometry III
- MATH 202: Differential Equations
- MATH 211: Discrete Structures
- MATH 218: Elementary Linear Algebra with Applications or MATH 219: Linear Algebra I
- STAT 230: Introduction to Probability and Random Variables
- One of
  - MATH 210: Introduction to Analysis
  - MATH 224: Fourier Series and Applications
  - MATH 227: Introduction to Complex Analysis
  - MATH 251: Numerical Computing
  - MATH 261: Number Theory

Sciences (12 credits)

- PHYS 210: Introductory Physics II
- PHYS 210L: Introductory Physics Laboratory II
- CHEM 201: Chemical Principles or CHEM 202: Introduction to Environmental Chemistry
- CHEM 203: Introductory Chemical Techniques or CHEM 205: Introductory Chemistry Laboratory
- One additional science elective. Refer to Appendix D for the list of approved science electives.
**CCE Core Courses (36 credits)**

Refer to Appendix E for the ECE course descriptions.

- EECE 200: Introduction to Electrical and Computer Engineering
- EECE 210: Electric Circuits
- EECE 230: Introduction to Programming
- EECE 290: Analog Signal Processing
- EECE 310: Electronics
- EECE 311: Electronic Circuits
- EECE 320: Digital Systems Design
- EECE 321: Computer Organization
- EECE 330: Data Structures and Algorithms
- EECE 340: Signals and Systems
- EECE 350: Computer Networks
- EECE 380: Engineering Electromagnetics

**CCE Laboratories (3 credits)**

- EECE 310L: Electric Circuits Laboratory
- EECE 321L: Computer Organization Laboratory
- EECE 410L: System Integration Laboratory

**CCE Restricted Electives (12 credits)**

Four restricted elective courses from the list of CCE Focus Area Courses with no more than three courses from any given area.

**CCE Focus Area Courses**

**Area 1: Computer Hardware Systems**

- EECE 412: Digital Integrated Circuits
- EECE 421: Computer Architecture
- EECE 422: Parallel Computer Architecture and Programming
- EECE 425: Embedded Microprocessor System Design

**Area 2: Communications and Networking**

- EECE 442: Communication Systems
- EECE 451: Mobile Networks and Applications
• EECE 455: Cryptography and Network Security

Area 3: Software Systems

• EECE 430: Software Engineering
• EECE 431: Design and Analysis of Algorithms
• EECE 432: Operating Systems
• EECE 433: Database Systems
• EECE 434: Programming Language Design and Implementation

CCE Labs Elective (2 credits)

• One Restricted Elective Lab
  
  **Area 1: Computer Hardware Systems**
  EECE412L: VLSI Computer Aided Design Laboratory

  **Area 2: Communications and Networking**
  EECE 442L: Communications Laboratory
  EECE 451L: Internetworking Laboratory

  **Area 3: Software Systems**
  EECE 435L: Software Tools Laboratory

• One Additional Elective Lab

Undergraduate Elective courses (6 credits)

- Any EECE 400 level course

Electives (18 credits)

- Six courses, at least two of which must be EECE, subject to approval of adviser. No more than two technical electives may be taken from the same department and/or program. For the list of pre-approved technical electives, refer to Appendix D.

Approved Experience

- EECE 500

Final Year Project (6 credits)

- EECE 501 and EECE 502