

Tufts University – School of Engineering
Class of 2025 (requirements as established in the 2021-2022 Bulletin)
Bachelor of Science in Engineering – Program in Environmental Health (BSE-EH)
Major Requirement

* Courses that require a letter grade (i.e., no pass/fail)

The BSE-EH comprises credit requirements and course requirements as established by the School of Engineering and Department of Civil & Environmental Engineering. Students must satisfy the SOE requirements listed in the Credit Requirements box, as well as fulfill all course requirements. The School of Engineering requirements are shown in italics and fall outside second major double counting rules. SHU values listed for each course requirement reflect those associated with the corresponding Tufts course. Unless otherwise noted, course requirements may be satisfied with transfer courses having SHU values that are different than those shown here. In all cases, students should enter the SHUs received or earned in the correct SOE-Attribute column for a given course requirement to ensure they meet the credit requirements. For planning purposes, students completing the BSE-EH requirements with Tufts courses will earn at least 120 SHU.

	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
<i>Mathematics & Natural Sciences*</i>								
MATH 32 Calculus I	4							
MATH 34 Calculus II	4							
MATH 42 Calculus III	4							
MATH 51 Differential Equations	4							
BIO 13 Cells & Organisms w/ lab	5							
CHEM 1 Chem. Fund. w/ lab	5							
PHY 11 Gen. Physics I w/ lab	5							
BIO-CHEM-PHY Elective (a)	5							
Natural Science Elective (b)	3-5							
subtotal	≥39	-	-	-	-	-	-	

	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
<i>Economics*</i>								
EC 5 Principles of Economics or EC 8 Prin. Econ. w/ Env. App.	3-4							
EC 30 Environmental Economics	3							
subtotal	6-7	-	-	-	-	-	-	

	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
<i>Communication*</i>								
ENG 1* Expos. Writing or ENG 3	3							
CEE 187 GIS	3							
subtotal	6	-	-	-	-	-	-	

	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
<i>HASS Electives</i>								
Humanities Elective (c)	≥3							
Social Science Elective (d)	≥3							
≥24 SHU of SOE-HASS are required for the degree. List below courses that do not appear in the Economics, Communication or Program Elective sections (see note e).								
subtotal	≥6	-	-	-	-	-	-	

	SOE Attribute						Total
	E	C	M	NS	HASS	None	
<i>Credit Requirements</i>							
SOE Requirements	≥30		≥30		≥24	-	≥120
Student Totals							

	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
<i>Engineering Core*</i>								
EN 1 Applications in Eng.	3							
ES 2 Intro. Comp. in Eng. or CS 11 Intro. Comp. Sci.	4							
ES 8 Fluid Mechanics	3							
CEE 32 Eng. Sust. Resil. Soc.	3							
subtotal	13	-	-	-	-	-	-	

	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
<i>Environmental Health Core*</i>								
CEE 52 Pub. Health. Eng.	3							
CEE 57 Pub. Health	3							
CEE 154 Prin. Epidemiology	3							
CEE 156 Biostatistics	4							
CEE 94 Indep. Study	3							
subtotal	16	-	-	-	-	-	-	

	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
<i>Track Electives*</i>								
≥20 SHU Track Electives are required for the degree. List courses below (see note f).								
subtotal	≥20							

	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
<i>Program Electives*</i>								
≥9 SHU Program Electives are required for the degree. List courses below (see note g).								
subtotal	≥9							

	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
<i>Additional Electives</i>								
≥120 SHU are required for the degree. List additional courses below if needed.								
subtotal	-							

Abbreviations:

- SHU = Semester Hour Unit
- SOE = School of Engineering
- C = Courses having attribute SOE-Computing
- E = Courses having attribute SOE-Engineering
- M = Courses having attribute SOE-Mathematics
- NS = Courses having attribute SOE-Natural Sciences
- HASS = Course having attribute SOE-HASS (Humanities, Arts, and Social Sciences)
- None = Course without SOE attribute

Student and Advisor Notes:

BSE-EH Notes

(a) Biology, Chemistry or Physics Elective

Select From:

BIO 14, CHEM 2, PHY 12

(b) Natural Science Elective

Pre-Health Professions (PHP) students are required to take BIO 14, CHEM 2, and PHY 12, and thus should select one of these three courses.

Select From:

Any course having attribute SOE-Natural Sciences

(c) Humanities Elective

At least 3 SHU of Humanities are required. Requirement may not be satisfied with pre-matriculation credits, ENG 1, ENG 3, or a course satisfying the Social Sciences Elective (d).

Select From:

Any course having attribute SOE-HASS-Humanities

(d) Social Sciences Elective

At least 3 SHU of Social Sciences are required. Requirement may not be satisfied with pre-matriculation credits or a course satisfying the Humanities elective (c).

Select From:

Any course having attribute SOE-HASS-Social Sciences

(e) Humanities, Arts or Social Sciences Electives

Select From:

Any course having attribute SOE-HASS

Any course having attribute SOE-HASS-Humanities

Any course having attribute SOE-HASS-Arts

Any course having attribute SOE-HASS-Social Sciences

(f) Track Electives

At least 20 SHUs selected in consultation with your advisor. Students not following one of the four recommended tracks are required to include at least 6 SHU having attribute SOE-Engineering or SOE-Computing. Selected courses may not be used to fulfill any other course requirement.

Recommended tracks:

Global Health

ANTH 10 Intro. Soc. Anthro.

CEE 34 Environ. Chem.

CEE 150 Field Meth. Global Health

CEE 159 WASH Design

CH 1 Intro. Community Health

CH 108 Epidemics

Any course in Peace & Justice Stud.

Health Data Analysis

ES 55 Numerical Methods

CEE 80 Integ. Plan. Mgt.

CEE 132 Data Sci. for Sustainability

CEE 152 Environ. Health Data Lab

CS 15 Data Structures

CS 40 Mach. Struc. Prog.

Risk Assessment

ES 25 Environment & Technology

ENV 135 Environ. Policy

CEE 39 Intro. Haz. Mat. Mgt.

CEE 153 Health Eff. & Risk Assmt.

CEE 157 Environ. Toxicology

CEE 158 Occup. & Environ. Health

CEE 133 Water & Wastewater Dsn.

or CEE 143 Site Remediation

or CEE 138 Haz. Waste Treat. Tech.

Pre-Health Professional

complete BIO14, CHEM 2, PHY 12

CHEM 51 & CHEM 53 Organic Chem.

CH 2 Health Care in America

CH 106 Health, Ethics & Policy

BIO 152 Biochem & Cellular Met.

or CHEM 171 Biochemistry I

(g) Program Electives

At least 9 SHUs of coursework approved by your advisor. Approval is based on establishing a coherent rationale for the set of selected electives. Students pursuing the Pre-Health Professional track must include at least 3 SHU having attribute SOE-Engineering or SOE-Computing.

BSE-EH Course Selection Guidance

Fall Semester, First Year

Course	SHU	SOE Attribute
<i>EN 1 Introduction to Engineering</i>	3	Engineering
MATH 32 Calculus I	4	Mathematics
CHEM 1 Chemical Fundamentals with laboratory	5	Natural Sciences
<i>ENG 1 Expository Writing</i>	3	HASS
Semester Total SHU		15

Spring Semester, First Year

Course	SHU	SOE Attribute
<i>CS 11 Introduction to Computer Science</i>	4	Computing
MATH 34 Calculus II	4	Mathematics
PHY 11 General Physics I with laboratory	5	Natural Sciences
EC 8 Principles of Economics w/ Environmental Applications	3	HASS
Semester Total SHU		16

Fall Semester, Second Year

Course	SHU	SOE Attribute
CEE 32 Engineering for a Sustainable & Resilient Society	3	Engineering
CEE 57 Public Health	3	Engineering
MATH 42 Calculus III	4	Mathematics
BIO 13 Cells & Organisms with laboratory	5	Natural Sciences
EC 30 Environmental Economics	3	HASS
Semester Total SHU		18

Spring Semester, Second Year

Course	SHU	SOE Attribute
CEE 52 Public Health Engineering	3	Engineering
CEE 156 Biostatistics	4	Mathematics
BIO-CHEM-PHY Elective	5	Natural Sciences
MATH 51 Differential Equations	4	Mathematics
<i>HASS or Program Elective</i>	3-5	varies with selection
Semester Total SHU		19-21

Fall Semester, Third Year

Course	SHU	SOE Attribute
CEE 154 Principles of Epidemiology	3	Engineering
CEE 187 GIS	3	Engineering
ES 8 Fluid Mechanics	3	Engineering
Natural Science Elective	3-5	Natural Sciences
<i>HASS or Program Elective</i>	3-5	varies with selection
Semester Total SHU		15-19

Spring Semester, Third Year

Course	SHU	SOE Attribute
Track Electives	9-15	varies with selection
<i>HASS or Program Electives</i>	6-10	varies with selection
Semester Total SHU		15-21

Fall Semester, Fourth Year

Course	SHU	SOE Attribute
Track Electives	9-15	varies with selection
<i>HASS or Program Electives</i>	6-10	varies with selection
Semester Total SHU		15-21

Spring Semester, Fourth Year

Course	SHU	SOE Attribute
CEE 94 Independent Study	3	Engineering
Track Elective	3-5	varies with selection
<i>HASS or Program Elective</i>	6-10	varies with selection
Semester Total SHU		12-18