WESTERN CAROLINA UNIVERSITY

B.S. ENGINEERING

CIVIL CONCENTRATION

Civil Engineers design and oversee the construction of roads, buildings, airports, tunnels, dams, bridges and water systems. They use their knowledge of construction materials, structural design, and water to design structures for public and private use. They also design transportation systems, manage the environment, and other public infrastructure. The B.S. in Engineering with a concentration in Civil Engineering combines the strengths of a traditional engineering curriculum with hands-on laboratory and real-world experience. This degree program is ABET accredited.

CAREER PATHS

Industries

- Design
- Infrastructure
- Transportation
- Water Resource
- Real Estate &
- Urban Development
- Government
- Telecommunications

Job Titles

- Design Engineer
- Project Engineer
- Construction Engineer
- Quality Assurance/Control Engineer
- Environmental Engineer
- Transportation Engineer

Income Data for Typical BSE-CE Graduates

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

- Early Career: $65,400 to $79,700
- Mid-career: $101,900 to $129,600

LABS

Construction Materials
Engineering Structures
Geomatics and Surveying
Hydraulics & Hydrology
Transportation

SENIOR CAPSTONE PROJECT

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

THE RAPID CENTER

Applied Experiences
Research & Development

Western Carolina University

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B.S. ENGINEERING, CIVIL

WCU 8-Semester Plan - Fall 2025

YEAR 1

Fall		
Course #	Course Name	Hours
MATH 153	Calculus I (C2)	4
CHEM 139	General Chemistry I (C5)	4
ENGL 101	Writing and Rhetoric	3
Wellness (C4)		3
Perspective		3
	Total Hours	17

Spring		
Course #	Course Name	Hours
MATH 255	Calculus II	4
PHYS 230	General Physics I (C5)	4
ENGR 123	Engineering Programming	3
ENGR 199	Intro to Eng/Prac/Prin. I	3
COMM 201	Foundations of Communication (C3)	3
	Total Hours	17

YEAR 2

Fall		
Course #	Course Name	Hours
MATH 256	Calculus III	4
ENGR 201	Engineering Mechanics: Statics	3
ENGR 200	Eng/Prac/Prin. II	3
PHYS 231	General Physics II	4
CE 247	CE Graphics & BIM	3
	Total Hours	17

Spring		
Course #	Course Name	Hours
MATH 370	Probability and Statistics	3
ENGR 202	Mechanics of Materials	3
CE 212	Construction Materials	3
CE 213	Construction Materials Lab	1
CE 222	Geomatics & Surveying	2
CE 223	Geomatics & Surveying Lab	1
ENGL 202	Writing and Critical Inquiry	3
	Total Hours	16

YEAR 3

Fall		
Course #	Course Name	Hours
MATH 320	Ordinary Differential Equations	3
ENGR 411	Engineering Numerical Analysis	3
ENGR 365	Global Engineering & Tech.	3
CE 390	Environmental Issues in CE	3
Perspective		3
	Total Hours	15
Summer		
CE 483	CE 483 Civil Engineering Internship	2

Spring		
Course #	Course Name	Hours
ENGR 350	Engr Prac & Principles III	3
ME 301	Engineering Mechanics: Dynamics	3
CE 300	Hydraulics & Hydrology	3
CE 310	Structural Engineering	3
Perspective		3
	Total Hours	15

YEAR 4

Fall		
Course #	Course Name	Hours
CE 400	Construction Project Mgt.	3
ET 436	Eng. Economic Analysis	3
CE 330	Geotechnical Engineering	3
CE 320	Transportation & Infra. Eng	3
Perspective		3
	Total Hours	15

Spring		
Course #	Course Name	Hours
CE 450	Civil Engineering Capstone Project	3
Tech Elective	(Advanced Engineering Topic)	3
Perspective		3
ULP		3
	Total Hours	12

Notes:

- Total for degree: 126 Credit Hours
- Minimum GPA in major: 2.30

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.

ABET Engineering Accreditation Commission