CIVIL ENGINEERING, BS

Civil engineering students are interested in how buildings are designed, how they are built, and how they withstand the forces of nature. They are concerned about the environment and how to provide clean water and improve air quality. They want to be part of the solution for traffic congestion and improve how to move people and goods locally, nationally, and globally. They want to better protect people, their belongings, their homes and businesses from natural disasters and help to create a sustainable and resilient future through creative and technical solutions.

Accreditation

Information can be found on Department website.

FE Exam

All students are strongly encouraged to prepare for and pass the Fundamentals of Engineering (FE) examination prior to graduation.

Students earning the Bachelor of Science in Civil Engineering (BS) degree must complete all University, College and departmental degree requirements for a total of 125 credits. These include General Education requirements and the following major requirements and ancillary requirements. Additional information, including a semester-by-semester flowchart of degree requirements, can be found on the departmental website. Students completing the Bachelor of Science in Civil Engineering (BS) degree must comply with all College of Engineering academic policies and requirements.

Major and Ancillary Requirements		Hours
Major Courses		
ENGR 101	The World of Engineering	1
ENGR 104	Fundamentals of Engineering	3
ENGR 171	Large-Scale Eng. Graphics	1
AEM 201	Statics	3
AEM 250	Mechanics Of Materials I	3
AEM 264	Dynamics	3
AEM 311	Fluid Mechanics	3
CE 260	Civil & Constructn Surveying	2
CE 262	Civil & Constructn Engr Matls	3
CE 320	Intro Environmental Engineerg	3
CE 331	Intro to Structural Eng.	3
CE 340	Geotechnical Engineering	4
CE 350	Intro. to Transportation Eng	3
CE 366	Intro to Const. Eng.	3
CE 378	Water Resources Engineering	3
CE 401 or CE 403	Capstone Design Site: Civil Capstone Design: Building CivE	4
Engineering Systems Elective		3
ECE 320 or ME 215 or ME 216	Fundmtl Electrical Engr Thermodynamics I Thermal Engineering Survey	
GES 255	Engineering Statistics I	3
Design Elective (choose two)		6
CE 424 or CE 425 or CE 433 or CE 434 or CE 435 or CE 436 or CE 437 or CE 438 or CE 439 or CE 442 or CE 444 or CE 451 or CE 459 or CE 461 or CE 462 or CE 471 or CE 475 or CE 476 or CE 480 or CE 485	Water And Wastewater Treatment Air Quality Engineering Reinf Concrete Struct I Structural Steel Design I Concrete Materials Wood Structural Design Reinforced Concrete Struct II Struct Steel Design II Wood & Masonry Structures Waste Containmnt Facilty Foundation Engineering Roadway Intersection Dsgn Pavement Design and Rehab Horizontl Construction Methods Vertical Construction Methods Open Channel Flow Hydrology Process Hydrology Forensic Engineering Const. Site Erosion Control	
General Elective		9
General Elective options include courses in the below subjects from course numbers 300 to 499, except 397. US and Global Citizenship designated courses can be used for this requirement or the General Education requirement, but not both. Students must meet prerequisites required by the selected course.		
AEM, CHE, CE, CS, ECE, ENGR, GES, ME, MFE, MTE, AC, BSC, CH, EC, FI, GBA, GEO, GY, MGT, MS, MKT, OM, PH		
	Credit Hours Subtotal:	66
Ancillary Courses		
CH 101 or CH 117	General Chemistry Honors General Chemistry	4
MATH 125 or MATH 145	Calculus I Honors Calculus I	4
MATH 126 or	Calculus II	4

MATH 146	Honors Calculus II	
MATH 227 or	Calculus III	4
MATH 247	Honors Calculus III	
MATH 238	Appld Diff Equations I	3
PH 105 or	General Physics W/Calc I	4
PH 125	Honors Gen Ph W/Calculus	
PH 106 or	General Physics W/Calc II	4
PH 126 or	Honors Gen Ph W/Calculus II	
CH 102 or	General Chemistry	
CH 118	Honors General Chemistry	
Approved Science		4
Any core curriculum Natural Science designated course except BSC 108, BSC 109, CH 101, CH 104, CH 117, PH 101, PH 102, PH 105, PH 115, PH 125.		
	Credit Hours Subtotal:	31

General Education Courses
The specific courses each student completes in order to fulfill the University of Alabama's general education requirements will depend upon the particular degree program in which the student is enrolled. To determine how these general education requirements are integrated into your program of study, review your semester-by-semester flowchart and discuss with your academic advisor.

All Civil Engineering students are strongly encouraged to prepare for and pass the Fundamentals of Engineering (FE) examination prior to graduation. A graduate of the program who has passed the FE exam would then be an engineer intern under Model Law as maintained by the National Council of Examiners for Engineering and Surveying (ncees.org). It is recommended that the FE be taken the semester prior to graduation.

Civil engineering provides a broad spectrum of career opportunities including water resources engineer, structural engineer, transportation engineer, environmental engineer, geotechnical engineer, construction engineer, site or urban planning engineer and architectural engineer. In addition, civil engineering graduates can use their technical knowledge and skills for entry into other professions such as medicine or law.

Types of Jobs Accepted

Graduates are design engineers and field engineers. They work in engineering sales and technical support. From small local firms to large multi-national firms, from specialty consulting to full-service design-build, from industry to government to public service, graduates accept offers from many different types of employers. Many get graduate degrees in civil or environmental engineering or go on to medical or law school.

Jobs of Experienced Alumni

Civil engineers often become community leaders. Understanding the built environment and how to make cities and structures more energy efficient, environmentally friendly and sustainable, alumni are well positioned to lead society in resolving many of the issues important to the future. Graduates often own design firms, move into corporate management, become civic leaders through state and federal public service, become research and development engineers and are entrepreneurs in business development.

Learn more about opportunities in this field at the Career Center