

Environmental Engineering BSEnVE

Note: This program is not accepting applications after fall 2023.

Overview

The **Bachelor of Science in Environmental Engineering** is offered by the Department of Civil and Environmental Engineering. The program prepares students for careers at the interface of human society and the natural environment, aiming to find solutions to the world's challenges of air, land, and water pollution and sustainability. The environmental engineering curriculum at Temple University provides a fully-integrated design experience within a multidisciplinary learning environment. Students begin their undergraduate studies with courses in advanced mathematics, chemistry and physics, as well as engineering. As they progress, the coursework becomes more discipline-specific and includes topics such as water and wastewater treatment, air pollution control, environmental hydrology, stormwater management and others.

Through laboratory courses, students will gain hands-on experience in environmental chemistry and microbiology, as well as with the physical-chemical processes utilized in water and wastewater treatment. The program culminates with a year-long senior design project where students work in interdisciplinary teams to tackle an engineering design project. The goals of the environmental engineering program are to prepare students to pursue an environmental engineering career in design, project planning or research, to go on to graduate education in their specific areas of interest, and to pass the required exams to obtain professional licensure.

Campus Location: Main

Program Code: EN-ENVE-BSEN

Accreditation

The Environmental Engineering (BS) program is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>, under the General Criteria and Program Criteria for Environmental Engineering and Similarly Named Engineering Programs. ABET is a non-profit and non-governmental accrediting agency for academic programs in the disciplines of applied science, computing, engineering, and engineering technology recognized by the Council for Higher Education Accreditation (CHEA).

+1 Bachelor to Master's Accelerated Degree Program

High-achieving undergraduates can earn both a bachelor's degree and a master's degree within five years. Students apply for this program in sophomore year, and four graduate-level courses are taken in place of undergraduate requirements during junior and senior years. After the bachelor's degree is earned, one graduate-level course is taken in the summer followed by full-time study in the subsequent Fall and Spring semesters to complete the master's degree study. The following accelerated program is available:

- Bachelor of Science in Environmental Engineering and Master of Science in Environmental Engineering

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Learn more about the Bachelor of Science in Environmental Engineering.

These requirements are for students who matriculated in academic year 2023-2024. Students who matriculated prior to fall 2023 should refer to the Archives to view the requirements for their Bulletin year.

Summary of Requirements

University Requirements

All new students are required to complete the university's General Education (GenEd) curriculum.

All Temple students must take a minimum of two writing-intensive courses for a total of at least six credits. The writing-intensive course credits are counted as part of the major; they are not General Education (GenEd) or elective credits. The writing-intensive courses must be completed at Temple University and students may not transfer in credits to satisfy this requirement. The specific writing-intensive courses required for this major are:

Code	Title	Credit Hours
ENGR 2196 or ENGR 2996	Technical Communication Honors Technical Communication	3
ENGR 4296 or ENGR 4996	Capstone Senior Design Project Honors Capstone Senior Design Project	3

Department Requirements

Code	Title	Credit Hours
Required Math & Basic Science Courses		
MATH 1041 or MATH 1941	Calculus I Honors Calculus I	4
MATH 1042 or MATH 1942	Calculus II Honors Calculus II	4
MATH 2043 or MATH 2943	Calculus III Honors Calculus III	4
MATH 2041 or MATH 2941 or MATH 3041 or MATH 3941	Differential Equations I Honors Differential Equations I Differential Equations I Honors Differential Equations I	3
CEE 3048	Probability, Statistics & Stochastic Methods	3
PHYS 1061 or PHYS 1961	Elementary Classical Physics I Honors Elementary Classical Physics I	4
PHYS 1062 or PHYS 1962	Elementary Classical Physics II Honors Elementary Classical Physics II	4
CHEM 1031 or CHEM 1951	General Chemistry I Honors General Chemical Science I	3
CHEM 1032 or CHEM 1952	General Chemistry II Honors General Chemical Science II	3
CHEM 1033 or CHEM 1953	General Chemistry Laboratory I Honors Chemical Science Laboratory I	1
CHEM 1034 or CHEM 1954	General Chemistry Laboratory II Honors Chemical Science Laboratory II	1
Required General Education Courses		
Select one of the following:		4
ENG 0802	Analytical Reading and Writing	
ENG 0812	Analytical Reading and Writing: ESL	
ENG 0902	Honors Writing About Literature	
IH 0851 or IH 0951	Intellectual Heritage I: The Good Life Honors Intellectual Heritage I: The Good Life	3
IH 0852 or IH 0952	Intellectual Heritage II: The Common Good Honors Intellectual Heritage II: The Common Good	3
GenEd 08xx or 09xx (U.S. Society)		3
GenEd 08xx or 09xx (Global/World Society)		3

GenEd 08xx or 09xx (Human Behavior)	3
GenEd 08xx or 09xx (The Arts)	3
GenEd 08xx or 09xx (Race and Diversity)	3

Required Environmental Engineering Courses

CEE 2712	Introduction to Environmental Engineering	3
CEE 2715	Principles of Sustainable Engineering	3
CEE 3712	Environmental Fluids and Contaminant Dynamics	3
or ENGR 3553	Mechanics of Fluids	
or ENGR 3953	Honors Mechanics of Fluids	
CEE 3715	Microbiological Principles of Environmental Engineering	3
CEE 3717	Chemical Principles of Environmental Engineering	3
CEE 3725	Water Quality and Analysis Lab	1
CEE 3727	Environmental Hydrology and Stormwater Management	3
or CEE 4631	Environmental Hydrology	
CEE 4711	Air Pollution Control System	3
CEE 4721	Water and Wastewater Systems Design	3
CEE 4722	Water/Wastewater Lab	1
CEE 4725	Environmental Systems Design	3
CEE 4741	Professional Issues I	1
CEE 4742	Professional Issues II	1
CEE/ENGR Technical Elective		3
CEE 4000+ Technical Elective		3
Free Elective		6

Required Engineering Courses

ENGR 1101	Introduction to Engineering & Engineering Technology	3
or ENGR 1901	Honors Introduction to Engineering	
ENGR 1102	Introduction to Engineering Problem Solving	3
ENGR 1117	Engineering Graphics	2
ENGR 2196	Technical Communication	3
or ENGR 2996	Honors Technical Communication	
ENGR 2334	Engineering Statics/Dynamics	3
ENGR 3001	Engineering Economics	3
ENGR 3033	Entrepreneurial Engineering	3
ENGR 4169	Engineering Seminar	1
ENGR 4173	Senior Design Project I for Environmental Engineering	2
ENGR 4296	Capstone Senior Design Project	3
or ENGR 4996	Honors Capstone Senior Design Project	

Total Credit Hours**128**

Suggested Academic Plan

Please note that this is a **suggested** academic plan. Depending on your situation, your academic plan may look different.

Bachelor of Science in Environmental Engineering

Suggested Plan for New Students Starting in the 2023-2024 Academic Year

Year 1		
Fall		Credit Hours
ENGR 1101	Introduction to Engineering & Engineering Technology	3
or ENGR 1901	or Honors Introduction to Engineering	
MATH 1041	Calculus I	4
or MATH 1941	or Honors Calculus I	
CHEM 1031	General Chemistry I	3
or CHEM 1951	or Honors General Chemical Science I	

CHEM 1033 or CHEM 1953	General Chemistry Laboratory I or Honors Chemical Science Laboratory I	1
ENG 0802 or ENG 0812 or ENG 0902	Analytical Reading and Writing or Analytical Reading and Writing: ESL or Honors Writing About Literature	4

Credit Hours	15
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Spring

ENGR 1117	Engineering Graphics	2
MATH 1042 or MATH 1942	Calculus II or Honors Calculus II	4
CHEM 1032 or CHEM 1952	General Chemistry II or Honors General Chemical Science II	3
CHEM 1034 or CHEM 1954	General Chemistry Laboratory II or Honors Chemical Science Laboratory II	1
PHYS 1061 or PHYS 1961	Elementary Classical Physics I or Honors Elementary Classical Physics I	4
ENGR 1102	Introduction to Engineering Problem Solving	3

Credit Hours	17
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Year 2**Fall**

ENGR 2334	Engineering Statics/Dynamics	3
PHYS 1062 or PHYS 1962	Elementary Classical Physics II or Honors Elementary Classical Physics II	4
MATH 2043 or MATH 2943	Calculus III or Honors Calculus III	4
CEE 2712	Introduction to Environmental Engineering	3
IH 0851 or IH 0951	Intellectual Heritage I: The Good Life or Honors Intellectual Heritage I: The Good Life	3

Credit Hours	17
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Spring

ENGR 2196 or ENGR 2996	Technical Communication or Honors Technical Communication	3
CEE 2715	Principles of Sustainable Engineering	3
MATH 2041 or MATH 2941 or MATH 3041 or MATH 3941	Differential Equations I or Honors Differential Equations I or Differential Equations I or Honors Differential Equations I	3
IH 0852 or IH 0952	Intellectual Heritage II: The Common Good or Honors Intellectual Heritage II: The Common Good	3
Free Elective		3

Credit Hours	15
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Year 3**Fall**

Select one of the following:		3
CEE 3712	Environmental Fluids and Contaminant Dynamics	
ENGR 3553	Mechanics of Fluids	
ENGR 3953	Honors Mechanics of Fluids	
CEE 3715	Microbiological Principles of Environmental Engineering	3
CEE 3725	Water Quality and Analysis Lab	1
CEE 3717	Chemical Principles of Environmental Engineering	3
CEE/ENGR Technical Elective		3
GenEd Breadth Course		3

Credit Hours	16
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Spring		
ENGR 3001	Engineering Economics	3
ENGR 4169	Engineering Seminar	1
CEE 3048	Probability, Statistics & Stochastic Methods	3
CEE 4721	Water and Wastewater Systems Design	3
CEE 4722	Water/Wastewater Lab	1
Select one of the following:		3
CEE 3727	Environmental Hydrology and Stormwater Management	
CEE 4631	Environmental Hydrology	
GenEd Breadth Course		3
Credit Hours		17
Year 4		
Fall		
CEE 4725	Environmental Systems Design	3
CEE 4741	Professional Issues I	1
CEE 4711	Air Pollution Control System	3
ENGR 4173	Senior Design Project I for Environmental Engineering	2
GenEd Breadth Course		3
GenEd Breadth Course		3
Credit Hours		15
Spring		
ENGR 3033	Entrepreneurial Engineering	3
ENGR 4296 or ENGR 4996	Capstone Senior Design Project or Honors Capstone Senior Design Project	3
CEE 4742	Professional Issues II	1
CEE 4000+ Technical Elective		3
GenEd Breadth Course		3
Free Elective		3
Credit Hours		16
Total Credit Hours		128