

ENVIRONMENTAL ENGINEERING, BS

Environmental engineers are interested in how natural and managed systems respond to physical, chemical and biological process in order to reduce to the impact of industrialized society on human health and the environment. Environmental engineers engage in developing next generation integrated waste management systems, integrated water reuse and sustainable cities.

Program Educational Objectives

The educational objectives of the University of Alabama's Bachelor of Science in Environmental Engineering (BSEnvE) program is to have graduates who, within a few years of graduation, are in demand and lead fulfilling professional careers, in their chosen area of professional practice, through their demonstrated abilities to:

1. Apply foundational knowledge of mathematics, science, humanities, and social sciences; and
2. Synthesize technical knowledge of engineering analysis and design to identify, formulate, and solve problems; and
3. Employ their professional practice skills.

Student Outcomes

Students, upon completion of the BSEnvE program, will be able to:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. An ability to apply engineering design to produce solutions that met specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences.
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental and societal contexts.
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.
7. An ability to require and apply new knowledge as needed, using appropriate learning strategies.

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

Environmental Engineering Curriculum

Freshman

Fall	Hours	Spring	Hours
CE 121 or ENGR 111	1	ENGR 171	1
ENGR 103 or 123	3	MATH 126 or 146	4
MATH 125 or 145	4	PH 105 or 125	4
EN 101	3	EN 102	3

CH 100, 101, or 117	4	History (HI) or social and behavioral sciences (SB) elective ^{1,4}	3
		15	15

Sophomore

Fall	Hours	Spring	Hours
CE 260	2	CE 262	3
AEM 201	3	AEM 250	3
MATH 227 or 247	4	AEM 264	3
GES 255	3	MATH 238	3
Approved natural science (N) elective ²	4	CH 102 or 118	4
		16	16

Junior

Fall	Hours	Spring	Hours
CE 320	3	CE 340	4
BSC 114 & BSC 115	1-4	CE 378	3
AEM 311	3	CE 425	3
COM 123 or 124	3	History (HI) or social and behavioral sciences (SB) elective ^{1,4}	3
History (HI) or social and behavioral sciences (SB) elective ^{1,4}	3	ME 215 or 216	3
		13-16	16

Senior

Fall	Hours	Spring	Hours
Senior (plan of study) elective ³	3	CE 405	4
CE 422	3	Senior (plan of study) elective ³	6
CE 424	3	CE 420	3
CE 475	3	Humanities (HU), literature (L), or fine arts (FA) elective ^{1,4}	3
Humanities (HU), literature (L), or fine arts (FA) elective ^{1,4}	3		
		15	16

Total Hours: 122-125

Footnotes

¹ Students are encouraged to consider: CE 220 Society Infrastructure & Environment and EC 110 Principles of Microeconomics as an SB or Foreign language as an HU.

² Approved Science Elective must be an "Earth" Science.

GEO 101 The Dynamic Earth
GEO 102 The Earth Through Time
GEO 104 Hazardous Earth
GEO 105 Sustainable Earth
GY 101 Atmospheric Proc & Patterns
GY 102 Earth Surface Processes
GY 207 Field Water and Climate

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³ See CCEE Department or Advisor.

⁴ The College of Engineering core curriculum requires a minimum of nine hours of HU, L, or FA courses and nine hours of HI or SB courses.

Students must satisfy the College of Engineering in-depth requirement (minimum of six hours in one core designation (HU, L, FA, HI or SB) in the same discipline (subject)).

[Click here for a list of UA Core Courses.](#)

The College of Engineering requires a grade of "C-" or better be earned in all courses that are a pre-requisite to classes used to fulfill degree requirements. If a grade lower than "C-" is received in a course that is a pre-requisite, that course must be repeated and a grade of "C-" or higher must be earned before enrolling in the subsequent course.

All environmental 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.

Related department policies and updates of catalog information are posted on the department website.

Environmental engineering provides a spectrum of career opportunities with consulting firms, public utilities, state and federal governments and industry. In addition, environmental engineering graduates can use their technical knowledge and skills for entry into other professions such as medicine, law, public and industrial health and natural resource management.

Learn more about opportunities in this field at the Career Center