

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

2025-2026 Degree Requirements

TOTAL CREDITS FOR DEGREE: 133

Name:

ID Number:

UNIVERSITY CORE CURRICULUM: 43 cr.

Required Fundamental Courses.

COMM 101	Oral Comm. & Pres.	3 credits	
ENGL 101	College Composition	3 credits	
UNIV 101	City-University Life	3 credits	
Senior Capstone	EGR 402	3 credits	(Engineering Design II)

Choose Thematic Core courses in the following:

Explore the World - Choice 1		3 credits	
Explore the World - Choice 2		3 credits	
Investigate Science	CHEM 101	3 credits	(General Chemistry I)
Investigate Mathematics	MATH 190	4 credits	(Calculus I)
Interpret Creative Works		3 credits	
Understand People - Choice 1		3 credits	
Understand People - Choice 2		3 credits	
Succeed in Business		3 credits	
Appreciate & Apply the Arts		3 credits	
Discover Technology	EGR 101	3 credits	(Introduction to Engineering)

MAJOR REQUIREMENTS: 90 cr.

			EE 101	Circuit Analysis I	3
			EE 102	Circuit Analysis II	3
CHEM 102	General Chemistry II	3	EE 103	Circuit Analysis Laboratory I	1
CHEM 103	General Chemistry Lab I	1	EE 104	Circuit Analysis Laboratory II	1
CHEM 104	General Chemistry Lab II	1	ME 101	Statics	3
MATH 210	Calculus II	4	ME 102	Dynamics	3
MATH 230	Linear Algebra I	3	ME 212	Properties of Materials	3
MATH 300	Calculus III	4	ME 213	Strength of Materials	3
MATH 310	Differential Equations	3	ME 214	Strength of Materials Lab	1
MATH 330	Mathematical Statistics	3	ME 215	Thermodynamics I	3
PHYS 201	Fundamentals of Physics I	3	ME 315	Thermodynamics II	3
PHYS 202	Fundamentals of Physics II	3	ME 320	Kinematics of Machine Elem.	4
PHYS 103	Physics Laboratory I	1	ME 331	Engineering Des Pro/Eng	3
PHYS 104	Physics Laboratory II	1	ME 405	Heat Transfer	3
EGR 401	Engineering Design I	3	ME 406	Heat Transfer Lab	1
ET 204	Programming for Eng Tech	3	ME 411	Fluid Mechanics	3
ET 405	Fund. Of Engineering Exam I	0	ME 412	Fluid Mechanics Lab	1
ET 406	Fund. Of Engineering Exam II	0	ME 416	Dynamic Systems & Vibrations	3
			ME 421	Machine Design Theory & Project	4
			ME 424	Finite Element Analysis	3
			ME 425	FEA with ANSYS	2

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STUDENT OUTCOMES

Upon successful completion of this program:

- 1) Students will identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- 2) Students will apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- 3) Students will communicate effectively with a range of audiences.
- 4) Students will recognize ethical and professional responsibilities in engineering situations and make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- 5) Students will function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- 6) Students will develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.
- 7) Students will acquire and apply new knowledge as needed, using appropriate learning strategies.