

MECHANICAL ENGINEERING FIVE-YEAR ACCELERATED DEGREE BACHELOR AND MASTER OF SCIENCE PROGRAM

This concentrated program prepares students for constantly evolving needs for innovation in engineering design and development, across all technological and economic sectors. Graduates of the program will be awarded a BS and an MS in Mechanical Engineering. Students follow the standard undergraduate curriculum for the first three years, and then complete the BS degree requirements during their fourth year while taking graduate courses. During the fifth year the students take an additional eight courses to complete their MS degree. Graduates of the program will have mastered the knowledge and tools they need to create the next generation of Mechanical Engineering solutions to technological and societal problems.

Requirements

The Mechanical Engineering Department offers a five-year accelerated program through which students can obtain a Bachelor of Science degree as well as a Master of Science degree. The combined five-year program provides students with the opportunity to obtain these degrees in less time than would be required when pursuing them independently. The five-year program offers a simplified process for admission to the graduate school.

Students typically apply to the accelerated Master's degree program at the end of their third year. Students follow the standard undergraduate curriculum for the first three years, and then complete the baccalaureate degree requirements during their fourth year while taking up to two graduate courses. Up to six graduate course credits taken during the fourth year may be applied towards both the undergraduate and master's degree requirements. After receiving the baccalaureate degree, students will take an additional eight courses (for a total of ten courses) to complete the MS degree requirements in the fifth year. This accelerated degree is expected to be completed in five years without interruption.

Students accepted in this program are expected to have an overall GPA of 3.00 or higher and receive approval of the faculty advisor. Students will be awarded the BS in Mechanical Engineering when all requirements are met, usually at the end of the fourth year. The MS degree will be awarded when all graduate requirements of the combined degree curricula have been satisfied, usually at the end of the fifth year.

Accelerated Degree Curriculum

Students must develop a plan of study for the MS portion of the degree with approval of their academic advisor, including the following:

Code	Title	Credits
	Requirements for BS in Mechanical Engineering ¹	134
MEEG 5415	Engineering Applications of Numerical Methods	3

Select 7 additional graduate-level electives in Mechanical Engineering	21
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Total Credits	158
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¹ Requirements are the same as those listed for the BS, except that students may select up to two graduate-level electives to fulfill the major elective requirement.

A minimum of 30 credits must be completed at the graduate level.

Mechanical Engineering Electives

Possible electives may include:

Code	Title	Credits
Thermal Systems Electives		
MEEG 5323	Thermal Management of Microdevices	3
MEEG 5346	Energy Conversion	3
MEEG 5353	Computational Fluid Dynamics	3
MEEG 5354	Heat and Mass Transfer	3
MEEG 5362	Gas Turbine Aerodynamics	3
MEEG 5356	Renewable Wind Energy	3
MEEG 5364	Combustion	3
Mechanical Systems Electives		
MEEG 5301	Feedback and Control Systems	3
MEEG 5303	Industrial Automation	3
MEEG 5305	Design of Mechatronics Systems	3
MEEG 5312	Advanced Product Design and Manufacturing	3
MEEG 5319	Applications of Finite Element Analysis	3
MEEG 5321	Theory and Applications of Robot Kinematics	3
MEEG 5322	Advanced Dynamics	3
MEEG 5324	Micro and Nano Manufacturing	3
MEEG 5327	Fracture Mechanics	3
MEEG 5330	Mechanics of Composite Materials	3
MEEG 5372	Applications of Theory of Elasticity	3
MEEG 5376	Stability of Structures	3