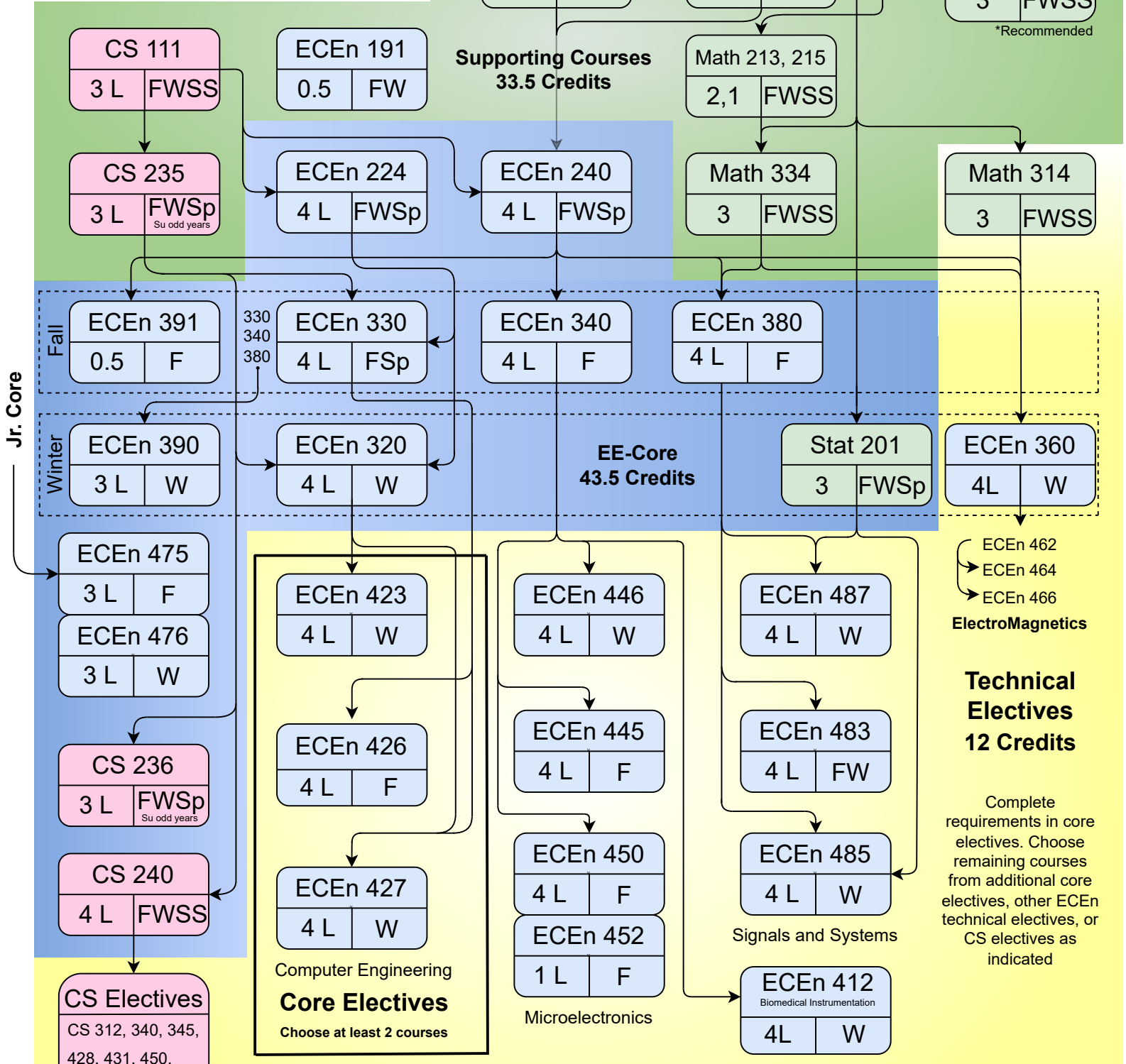
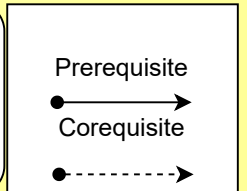


Only students starting the major during the 2023-2024 academic year follow this flowchart.

Brigham Young University  
**Computer Engineering  
 Flowchart**  
 Note: This flowchart is a graphical presentation of the requirements in the 2023-2024 catalog. Please refer to the catalog for exact requirements.  
 September 5, 2023



- Notes:**
- Before enrolling in ECEn 240, you must pass Phy 220, Math 113, and CS 111 with an average grade of B or better.
  - Before taking any course, all prerequisite courses must be completed first with a grade of C- or better.
  - All classes in the supporting (green) and EE-core (blue) sections must be taken to graduate.



## Computer Engineering Program Requirements

### Requirement 1: Complete 23 courses.

CS 111 – Introduction to Computer Science 3.0  
CS 235 – Data Structures and Algorithms 3.0  
CS 236 – Discrete Structures 3.0  
CS 240 – Advanced Programming Concepts 4.0  
EC EN 191 – New Student Seminar 0.5  
EC EN 224 – Intro to Computer Systems 4.0  
EC EN 240 – Circuit Analysis and Laboratory 4.0  
EC EN 320 – Digital Systems 4.0  
EC EN 330 – Introduction to Embedded Systems 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: WRTG 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 423 – Computer Organization 4.0  
EC EN 426 – Computer Networking 4.0  
EC EN 427 – Embedded Systems 4.0

### Requirement 4: Complete at least 4.0 hours from the following:

CS 312 – Algorithm Design & Analysis 3.0  
CS 340 – Software Design 3.0  
CS 345 – Operating Systems Design 3.0  
CS 428 – Software Engineering 3.0  
CS 431 – Algorithmic Languages and Compilers 3.0  
CS 452 – Database Modeling Concepts 3.0  
CS 455 – Computer Graphics 3.0  
CS 456 – Mobile & Ubiquitous HCI 3.0  
CS 460 – Computer Communications and Networking 3.0  
CS 462 – Distributed System Design 3.0  
CS 465 – Computer Security 3.0  
CS 470 – Introduction to Artificial Intelligence 3.0  
CS 472 – Introduction to Machine Learning 3.0  
CS 474 – Deep learning 3.0  
EC EN 360 – Electromagnetic Fields and Waves 4.0  
EC EN 412 – Biomedical Instrumentation 4.0  
EC EN 423 – Computer Organization 4.0  
EC EN 426 – Computer Networking 4.0  
EC EN 427 – Embedded Systems 4.0  
EC EN 445 – Introduction to Mixed-Signals 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  
IT&C 567 – Cybersecurity & Pen Test 3.0  
MATH 314 – Calculus of Several Variables 3.0