
ENVIRONMENTAL ENGINEERING PROGRAM CHART

STUDENTS EARNING A BACHELOR DEGREE IN ENVIRONMENTAL ENGINEERING MUST COMPLETE A MINIMUM OF 15 UNITS OF STUDY, DISTRIBUTED AS FOLLOWS:

MATHEMATICS AND BASIC SCIENCE (4 Units Required)

Differential and integral calculus; differential equations	5/3 units
Statistics (MA 2611 recommended)	1/3 unit
Biology (BB)	1/3 unit
Chemistry (CH)	3/3 units
Earth science (GE 2341 recommended)	1/3 unit
Physics (PH, calculus-based)	1/3 unit

ADVANCED SCIENCE (1 Unit Required)

Must include 3/3 units of science in biology (BB) and chemistry (CH) with a minimum of 1/3 unit in BB and 1/3 unit in CH. Advanced BB courses must be at the 2000-level or higher.
Advanced CH courses include CH 1040 and CH courses at the 2000-level or higher.
Courses may not be double-counted toward the basic science requirement.

ENGINEERING SCIENCE AND DESIGN (6 Units Required;

5 1/3 units as arranged below plus 2/3 units free electives in ES&D at the 2000-level or above).

Please consult the program distribution requirements for detailed information on course requirements and selection.

Engineering Science

Thermofluids	minimum 2/3 units
ES 3001 Introduction to Thermodynamics (or CHE 2013 or CH 3510)	
ES 3002 Mass Transfer	
ES 3004 Fluid Mechanics	
CHE 3501 Applied Mathematics in Chemical Engineering	

Mechanics and Materials	minimum 2/3 units
CE 2000 Analytical Mechanics I (or ES 2501)	
CE 2001 Analytical Mechanics II (or ES 2502)	
ES 2001 Introduction to Material Science	
ES 2503 Introduction to Dynamic Systems	

Core Environmental Engineering

	minimum 3/3 units
CHE 2011 Chemical Engineering Fundamentals	
CE 3059 Environmental Engineering	
CE 3062 Hydraulics in Civil Engineering	
CHE 3201 Kinetics and Reactor Design	

Environmental Engineering Electives

Water Quality and Resources	minimum 3/3 units
CE 3060 Water Treatment	
CE 3061 Wastewater Treatment	
CE 4060 Environmental Engineering Laboratory	
CE 4061 Hydrology	

Air and Land Environmental Systems	minimum 2/3 units
CE 3041 Soil Mechanics	
CE 3074 Environmental Analysis	
CE 4600 Hazardous and Industrial Waste Management	
CHE 3920 Air Quality Management	
CHE 4401 Unit Operations of Chemical Engineering I	

Environmental Management	minimum 1/3 unit
CE 3020 Project Management	
CE 3070 Urban and Environmental Planning	
CE 4071 Land Use Development and Controls	

Major Qualifying Project **3/3 units**

ADDITIONAL DEGREE REQUIREMENTS (4 units Required)

Humanities and Arts	6/3 units
Social Science‡	2/3 units
IQP	3/3 units
Physical Education	1/3 unit

‡ Many SS courses compliment topics in environmental engineering.
Courses in policy, regulations, law and environmental problems are recommended.