

Tufts University – School of Engineering
Class of 2024
Bachelor of Science in Mechanical Engineering (BSME)
Major Requirement

School of Engineering Requirements shown in italics
** Courses that require a letter grade (i.e., no pass/fail)*

The BSME comprises credit requirements and course requirements as established by the School of Engineering and Department of Mechanical Engineering. Students must satisfy the SOE and ABET-EAC requirements listed in the Credit Requirements box, as well as fulfill all course requirements. 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 BSME requirements with Tufts courses will earn at least 123 SHU.

Mathematics & Natural Sciences*	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
MATH 32 Calculus I	3							
MATH 34 Calculus II	3							
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							
BIO-CHEM-PHY Elective (a)	3-5							
Prob., Stats., or Num. (b)	3-4							
subtotal	30-33	-	-	-	-	-	-	-

Materials & Manufacturing*	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
ME 10 Mat. & Manufac. I	4							
ME 11 Mat. & Manufac. II	3							
subtotal	7	-	-	-	-	-	-	-

Mechanics*	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
ME 20 Mechanics I	3							
ME 21 Mechanics II	3							
subtotal	6	-	-	-	-	-	-	-

Engineering Fundamentals*	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
EN 1 Applications in Eng.	3							
ES 2 Intro. Comp. in Eng. or COMP 11 Intro. Comp. Sci.	4							
subtotal	7	-	-	-	-	-	-	-

Robotics*	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
ME 30 EM Sys. & Robotics I	4							
ME 31 EM Sys. & Robotics II	3							
subtotal	7	-	-	-	-	-	-	-

HASS & Unrestricted Electives	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
ENG 1* Expos. Writing or ENG 3	3							
Humanities Elective (c)	≥3							
Social Science Elective (d)	≥3							
HASS Elective (e)								
HASS Elective (e)								
HASS Elective (e)								
Unrestricted Elective (f)	≥1							
Unrestricted Elective (f)	≥1							
≥24 SHU of SOE-HASS are required for the degree. List below additional courses (see note e).								
subtotal	≥24	-	-	-	-	-	-	-

Engineering Design*	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
ME 40 Engineering Design I	4							
ME 41 Engineering Design II	3							
subtotal	7	-	-	-	-	-	-	-

Thermal Fluid Systems*	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
ME 50 Thermal Fluid Sys. I	3							
ME 51 Thermal Fluid Sys. II	4							
subtotal	7	-	-	-	-	-	-	-

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

Program Electives*	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
Technical Elective (g)	≥3							
Technical Elective (g)	≥3							
ME Elective (h)	≥3							
ME Elective (h)	≥3							
ME Elective (h)	≥3							
ME Elective (h)	≥3							
ME Elective (h)	≥3							
subtotal	≥21	-	-	-	-	-	-	-

Engineering Synthesis*	SHU	SOE Attribute						Term
		C	E	M	NS	HASS	None	
ME 70 Instrum. & Experiments	4							
ME 74 Senior Design Project	3							
subtotal	7	-	-	-	-	-	-	-

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:

BSME Notes

- (a) BIO-CHEM-PHY Elective
Courses selected may not be used to fulfill any other course requirement.
Select From:
BIO13, CHEM 2, ES 11, PHY 12
- (b) Probability, Statistics, or Numerical Methods Elective
Courses selected may not be used to fulfill any other course requirement.
Select From:
EE 24, ES 55, ES 56, ES 101, MATH 125, MATH 165, MATH 166, ME 102
- (c) Any course having the attribute SOE-HASS-Humanities. This elective may not be satisfied with pre-matriculation credits, ENG 1, or ENG 3.
- (d) Any course having the attribute SOE-HASS-Social Sciences. This elective may not be satisfied with pre-matriculation credits.
- (e) HASS Electives
Courses selected may not be used to fulfill any other course requirement.
Select From:
Any course having the attribute SOE-HASS
Any course having the attribute SOE-HASS-Humanities
Any course having the attribute SOE-HASS-Social Sciences
Any course having the attribute SOE-HASS-Arts
- (f) Unrestricted Elective
Any course of at least 1 SHU. Courses may not be used to fulfill any other course requirement.
- (g) Technical Electives
Courses selected may not be used to fulfill any other course requirement.
Select any course of 3 SHU or more from:
Any course having attribute SOE-Computing
Any course having attribute SOE-Engineering, except ES 3, ES 5, ES7, ES 8, ES 9, or ES 10
Any course having attribute SOE-Mathematics
Any course having attribute SOE-Natural Sciences
- (h) Mechanical Engineering Electives
Courses selected may not be used to fulfill any other course requirement.
Select any course of 3 SHU or more from:
Any ME course, except ME 90 and ME 99

BSME Course Selection Guidance

Fall Semester, First Year

Course	SHU	SOE Attribute
EN 1 Introduction to Engineering	3	Engineering
MATH 32 Calculus I	3	Mathematics
PHY 11 General Physics I with laboratory	5	Natural Sciences
ENG 1 Expository Writing	3	HASS
Semester Total SHU		14

Spring Semester, First Year

Course	SHU	SOE Attribute
ES 2 Introduction to Computing in Engineering or COMP 11 Introduction to Computer Science	4	Computing
MATH 34 Calculus II	3	Mathematics
CHEM 1 Chemical Fundamentals with laboratory	5	Natural Sciences
HASS Elective	3-5	varies with selection
Semester Total SHU		15-17

Fall Semester, Second Year

Course	SHU	SOE Attribute
ME 10 Materials & Manufacturing I	4	Engineering
ME 20 Mechanics I	3	Engineering
MATH 51 Differential Equations	4	Mathematics
BIO-CHEM-PHY Elective	3-5	Natural Sciences
HASS Elective	3-5	HASS
Semester Total SHU		17-21

Spring Semester, Second Year

Course	SHU	SOE Attribute
ME 21 Mechanics II	3	Engineering
ME 40 Engineering Design I	4	Engineering
ME 50 Thermal Fluids Systems I	3	Engineering
MATH 42 Calculus III	4	Mathematics
HASS Elective	3-5	HASS
Semester Total SHU		17-19

Fall Semester, Third Year

Course	SHU	SOE Attribute
ME 30 Electromechanical Systems & Robotics I	4	Engineering
ME 41 Engineering Design II	3	Engineering
ME 51 Thermal Fluid Systems II	4	Engineering
Probability, Statistics, or Numerical Methods Elective	3-4	varies with selection
HASS Elective	3-5	HASS
Semester Total SHU		17-20

Spring Semester, Third Year

Course	SHU	SOE Attribute
ME 11 Materials & Manufacturing II	3	Engineering
ME 31 Electromechanical Systems & Robotics II	3	Engineering
ME 70 Instruments & Experiments	4	Engineering
ME Elective	3	Engineering
HASS Elective	3-5	HASS
Semester Total SHU		16-18

Fall Semester, Fourth Year

Course	SHU	SOE Attribute
ME 74 Senior Design Project	3	Engineering
ME Elective	3	varies with selection
ME Elective	3	varies with selection
Unrestricted Elective	3-5	varies with selection
Technical Elective	3-5	varies with selection
Semester Total SHU		15-19

Spring Semester, Fourth Year

Course	SHU	SOE Attribute
ME Elective	3	varies with selection
ME Elective	3	varies with selection
Technical Elective	3-5	varies with selection
Unrestricted Elective	3-5	varies with selection
Semester Total SHU		12-16