

# ENGINEERING PHYSICS: MECHANICAL APPLICATIONS OPTION

## Bachelor of Science (BS)

This is a guide based on the 2024-2025 Undergraduate Bulletin and is subject to change. The time it takes to earn a degree will vary based on several factors such as dual enrollment, remediation, and summer enrollment. Students will meet with an academic advisor each semester and use Degree Works to monitor their individual progress.

### CURRICULUM CHECKLIST

"Critical Courses" are **italicized and bolded**. Data shows that students who have completed this course in the first two years and have earned the noted grade are most likely to complete this program of study.

#### 62 Hour Major – No minor required

A grade of 'C' or better is required in each course that is a prerequisite course.

- \_\_\_ EP100 Introduction to Engineering (3)
- \_\_\_ EP240 Circuit Analysis I (3)
- \_\_\_ EP242 Circuit Analysis II (3)
- \_\_\_ EP261 Engineering Mech: Statics (3)
- \_\_\_ EP262 Engineering Mech: Dynamics (3)
- \_\_\_ EP263 Mechanics of Materials (4)
- \_\_\_ EP361 Engineering Thermodynamics (3)
- \_\_\_ EP372 Signals and Systems (3)
- \_\_\_ EP374 Control Systems (3)
- \_\_\_ EP462 Materials Science (3)
- \_\_\_ EP480 Capstone Design I (2)
- \_\_\_ EP481 Capstone Design II (2)
- \_\_\_ PH230 General Physics I (5)
- \_\_\_ PH231 General Physics II (5)
- \_\_\_ PH345 Experimental Methods I (3)
- \_\_\_ PH360 Modern Physics (3)
- \_\_\_ PH371 Electromagnetics (3)

#### MECHANICAL APPLICATIONS OPTION (12 hours)

- \_\_\_ EP350 Mechanical Engineering Design (3)
- \_\_\_ EP363 Fluid Mechanics (3)
- \_\_\_ EP365 Heat Transfer (3)
- \_\_\_ EP463 Numerical and FE Methods (3)

#### Additional Requirements:

A grade of 'C' or better is required in each course that is a prerequisite course.

This sequence of mathematics courses constitutes a minor, but it must be declared.

- \_\_\_ CH184 General Chemistry I Lab (1)
- \_\_\_ CH185 General Chemistry (3)
- \_\_\_ **MA140 Analytic Geometry & Calculus I (5)**
- \_\_\_ MA145 Analytic Geometry & Calculus II (4)
- \_\_\_ MA223 Elementary Probability & Statistics (3)
- \_\_\_ MA244 Analytic Geometry & Calculus III (4)
- \_\_\_ MA350 Differential Equations (3)
- \_\_\_ MN120 Fund of Engr Design Processes (3)

#### Choose 3 hours:

- \_\_\_ EC215 Principles of Microeconomics (3)
- \_\_\_ MN220 Engineering Economic Analysis (3)

**NOTE: Seniors are required to take the Fundamentals of Engineering Exam in their last semester.**

**General Education Requirements** – some requirements may be fulfilled by coursework in major program

- Social and Behavioral Sciences – 6 hours
- Constitution Requirement – 3 hours
- Written Communication – 6 hours
- Oral Communication – 3 hours
- Natural Sciences – 7 hours (from two disciplines, one to include a lab)
- Mathematics – 3 hours
- Humanities & Fine Arts – 9 hours (from at least two disciplines)
- Additional requirements – 5 hours (to include UI100 for native students)
- Civics examination

\*Many major courses are on a set rotation and dependent on when prerequisites are completed. The actual semester a course is taken may vary based on the rotation.

### SAMPLE FOUR-YEAR PLAN

	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
<b>FIRST YEAR</b>	UI100	1	CH184/CH185	4
	EP100	3	EP240	3
	<b>MA140</b>	5	MA145	4
	EC215/MN220	3	PH230/030	5
	General Education	3		
<b>Total</b>	<b>15</b>		<b>Total</b>	<b>16</b>
<b>SECOND YEAR</b>	EP242	3	EN100	3
	EP261	3	EP262	3
	MA244	4	EP263	4
	PH231/031	5	MA350	3
	General Education	3	General Education	3
	<b>Total</b>	<b>18</b>	<b>Total</b>	<b>16</b>
<b>THIRD YEAR</b>	EC215/MN220	3	EP363	3
	EP361	3	EP365	3
	PH345	3	EP462	3
	General Education	3	PH360	3
			General Education	3
<b>Total</b>	<b>12</b>	<b>Total</b>	<b>15</b>	
<b>FOURTH YEAR</b>	EP372	3	EP350	3
	EP480	2	EP374	3
	MA223	3	EP463	3
	PH371	3	EP481	2
	General Education	3	General Education	3
	<b>Total</b>	<b>14</b>	<b>Total</b>	<b>14</b>

**Degree requirements for all students:** a minimum of 120 credit hours, completion of the General Education program, and completion of 39 senior division hours (300-599). Refer to the Undergraduate Bulletin or Degree Works for additional graduation requirements for your program.

A minimum 2.0 GPA in the major and overall are required to graduate with a BS degree.



Revised  
2/2/2024

# 2024-2025 degree map

