

B.S. Mechanical Engineering

Including the University General Education Requirements listed elsewhere (8 of the 9 General Education Objectives, a minimum of 36 credits--see the General Education Requirements (<https://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/>) in the Academic Information section of this catalog), the program of study for the Bachelor of Science in Mechanical Engineering degree totals a minimum of 120 credits as follows:

General Education

The listing below includes program requirements that also fulfill General Education requirements.

Code	Title	Credits
Objective 1		6
Objective 2		3
Objective 3- MATH 1170		4
Objective 4		6
Objective 5- CHEM 1111 & CHEM 1111L, PHYS 2211		9
Objective 6		6
Students must fulfill Objective 7 or Objective 8		3
Objective 7		
Objective 8		
Objective 9		3
Total Credits		40

Additional Mathematics and Science Course Requirements:

Code	Title	Credits
MATH 1170	Calculus I (Satisfies General Education Objective 3)	4
MATH 1175	Calculus II	4
MATH 2240	Linear Algebra	3
MATH 2275	Calculus III	4
MATH 3360	Differential Equations	3
CHEM 1111	General Chemistry I (Partially satisfies General Education Objective 5)	4
CHEM 1111L	General Chemistry I Lab (Partially satisfies General Education Objective 5)	1
PHYS 2211	Engineering Physics I (Partially satisfies General Education Objective 5)	4
The three previous courses together satisfy Objective 5.		
PHYS 2212	Engineering Physics II	4
Total Credits		31

Mechanical Engineering Course Requirements:

Code	Title	Credits
CE/ME 2210	Engineering Statics ¹	3
CE/ME 3350	Mechanics of Materials ¹	3
CE 3360	Engineering Economics	2-3
or CE 3361	Engineering Economics and Management	
ME 1105	Solid Modeling	2
ME 1165	Structured Programming	2
CE/ME 2220	Engineering Dynamics ¹	3
ME 3307	Thermodynamics ¹	3

ME 3320	Kinematics and Dynamics of Machinery ¹	3
ME 3322	Mechanical Engineering Materials	3
ME 3323	Machine Design	3
ME 3325	Advanced Machine Design	3
CE/ME 3341	Fluid Mechanics ¹	3
ME 4406	Measurement Systems Laboratory	2
ME 4440	Vibration Analysis	3
ME 4443	Thermal Fluids Laboratory	1
ME 4463	Mechanical Systems Design	3
ME 4465	Thermal Fluid System Design	3
ME 4473	Mechanical Control Systems	3
ME 4476	Heat Transfer	3
ME 4496A	Project Design I	3
ME 4496B	Project Design II	3
ME Electives ²		6
Total Credits		63-64

¹ Course may involve evening examinations and/or presentations.

² Students are to consult with their advisors and choose courses that will complement their engineering education.

For students interested in focusing their ME degree in the *Systems* area, suggested electives are:

Code	Title	Credits
MATH 3350	Statistical Methods	3
MATH 3352	Introduction to Probability	3
ME 3355	System Dynamics	3
ME 4415	Model Theory	3
ME 4421	Engineering Modeling, Analysis, & Simulation	3
ME 4425	Mechatronics	3
ME 4464	Engineering Numerical Techniques	3

For students interested in focusing their ME degree in the *Thermal/Fluids* area, suggested electives are:

Code	Title	Credits
ME 3355	System Dynamics	3
CE 4435	Hydraulic Design	3
ME 4451	Compressible Fluid Flow	3
ME 4421	Engineering Modeling, Analysis, & Simulation	3
ME 4464	Engineering Numerical Techniques	3

For students interested in focusing their ME degree in the *Robotics and Mechanical Design* area, suggested electives are:

Code	Title	Credits
CE 4431	Advanced Mechanics of Solids	3
ME 3353	Manufacturing Processes	3
ME 4425	Mechatronics	3

ME 4421	Engineering Modeling, Analysis, & Simulation	3
ME 4464	Engineering Numerical Techniques	3

For students interested in focusing their ME degree in the Energy area, suggested electives are:

Code	Title	Credits
ME 4421	Engineering Modeling, Analysis, & Simulation	3
ME 4464	Engineering Numerical Techniques	3
NE 3301	Nuclear Engineering I	3
NE 3302	Nuclear Engineering II	3
NE 4419	Energy Systems and Nuclear Power	3

Degree Totals

Code	Title	Credits
Program Admission Requirements		0
General Education		40
Major Requirements (Required General Education credits removed)		81-82
Free Electives		0
Total Credits		121-122

ISU Degree Requirements (<http://coursecat.isu.edu/undergraduate/degreerequirements/>)

ISU General Education (<http://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/>)

Major Academic Plan (MAP) (<https://www.isu.edu/advising/maps/>)