Bachelor of Science in Environmental Engineering

Learn more about the Bachelor of Science in Environmental Engineering.

Goals, Objectives & Design Integration

Environmental engineering professionals work 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, graduate education in their specific areas of interest, and to pass the required exams to obtain professional licensure.

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	Technical Communication	3
or ENGR 2996	Honors Technical Communication by Design	
ENGR 4296	Senior Design Project II	3
or ENGR 4996	Honors Senior Design Project II	

Department Requirements

Code	Title	Credit Hours
Required Math & Basic Science Courses		
MATH 1041	Calculus I	4
or MATH 1941	Honors Calculus I	
MATH 1042	Calculus II	4
or MATH 1942	Honors Calculus II	
MATH 2043	Calculus III	4
or MATH 2943	Honors Calculus III	
MATH 2041	Differential Equations I	3
or MATH 2941	Honors Differential Equations I	
or MATH 3041	Differential Equations I	
or MATH 3941	Honors Differential Equations I	
CEE 3048	Probability, Statistics & Stochastic Methods	3
PHYS 1061	Elementary Classical Physics I	4
or PHYS 1961	Honors Elementary Classical Physics I	
PHYS 1062	Elementary Classical Physics II	4
or PHYS 1962	Honors Elementary Classical Physics II	
CHEM 1031	General Chemistry I	3
or CHEM 1951	Honors General Chemical Science I	
CHEM 1032	General Chemistry II	3

or CHEM 1952	Honors General Chemical Science II	
CHEM 1033	General Chemistry Laboratory I	1
or CHEM 1953	Honors Chemical Science Laboratory I	
CHEM 1034	General Chemistry Laboratory II	1
or CHEM 1954	Honors Chemical Science Laboratory II	
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 Literature/Reading/Writing	
IH 0851	Intellectual Heritage I: The Good Life	3
or IH 0951	Honors Intellectual Heritage I: The Good Life	
IH 0852	Intellectual Heritage II: The Common Good	3
or IH 0952	Honors Intellectual Heritage II: The Common Good	
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
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 by Design	
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	Senior Design Project II	3

or ENGR 4996	Honors Senior Design Project II	
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.

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Requirements for New Students starting in the 2021-2022 Academic Year

Year 1		
Fall		**Credit Hours**
ENGR 1101 or 1901	Introduction to Engineering & Engineering Technology	3
MATH 1041 or 1941	Calculus I	4
CHEM 1031 or 1951	General Chemistry I	3
CHEM 1033 or 1953	General Chemistry Laboratory I	1
ENG 0802, 0812, or 0902	Analytical Reading and Writing [GW]	4
	Term Credit Hours	**15**
Spring		
ENGR 1117	Engineering Graphics	2
MATH 1042 or 1942	Calculus II	4
CHEM 1032 or 1952	General Chemistry II	3
CHEM 1034 or 1954	General Chemistry Laboratory II	1
PHYS 1061 or 1961	Elementary Classical Physics I	4
ENGR 1102	Introduction to Engineering Problem Solving	3
	Term Credit Hours	**17**
Year 2		
Fall		
ENGR 2334	Engineering Statics/Dynamics	3
PHYS 1062 or 1962	Elementary Classical Physics II	4
MATH 2043 or 2943	Calculus III	4
CEE 2712	Introduction to Environmental Engineering	3
IH 0851 or 0951	Intellectual Heritage I: The Good Life [GY]	3
	Term Credit Hours	**17**
Spring		
ENGR 2196 or 2996	Technical Communication [WI]	3
CEE 2715	Principles of Sustainable Engineering	3
MATH 2041, 2941, 3041, or 3941	Differential Equations I	3
IH 0852 or 0952	Intellectual Heritage II: The Common Good [GZ]	3
Free Elective		3
	Term Credit Hours	**15**
Year 3		
Fall		
CEE 3712	Environmental Fluids and Contaminant Dynamics	3
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
	Term Credit Hours	**16**
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
GenEd Breadth Course		3
Select one of the following:		3
CEE 3727	Environmental Hydrology and Stormwater Management	
CEE 4631	Environmental Hydrology	
	Term 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
	Term Credit Hours	**15**
Spring		
ENGR 3033	Entrepreneurial Engineering	3
ENGR 4296 or 4996	Senior Design Project II [WI]	3
CEE 4742	Professional Issues II	1
GenEd Breadth Course		3
CEE 4000+ Technical Elective		3
Free Elective		3
	Term Credit Hours	**16**
	Total Credit Hours:	**128**