Computer Engineering

**Note:** This flowchart is a graphical presentation of the requirements in the 2020-2021 catalog. Please refer to the catalog for exact requirements.

**Core Electives**
- Choose at least 2 courses

**Technical Electives**
- 14 credit hours
  - Complete requirements in Core Electives. Choose remaining courses from additional core electives, other ECE technical electives, or CS electives.
  - Core electives + other technical electives = 14 credit hours.

**ElectroMagnetics**
- ECEn 462
- ECEn 464
- ECEn 466

**Before enrolling in ECEn 240, you must pass Phy 220, Math 113, and CS 142 with an average grade of B or better, or get clearance from the department advisor.**

**All classes in the Supporting (green) and EE-core (blue) sections must be taken to graduate.**

**Before taking any course, all prerequisite courses must be completed first with grade of C or better.**

**Capstone: ECEn 475/476 substitutes for 490 + 2 cr.hr. Tech Elects on older programs**

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**Flowchart Diagram**

- CS Electives
  - CS 340, 345, 428, 431, 450, 452, 455, 456, 460, 462, 465, 470, 478, or 5xx

- Supporting Courses
  - 33.5 hours

- EE-Core
  - 42.5 hours

- Computer Engineering

- MicroElectronics

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**Notes:**
- Before enrolling in ECEn 240, you must pass Phy 220, Math 113, and CS 142 with an average grade of B or better, or get clearance from the department advisor.
- All classes in the Supporting (green) and EE-core (blue) sections must be taken to graduate.
- Before taking any course, all prerequisite courses must be completed first with grade of C or better.
- Capstone: ECEn 475/476 substitutes for 490 + 2 cr.hr. Tech Elects on older programs
Computer Engineering Program Requirements

**Requirement 1: Complete 22 courses.**
- C S 142 - Introduction to Computer Programming 3.0
- C S 235 - Data Structures and Algorithms 3.0
- C S 236 - Discrete Structures 3.0
- C S 240 - Advanced Programming Concepts 4.0
- EC EN 191 - New Student Seminar 0.5
- EC EN 220 - Fundamentals of Digital Systems 3.0
- EC EN 240 - Circuit Analysis and Laboratory 4.0
- EC EN 323 - Computer Organization 4.0
- EC EN 330 - Introduction to Embedded System Programming 4.0
- EC EN 340 - Electronic Circuit Design 1 4.0
- EC EN 380 - Signals and Systems 4.0
- EC EN 390 - Junior Team Design Project 3.0
- EC EN 391 - Junior Seminar 0.5
- EC EN 475 - Capstone Design 1 3.0
- EC EN 476 - Capstone Design 2 3.0
- MATH 112 - Calculus 1 4.0
- MATH 113 - Calculus 2 4.0
- MATH 213 - Elementary Linear Algebra 2.0
- MATH 215 - Computational Linear Algebra 1.0
- MATH 334 - Ordinary Differential Equations 3.0
- PHSCS 121 - Introduction to Newtonian Mechanics 3.0
- PHSCS 220 - Introduction to Electricity and Magnetism 3.0
- STAT 201 - Statistics for Engineers and Scientists 3.0

**Requirement 2: Complete 2 options.**

*Option 2.1: Complete 1 course.*
- CHEM 105 - General College Chemistry 1 with Lab (Integrated) 4.0
- CHEM 111 - Principles of Chemistry 1 4.0

*Option 2.2: Complete 1 course. Note: ENGL 312 recommended.*
- WRTG 312 - Persuasive Writing 3.0
- WRTG 316 - Technical Communication 3.0

**Requirement 3: Complete at least 8.0 hours from the following.**
- EC EN 424 - Computer Systems 4.0
- EC EN 493R - Computer Networking 4.0
- EC EN 427 - Embedded Systems 4.0
- MATH 314 - Calculus of Several Variables 3.0

**Requirement 4: Complete at least 6.0 hours from the following.**
- C S 340 - Software Design and Testing 3.0
- C S 345 - Operating Systems Design 3.0
- C S 428 - Software Engineering 3.0
- C S 431 - Algorithmic Languages and Compilers 3.0
- C S 452 - Database Modeling Concepts 3.0
- C S 455 - Computer Graphics 3.0
- C S 456 - Introduction to User Interface Software 3.0
- C S 460 - Computer Communications and Networking 3.0
- C S 462 - Large-Scale Distributed System Design 3.0
- C S 465 - Computer Security 3.0
- C S 470 - Introduction to Artificial Intelligence 3.0
- C S 472 - Introduction to Machine Learning 3.0
- EC EN 360 - Electromagnetic Fields and Waves 4.0
- EC EN 424 - Computer Systems 4.0
- EC EN 493R - Computer Networking 4.0
- EC EN 427 - Embedded Systems 4.0
- EC EN 445 - Introduction to Mixed-Signal VLSI 4.0
- EC EN 446 - Power Electronics 4.0
- EC EN 450 - Introduction to Semiconductor Devices 3.0
- EC EN 452 - Experiments in Integrated Circuit Development 1.0
- EC EN 462 - Electromagnetic Radiation and Propagation 2.0
- EC EN 464 - Wireless Communication Circuits 2.0
- EC EN 466 - Introduction to Optical Engineering 2.0
- EC EN 483 - Design of Control Systems 4.0
- EC EN 485 - Introduction to Digital Communication Theory 4.0
- EC EN 487 - Introduction to Discrete-Time Signal Processing 4.0
- MATH 314 - Calculus of Several Variables 3.0