

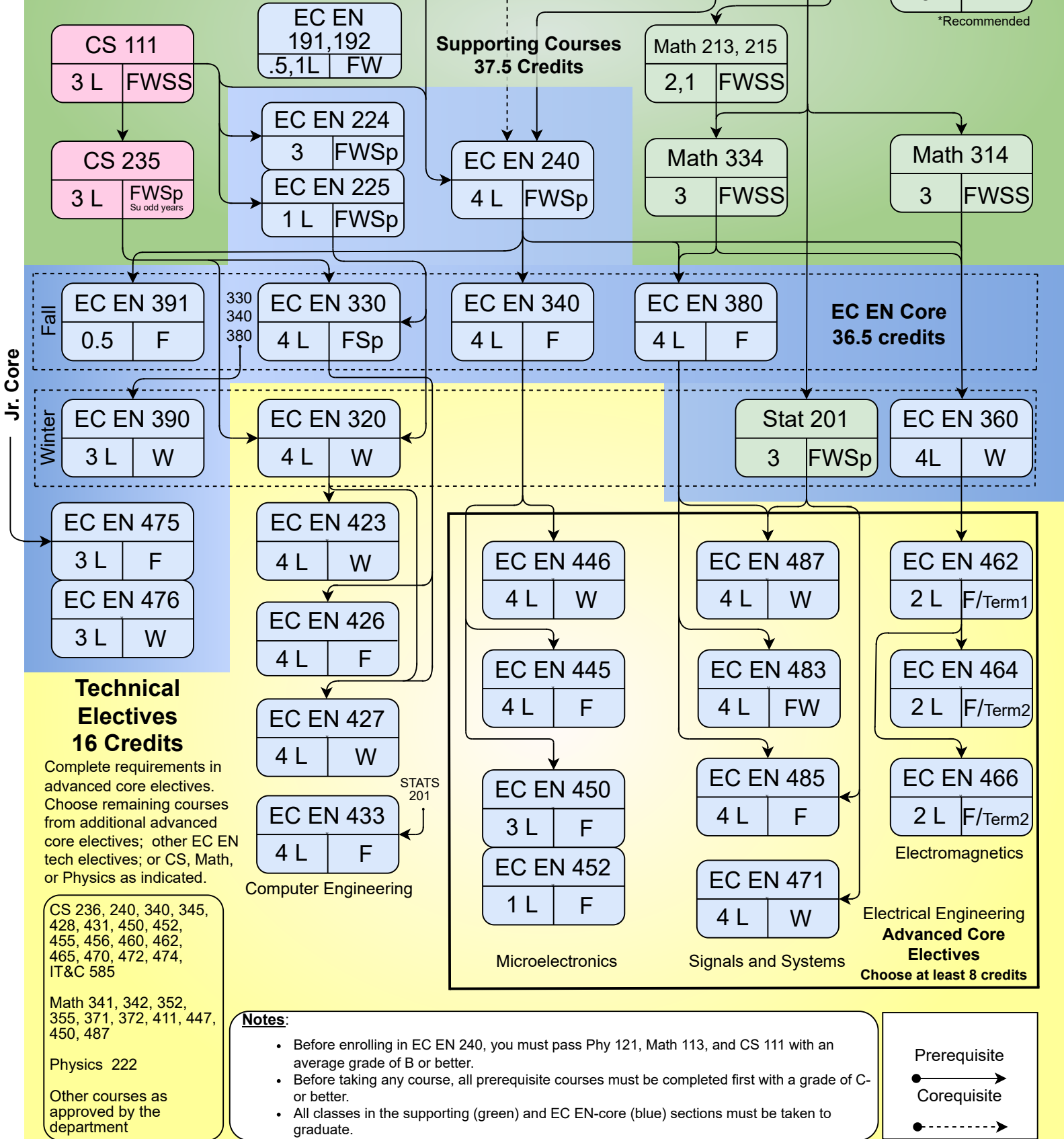
Only students starting the major during the 2025-2026 academic year follow this flowchart.

Brigham Young University

# Electrical Engineering Flowchart

Note: This flowchart is a graphical presentation of the requirements in the 2025-2026 catalog. Please refer to the catalog for exact requirements.

September 3, 2025



## Electrical Engineering Program Requirements

### Requirement 1: Complete 22 courses.

CS 111 – Introduction to Computer Science 3.0  
CS 235 – Data Structures and Algorithms 3.0  
ECEN 191 – New Student Seminar 0.5  
ECEN 192 – Freshman Project 1.0  
ECEN 224 – Introduction to Computer Systems 3.0  
ECEN 225 – Computer Systems Laboratory 1.0  
ECEN 240 – Circuit Analysis and Laboratory 4.0  
ECEN 330 – Introduction to Embedded Systems Programming 4.0  
ECEN 340 – Electronic Circuit Design 1 4.0  
ECEN 360 – Electromagnetic Fields and Waves 4.0  
ECEN 380 – Signals and Systems 4.0  
ECEN 390 – Junior Team Design Project 3.0  
ECEN 391 – Junior Seminar 0.5  
ECEN 475 – Capstone Design 1 3.0  
ECEN 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 314 – Calculus of Several Variables 3.0  
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:

ECEN 445 – Introduction to Mixed-Signal VLSI 4.0  
ECEN 446 – Power Electronics 4.0  
ECEN 450 – Introduction to Semiconductor Devices 3.0  
ECEN 452 – Experiments in Integrated Circuit Development 1.0  
ECEN 462 – Electromagnetic Radiation and Propagation 2.0  
ECEN 464 – Wireless Communication Circuits 2.0  
ECEN 466 – Introduction to Optical Engineering 2.0  
ECEN 471 – Machine Learning: Foundations and Applications 4.0

ECEN 483 – Design of Control Systems 4.0  
ECEN 485 – Introduction to Digital Communication Theory 4.0  
ECEN 487 – Introduction to Discrete-Time Signal Processing 4.0

### Requirement 4: Complete at least 8.0 hours from the following:

CS 236 – Discrete Structures 3.0  
CS 240 – Advanced Programming Concepts 4.0  
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  
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  
ECEN 320 – Digital Systems 4.0  
ECEN 423 – Computer Organization 4.0  
ECEN 426 – Computer Networking 4.0  
ECEN 427 – Embedded Systems 4.0  
ECEN 433 – Introduction to Robotics & Autonomy 4.0  
ECEN 445 – Introduction to Mixed-Signals VLSI 4.0  
ECEN 446 – Power Electronics 4.0  
ECEN 450 – Introduction to Semiconductor Devices 3.0  
ECEN 452 – Experiments in Integrated Circuit Development 1.0  
ECEN 462 – Electromagnetic Radiation and Propagation 2.0  
ECEN 464 – Wireless communication Circuits 2.0  
ECEN 466 – Introduction to Optical Engineering 2.0  
ECEN 471 – Machine Learning: Foundations and Applications 4.0  
ECEN 483 – Design of Control Systems 4.0  
ECEN 485 – Introduction to Digital Communication Theory 4.0  
ECEN 487 – Introduction to Discrete-Time Signal Processing 4.0  
MATH 341 – Theory of Analysis 1 3.0  
MATH 342 – Theory of Analysis 2 3.0  
MATH 352 – Introduction to Complex Analysis 3.0  
MATH 355 – Graph Theory 3.0  
MATH 371 – Abstract Algebra 1 3.0  
MATH 372 – Abstract Algebra 2 3.0  
MATH 411 – Numerical Methods 3.0  
MATH 447 – Introduction to Partial Differential Equations 3.0  
MATH 450 – Combinatorics 3.0  
MATH 487 – Number Theory 3.0  
PHSCS 222 – Modern Physics 3.0  
IT&C 585 – Encryption Implementation 3.0