BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

2024-2025 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	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	Mechanical Vibrations	3
ME 421	Machine Des Theory & Proj	4
ME 424	Finite Element Analysis	3
ME 425	FEA with ANSYS	2

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

2024-2025 Degree Requirements

STUDENT OUTCOMES

Upon successful completion of this program:

1) An ability to identify, formulate and solve complex engineering problems by applying principles of engineering, science and mathematics;

2) An ability to 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) An ability to communicate effectively with a range of audiences;

4) An ability to 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 factors;

5) An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment,establish goals, plan tasks, and meet objectives;

6) An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions; and

7) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.