

**Tufts University – School of Engineering**  
**Class of 2025** (requirements as established in the 2021-2022 Bulletin)  
**Bachelor of Science in Civil Engineering (BSCE)**  
**Major Requirement**

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

The BSCE comprises credit requirements and course requirements as established by the School of Engineering and Department of Civil & Environmental Engineering. Students must satisfy the SOE and ABET-EAC 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 BSCE requirements with Tufts courses will earn at least 122 SHU.

Mathematics & Natural Sciences*	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
MATH 32 Calculus I	4							
MATH 34 Calculus II	4							
MATH 42 Calculus III	4							
MATH 51 Differential Equations	4							
CHEM 1 Chem. Fund. w/ lab	5							
PHY 11 Gen. Physics I w/ lab	5							
Earth or Biological Science Elec. (a)	3-5							
<b>subtotal</b>	<b>29-31</b>	-	-			-	-	

Mechanics*	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
ES 5 Statics & Dynamics	3							
ES 8 Fluid Mechanics	3							
ES 9 Strength of Materials	4							
CEE 12 Hydraulics	4							
CEE 22 Structural Analysis	4							
CEE 42 Intro. Geotech. Eng.	4							
<b>subtotal</b>	<b>22</b>	-		-	-	-	-	

Stewardship*	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
CEE 32 Eng. Sustain. & Resil. Soc.	3							
CEE 52 Public Health Engineering	3							
<b>subtotal</b>	<b>6</b>	-		-	-	-	-	

Analysis*	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
<i>ES 2 Intro. Comp. in Eng. or CS 11 Intro. Comp. Sci. (e)</i>	4							
ES 55 Numerical Methods	3							
ES 56 Prob. & Stats.	4							
CEE 80 Integ. Plan. & Mgt.	3							
Analysis Elective (f)	3							
<b>subtotal</b>	<b>17</b>				-	-	-	

Communication*	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
<i>ENG 1 Expos. Writing or ENG 3</i>	3							
EM 51 Engineering Management	3							
EM 52 Tech. & Mang. Commun.	3							
ES 18 CAD	4							
CEE 187 GIS or CEE 188 BIM	3							
<b>subtotal</b>	<b>16</b>	-		-	-		-	

Design*	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
<i>EN 1 Applications in Eng.</i>	3							
Design Elective (g)	3							
Design Elective (g)	3							
CEE 81 Capstone	4							
<b>subtotal</b>	<b>13</b>	-		-	-	-	-	

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

Technical Elective*	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
<i>≥12 SHU Technical Electives (see note h) are required for the degree. List courses below.</i>								
<b>subtotal</b>	<b>≥12</b>							

Credit Requirements	SOE Attribute						Total
	E	C	M	NS	HASS	None	
<i>SOE Requirements</i>	≥30		≥30		≥24	-	≥120
ABET-EAC Program Requirements	≥45		≥30		-	-	-
<b>Student Totals</b>							

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

**Abbreviations:**

- SHU = Semester Hour Unit
- SOE = School of Engineering
- ABET-EAC = Engineering Accreditation Commission of ABET
- 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:**

## BSCE Notes

(a) Earth or Biological Science Elective

Select From:

EOS 1, EOS 2, EOS 5, ES 11, BIO 13

(b) 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 (c).

Select From:

Any course having attribute SOE-HASS-Humanities

(c) 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 (b).

Select From:

Any course having attribute SOE-HASS-Social Sciences

(d) 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

(e) Students interested in data analytics should complete CS 11.

(f) Analysis Elective

Select from:

CEE 106, CEE 127, CEE 132, CEE 152, UEP 236, UEP 237

(g) Design Elective

Select From:

Environment & Health: CEE 133, CEE 136, CEE 143, CEE 159

Infrastructure: CEE 24, CEE 25, CEE 129, CEE 146, CEE 149

Water Resources: CEE 111, CEE 112

(h) Technical Elective

Courses selected may not be used to fulfill any other course requirement, including the Earth or Biological Science, Analysis, and Design Electives.

Select from:

Any course having attribute SOE-Engineering

Any course having attribute SOE-Computing

Any course having attribute SOE-Mathematics

Any course having attribute SOE-Natural Sciences

Any of the following additionally approved courses:

Anthropology: ANTH 24

Architecture: FAH 8, FAH 95, FAH 96, FAH 97, FAH 195

Economics: EC 5, EC 8, EC 30, EC 130, EC 132

Engineering Management: EM 54, EM 153, EM 155

Urban Planning: UEP 11, UEP 101, UEP 105, UEP 130, UEP 178, UEP 236, UEP 237, UEP 238

Visual Thinking: DRWM 26, DRWM 63, GRAM 20

## BSCE Course Selection Guidance

### Fall Semester, First Year

Course	SHU	SOE Attribute
EN 1 Introduction to Engineering	3	Engineering
MATH 32 Calculus I	4	Mathematics
PHY 11 General Physics I with laboratory	5	Natural Sciences
ENG 1 Expository Writing	3	HASS

**Semester Total SHU 15**

### Spring Semester, First Year

Course	SHU	SOE Attribute
CS 11 Introduction to Computer Science	4	Computing
MATH 34 Calculus II	4	Mathematics
CHEM 1 Chemical Fundamentals with laboratory	5	Natural Sciences
EOS 2 Environmental Geology with laboratory	4	Natural Sciences

**Semester Total SHU 17**

### Fall Semester, Second Year

Course	SHU	SOE Attribute
CEE 32 Engineering for a Sustainable & Resilient Society	3	Engineering
ES 5 Statics & Dynamics	3	Engineering
ES 18 CAD	4	Engineering
MATH 42 Calculus III	4	Mathematics
EM 52 Technical & Managerial Communication	3	HASS

**Semester Total SHU 17**

### Spring Semester, Second Year

Course	SHU	SOE Attribute
CEE 52 Public Health Engineering	3	Engineering
ES 9 Strength of Materials	4	Engineering
ES 56 Probability & Statistics	4	Mathematics
MATH 51 Differential Equations	4	Mathematics
HASS or Technical Elective	3-5	varies with selection

**Semester Total SHU 18-20**

### Fall Semester, Third Year

Course	SHU	SOE Attribute
CEE 22 Structural Analysis	4	Engineering
ES 8 Fluid Mechanics	3	Engineering
ES 55 Numerical Methods	3	Mathematics
HASS or Technical Elective	6-10	varies with selections

**Semester Total SHU 16-20**

### Spring Semester, Third Year

Course	SHU	SOE Attribute
CEE 12 Hydraulics	4	Engineering
CEE 42 Introduction to Geotechnical Engineering	4	Engineering
CEE 80 Integrated Planning & Management of Civil Systems	3	Engineering
EM 51 Engineering Management	3	Engineering
HASS or Technical Elective	3-5	varies with selection

**Semester Total SHU 17-19**

### Fall Semester, Fourth Year

Course	SHU	SOE Attribute
CEE 187 GIS or CEE 188 BIM	3	Engineering
Analysis Elective	3	Engineering
Design Elective	3	Engineering
HASS or Technical Elective	6-12	varies with selections

**Semester Total SHU 15-21**

### Spring Semester, Fourth Year

Course	SHU	SOE Attribute
CEE 81 Capstone	4	Engineering
Design Elective	3	Engineering
HASS or Technical Elective	9-15	varies with selections

**Semester Total SHU 16-21**