Brigham Young University
Computer Engineering
Flowchart

Note: This flowchart is a graphical presentation of the requirements in the 2019-2020 catalog. Please refer to the catalog for exact requirements.

April 3, 2019

Technical Electives
14 credit hours

Complete requirements in Core Electives. Choose remaining courses from additional core electives, other ECEn technical electives, or CS electives.

Core electives + other technical electives = 14 credit hours.

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 substitues for 490 + 2 cr.hr. Tech Elects on older programs

CS 142
3 L FWSp
CS 235
3 L FWSS

Supporting Courses
33.5 hours

ECEn 191
0.5 FW
ECEn 220
3 L FWS-S
Math 112
4 FWSS

ECEn 240
4 L FWSp
Math 213, 215
2,1 FWSS

Math 213, 215
2,1 FWSS

Math 334
3 FWSS

Math 314
3 FWSS

Phy 121
3 L FWSp

EE-Core
42.5 hours

ECEn 380
4 L F

ECEn 390
3 L W

ECEn 475
3 L F

ECEn 476
3 L W

CS 236
3 L FWSS

ECEn 391
0.5 F

ECEn 390
3 L W

ECEn 424
4 L W

ECEn 446
4 L W

ECEn 475
3 L F

ECEn 487
4 L W

ECEn 485
4 L W

ECEn 483
4 L FW

ElectroMagnetics

EE-240
3 L W

ECEn 240
4 L FWSp

Math 113
4 FWSS

Math 314
3 FWSS

Jr. Core Fall

Winter

CS Electives

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

Core Electives
Choose at least 2 courses

Computer Engineering

MicroElectronics

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Prerequisite

Corequisite
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
C S 241 - Introduction to Computer Programming 3.0
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.
ENGL 312 - Persuasive Writing 3.0
ENGL 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 425 - Real-Time Operating Systems 4.0
EC EN 427 - Embedded Systems 4.0

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 425 - Real-Time Operating Systems 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