

**Bachelor of Science in Mechanical Engineering  
2024-2025**

**Freshman Year**

<b>Fall Semester</b>	<b>Hrs</b>	<b>Spring Semester</b>	<b>Hrs</b>
CHEM 1011, Lab. for General Chemistry I	1	**Science Elective	4
CHEM 1013, General Chemistry I	3	ENG 1013, Composition II	3
ENG 1003, Composition I	3	ENGR 1412, Software Applications for Engineers	2
ENGR 1402, Concepts of Engineering	2	MATH 2214, Calculus II	4
MATH 2204, Calculus I	4	PHYS 2034, University Physics I	4
COMS 1203, Oral Communication	3		
	<hr/> 16		<hr/> 17

**Sophomore Year**

<b>Fall Semester</b>	<b>Hrs</b>	<b>Spring Semester</b>	<b>Hrs</b>
ENGR 2401, Applied Engr. Statistics	1	ENGR 2411, Lab. for Mechanics of Materials	1
ENGR 2403, Statics	3	ENGR 2413, Mechanics of Materials	3
ENGR 2421, Lab. for Electric Circuits I	1	ENGR 3423, Dynamics	3
ENGR 2423, Electric Circuits I	3	MATH 4403, Differential Equations	3
MATH 3254, Calculus III	4	ME 2502, Solid Modeling for Mechanical Engineers	2
+Fine Arts elective	3	ME 3503 Introduction to Materials Science	3
	<hr/> 15		<hr/> 15

**Junior Year**

<b>Fall Semester</b>	<b>Hrs</b>	<b>Spring Semester</b>	<b>Hrs</b>
ENGR 3433, Engineering Economics	3	ME 3513, Mechanical Vibrations	3
ME 4543, Machine Design	3	ME 3533, Engineering Thermodynamics II	3
ENGR 3443, Engineering Thermo. I	3	+Social Science elective	3
+Humanities elective	3	ME 4573, Mechanical Systems Design	3
ENGR 3471, Lab. for Fluid Mechanics	1	ENGR 4453, Num. Meth. for Engineers	3
ENGR 3473, Fluid Mechanics	3	ME 4553, Heat Transfer	3
	<hr/> 16		<hr/> 18

**Senior Year**

<b>Fall Semester</b>	<b>Hrs</b>	<b>Spring Semester</b>	<b>Hrs</b>
ENGR 4463, Senior Design I	3	ENGR 4482, Senior Design II	2
ME 4504, Process Monitoring and Control	4	++ME Elective	3
ENGR 4401, Senior Seminar	1	***Professional Development Elective	3
ME 4503, Fluid and Thermal Energy Systems	3	++ME Elective	3
ME 4613, Introduction to Mechatronics	3	ME 4603, Control Systems for ME	3
ME 4563, Intro. To Man. Processes	3		
	<hr/> 17		<hr/> 14

Total **128**

+ See General Education requirements for the College of Engineering.

\*\* CHEM 1023 General Chemistry II and CHEM 1021 Lab for Gen. Chem. II; OR PHYS 2044 University Physics II OR and Approved Science course

++ List of approved electives is given on page 2 of this document.

\*\*\* Approval of advisor required. Partial list of approved Professional Development Electives given in the catalog.

**General Education Curriculum for Engineering Baccalaureate Degrees**

	Semester Hours
Communication .....	9
ENG 1003, Composition I    ENG 1013, Composition II    COMS 1203, Oral Communication	
Mathematics .....	4
MATH 2204, Calculus I	
Arts and Humanities .....	6
Fine Arts. Select one of the following:	
MUS 2503, Fine Arts – Musical	
THEA 2503, Fine Arts – Theater	
ART 2503, Fine Arts – Visual	
Humanities. Select one of the following:	
ENG 2003, World Literature to 1660	
ENG 2013, World Literature since 1660	
PHIL 1103, Introduction to Philosophy	
Social Sciences .....	11
Select one of the following:	
HIST 2763, The United States to 1876,	
HIST 2773, The United States since 1876 ,	
POSC 2103, Introduction to United States Government	
Substitution of Higher Math (8hrs required): MATH 2214, Calculus II AND MATH 3254, Calculus III	
Science.....	8
CHEM 1013, General Chemistry I, and CHEM 1011, Laboratory for General Chemistry I,	
PHYS 2034, University Physics I	
	<hr/> 38

**Other rules:**

**A course may be counted in satisfaction of only one area requirement. With the exception of English courses (ENG), no more than two selections may have the same prefix.**

**Additional required support courses:**

MATH 4403, Differential Equations .....	3
Science Elective.....	4
	<hr/> 7

**Engineering Core Courses:**

ENGR 1402, Concepts of Engineering.....	2
ENGR 1412, Software Applications for Engineers.....	2
ENGR 2401, Applied Engineering Statistics.....	1
ENGR 2403, Statics.....	3
ENGR 3433, Engineering Economics.....	3
ENGR 4401, Senior Seminar.....	1
ENGR 4453, Numerical Methods for Engineers .....	3
ENGR 4463, Senior Design I .....	3
ENGR 4482, Senior Design II .....	2
	<hr/> 20

**Mechanical Engineering Major Courses:**

ENGR 2413 and ENGR 2411, Mechanics of Materials and Lab. for Mechanics of Materials .....	4
ENGR 2423 and ENGR 2421, Electric Circuits I and Laboratory for Electric Circuits I.....	4
ENGR 3423, Dynamics .....	3
ENGR 3443, Engineering Thermodynamics I.....	3
ENGR 3473 and ENGR 3471, Fluid Mechanics and Lab. for Fluid Mechanics .....	4
ME 2502, Solid Modeling for Mechanical Engineers.....	2
ME 3503, Introduction to Materials Science.....	3
ME 3513, Mechanical Vibrations .....	3
ME 3533, Engineering Thermodynamics II.....	3
ME 4503, Fluid and Thermal Energy Systems .....	3
ME 4504, Process Monitoring and Control .....	4
ME 4543, Machine Design .....	3
ME 4553, Heat Transfer.....	3
ME 4563, Introduction to Manufacturing Processes .....	3
ME 4573, Mechanical Systems Design .....	3
ME 4603, Control Systems for Mechanical Engineers.....	3
ME 4613, Introduction to Mechatronics.....	3
++ Mechanical Engineering Electives.....	6
Professional Development Elective .....	3
	<hr/> 63

++ List of approved ME electives: ME 3523, Introduction to Robotics Laboratory; ME 4523, Introduction to Finite Element Analysis (FEA); ME 4553 Introduction to Acoustics and Noise Control; ME 4583, Energy Conversion; ME 4593, Heating, Venting and Air Conditioning (HVAC)