

Only students starting the major during the 2024-2025 academic year follow this flowchart.

Brigham Young University

Computer Engineering Flowchart

Note: This flowchart is a graphical presentation of the requirements in the 2024-2025 catalog. Please refer to the catalog for exact requirements.

September 3, 2024

Phy 121 3 L FWSp	Math 112 4 FWSS	Chem 105 4L FWSS
Phy 220 3 L FWSp	Math 113 4 FWSS	WRTG 312* (or WRTG 316) 3 FWSS

*Recommended

**Supporting Courses
34.5 Credits**

CS 111 3 L FWSS	ECEn 191,192 .5,1L FW	Math 213, 215 2,1 FWSS
CS 235 3 L FWSp <small>Su odd years</small>	ECEn 224 3 FWSp	Math 334 3 FWSS
	ECEn 225 1 L FWSp	Math 314 3 FWSS
	ECEn 240 4 L FWSp	

Jr. Core

Fall	ECEn 391 0.5 F	ECEn 330 4 L FSp	ECEn 340 4 L F	ECEn 380 4 L F
Winter	ECEn 390 3 L W	ECEn 320 4 L W	ECEn Core 43.5 Credits	Stat 201 3 FWSp

ECEn 475 3 L F	ECEn 423 4 L W	ECEn 446 4 L W	ECEn 487 4 L W
ECEn 476 3 L W	ECEn 426 4 L F	ECEn 445 4 L F	ECEn 483 4 L FW
CS 236 3 L FWSp <small>Su odd years</small>	ECEn 427 4 L W	ECEn 450 3 L F	ECEn 485 4 L F
CS 240 4 L FWSS	ECEn 433 4 L F	ECEn 452 1 L F	ECEn 471 4 L W
CS Electives CS 312, 340, 345, 428, 431, 450, 452, 455, 456, 460, 462, 465, 470, 472, 474, IT&C 567, 585	Computer Engineering Advanced Core Electives Choose at least 2 courses	Microelectronics	Signals and Systems

ElectroMagnetics

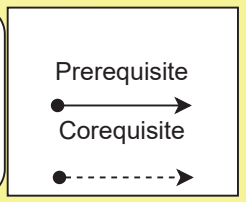
ECEn 462
ECEn 464
ECEn 466

**Technical Electives
12 Credits**

Complete requirements in advanced core electives. Choose remaining courses from additional advanced core electives, other ECEn technical electives, or CS electives as indicated.

ECEn 412
Biomedical Instrumentation
4L | W

- 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 192 – Freshman Project 1.0
EC EN 224 – Introduction to Computer Systems 3.0
EC EN 225 – Computer Systems Laboratory 1.0
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
EC EN 433 – Introduction to Robotics and Autonomy 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 471 – Machine Learning: Foundations and Applications 4.0
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
IT&C 585 – Encryption Implementation 3.0
MATH 314 – Calculus of Several Variables 3.0