

WESTERN CAROLINA UNIVERSITY

B.S. ELECTRICAL ENGINEERING

COMPREHENSIVE CONCENTRATION

The B.S. in Electrical Engineering (EE) program builds around a strong basic core of mathematics, physics, and engineering principles, to focus on the design and applications of electronic systems. You'll explore cutting-edge topics like semiconductor devices, electromagnetics, control systems, signal processing and analysis, and communications. With a strong emphasis on hands-on, project-based learning (PBL), the program equips you to apply theoretical and technical concepts to real-world challenges. This degree program is ABET accredited.

CAREER PATHS

Industries

- Communications
- Aviation and Aerospace
- Autonomous Vehicles
- Defense
- System Development
- Healthcare Equipment and Facilities

Job Titles

- Electrical Engineer
- Electronics Engineer
- Electrical Design Engineer
- Control & Instrumentation
- Hardware Engineer
- System Engineer
- Application Engineer
- Integration and Test Engineer

Income Data for Typical BSEE Graduates

U.S. salary data collected from O*NET OnLine (2024)

- Early Career: \$75,563 to \$94,250
- Mid-career: \$123,020 to \$158,195



LABS

Analog and Digital Circuits
Electronics

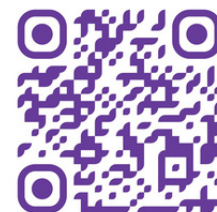
Analog and Digital Communications
Controls and Instrumentation

SENIOR CAPSTONE PROJECT

2-semester Project
Faculty & Industry Mentors
Partnership with Industries
Industry Sponsored

THE RAPID CENTER

Applied Experiences
Research & Development



B.S. ELECTRICAL ENGINEERING

WCU 8-Semester Plan - Fall 2025

YEAR 1

Fall		
Course #	Course Name	Hours
ENGR 199	Intro. Engr Prac & Principles I	3
CHEM 139	General Chemistry I (C5)	4
MATH 153	Calculus I (C2)	4
Wellness (C4)		3
Perspective		3
	Total Hours	17

Spring		
Course #	Course Name	Hours
COMM 201	Communications (C3)	3
ENGR 123	Engineering Programming	3
ENGL 101	Writing & Rhetoric (C1)	3
MATH 255	Calculus II	4
PHYS 230	General Physics I	4
	Total Hours	17

YEAR 2

Fall		
Course #	Course Name	Hours
EE 201	Network Theory I	3
EE 221	Logic Systems Design I	3
EE 211	Logic & Networks Lab	1
ENGR 200	Engr Prac & Principles II	3
MATH 320	Ord. Diff. Equations	3
PHYS 231	General Physics II (lecture only)	3
	Total Hours	16

Spring		
Course #	Course Name	Hours
EE 202	Network Theory II	3
EE 212	Instrumentation & Networks Lab	1
ENGL 202	Writing & Critical Inquiry (C1)	3
MATH 256	Calculus III	4
Perspective		3
	Total Hours	14

YEAR 3

Fall		
Course #	Course Name	Hours
EE 311	Electronic Devices Lab	1
EE 321	Electromagnetic Fields	3
EE 331	Fund. Elect & Semiconductors	3
EE 351	System Analysis I	3
MATH 370	Probability & Statistics I	3
Perspective		3
	Total Hours	16

Spring		
Course #	Course Name	Hours
EE 312	Systems & Electronics Lab	1
EE 322	Electromagnetic Waves	3
ENGR 411	Engineering Numerical Analysis	3
ENGR 350	Engr Prac & Principles III	3
ENGR 402	System Dynamics and Control	3
Perspective		3
	Total Hours	16

YEAR 4

Fall		
Course #	Course Name	Hours
ENGR 400	Engineering Capstone I	3
EE 411	Analog Communication Systems	3
EE 421	Digital System Design	3
EE 424	Digital Signal Processing	3
Tech Elective		3
	Total Hours	15

Spring		
Course #	Course Name	Hours
ENGR 450	Engineering Capstone II	3
EE 413	Digital Communication Systems	3
Tech Elective		3
ULP		3
Perspective		3
	Total Hours	15

Notes:

- Total for degree: 126 Credit Hours
- Minimum GPA in major: 2.20
- Upper Level Perspective (ULP): An approved ULP course is required at the 300-400 level in one of Liberal Studies Perspectives categories.
- This 8-semester plan should be used FOR REFERENCE ONLY. Students can find degree requirements via Degree Audit.