BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

2026-2027 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.

CHEM 102	General Chemistry II	3
CHEM 103	General Chemistry Lab I	1
CHEM 104	General Chemistry Lab II	1
MATH 210	Calculus II	4
MATH 230	Linear Algebra I	3
MATH 300	Calculus III	4
MATH 310	Differential Equations	3
MATH 330	Mathematical Statistics	3
PHYS 201	Fundamentals of Physics I	3
PHYS 202	Fundamentals of Physics II	3
PHYS 103	Physics Laboratory I	1
PHYS 104	Physics Laboratory II	1
EGR 401	Engineering Design I	3
ET 204	Programming for Eng Tech	3
ET 405	Fund. Of Engineering Exam I	0
ET 406	Fund. Of Engineering Exam II	0

EE 101	Circuit Analysis I	3
EE 102	Circuit Analysis II	3
EE 103	Circuit Analysis Laboratory I	1
EE 104	Circuit Analysis Laboratory II	1
ME 101	Statics	3
ME 102	Dynamics	3
ME 212	Properties of Materials	3
ME 213	Strength of Materials	3
ME 214	Strength of Materials Lab	1
ME 215	Thermodynamics I	3
ME 315	Thermodynamics II	3
ME 320	Kinematics of Machine Elem.	4
ME 331	Engineering Des Pro/Eng	3
ME 405	Heat Transfer	3
ME 406	Heat Transfer Lab	1
ME 411	Fluid Mechanics	3
ME 412	Fluid Mechanics Lab	1
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.