Mechanical Engineering M.S.M.E. (Thesis)

Admission Requirements

Regular
1. Completed requirements for the bachelor’s degree or the equivalent in the proposed or closely related field of study in Mechanical Engineering.
2. A 2.75 (4.0 scale) cumulative grade point average or higher on courses in undergraduate work, or equivalent.
3. International students must meet College of Graduate Studies English Proficiency requirements (6.0 IELTS or 80 on TOFEL).

Provisional
A student may be granted provisional admission based upon the recommendation of the Master of Science in Mechanical Engineering Graduate Coordinator and department chair.

Non-Degree
Non-degree students are accepted on an individual basis as space is available.

Degree Requirements: 30 Credit Hours (Thesis) ¹

Credit Hours

Core Requirements
MENG 7137 Principles of Modeling and Simulation 3
TMAE 7136 Mechatronics I 3
TMAE 7530 Research in Applied Engineering 3

Restricted Elective courses at or above the 5000G level as contracted with the faculty advisor and degree coordinator 12

MENG 5134G Vehicle Dynamics
MENG 5135G Vibration and Preventive Maintenance
MENG 5136G Introduction to Finite Element Analysis
MENG 5137G Mechanical System Design
MENG 5138G Composite Materials: Manufacturing, Analysis, and Design
TMAE 5139G Renewable Energy
MENG 5233G Wind Energy
MENG 5234G Heating, Ventilating, and Air Conditioning
MENG 5237G Applied Combustion
MENG 5238G Engine Development and Performance
MENG 5239G Biofuels Development and Testing
MENG 5311G Automation and Computer Integrated Manufacturing Systems
MENG 5333G Robot Dynamics, Design and Analysis
MENG 5431G Compressible Flow
MENG 5432G Applied Computational Fluid Dynamics
MENG 5433G Analysis of Energy Systems
MENG 5536G Mechanical Controls
MENG 7136 Mechatronics I
MENG 7138 Mechatronics II

MENG 5434G Heat Transfer Principles and Applications
MENG 7431 Mechanics of Deformable Solids
MENG 7432 Fracture Mechanics
MENG 7890 Selected Topics in Mechanical Engineering
MENG 7891 Special Problems in Mechanical Engineering
MFGE 5333G Additive Manufacturing Studio
EENG 5341G Robotic Systems Design w/Lab
EENG 5342G Computer Systems Design w/Lab
EENG 5431G Control Systems with Lab
EENG 5532G Wireless Communications Wireless Communications
EENG 5540G Communication Systems Communication Systems w/Lab
TMFG 5133G Automated Manufacturing Systems
TMFG 5230G International Manufacturing
TMFG 5233G Manufacturing Applications in Information Technology

Capstone Activity
(Thesis)
MENG 7999 Thesis 6

Other Thesis Track Requirements: Comprehensive Exam
Comprehensive Exam

Total Credit Hours 30

¹ A minimum of 50% of courses for the Master of Science in Mechanical Engineering degree must be taken above the 5000G level.

Thesis
Each candidate for the Master of Science in Mechanical Engineering Thesis Track degree must complete a thesis on a subject approved by the adviser. The major professor supervises the research, directs the writing of the thesis, and approves the thesis in its final form. Prior to the final approval, the thesis is read by the thesis committee. The thesis must be defended in an oral examination before an approved committee prior to final approval and sign-off.

The style and format for the completed thesis shall follow that prescribed by the Director for the Master of Science in Mechanical Engineering degree. Procedural steps in the preparation of the thesis are as follows:

• The prospectus for the thesis shall be submitted to the major professor and thesis committee for approval.
• The student must prepare the thesis for electronic submission following the latest version of the Electronic Thesis and Dissertation (ETD): Student Guide to Preparation and Processing manual.
• The thesis must be electronically submitted to the ETD site for format check by the ETD format check submission deadline as stated in the University Calendar.
• The final corrected thesis must be electronically submitted to the ETD site by the ETD format check submission deadline as stated in the University Calendar. The final document must be electronically approved by the Thesis Committee.
• Thesis will be announced and defended by calendar.