



MASTER/DOCTOR OF ENGINEERING IN MECHANICAL ENGINEERING

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Master of Science in Mechanical Engineering and Doctor of Engineering

The Mechanical Engineering graduate program is student-centered, providing high-quality instruction in both theory and the latest engineering developments. All our full-time faculty hold doctorates in engineering, and most bring significant industrial experience to the classroom. For the working person, all our classes are held in the late afternoon and evening. Many of our full-time graduate students obtain paid internships in local industry for one or two terms during their course of study.

The Mechanical Engineering Department prides itself on the care and concern we provide to our students. Our graduates are prepared for a rewarding and exciting career in a wide variety of industries.

Admission Requirements

Admission to UDM Engineering programs requires an undergraduate degree in engineering with a minimum GPA of 3.0 on a 4.0 scale. GRE and TOEFL are not required for admission but may be helpful. However, international students are required to take an English exam to determine if they need English language classes.

Degree Requirements

The Master of Engineering in Mechanical Engineering may be completed through either a thesis or non-thesis plan. The thesis plan includes 24 credit hours of course work and six credit hours of thesis. The non-thesis plan consists of 30 credit hours of course work plus a 3-credit hour capstone design course. The project-based design course assesses the student's ability to synthesize material covered in the graduate curriculum.

The doctoral program requires 51 credit hours of coursework beyond the engineering baccalaureate. Additionally, 30 credit hours of dissertation are required.

All students are required to take at least one advanced mathematics course. Highly recommended are ENGR 5300

(Advanced Engineering Mathematics) or MTH 5270 (Probability and Statistics). Design of Experiments (ENGR 5020) is also required of all students. Each student must choose one of the following four concentrations and take at least two courses within that concentration:

Transportation Systems Concentration

MENG 5340 Finite Element Analysis
MENG 5580 Internal Combustion Engines I
MENG 5590 Internal Combustion Engines II
MENG 5720 Noise Vibration & Harshness
MENG 5760 Vehicle Dynamics

Manufacturing Systems Concentration

MENG 5300 Advanced Metal Cutting
MENG 5320 Advanced Metal Forming
MENG 5940 Manufacturing Systems
MENG 5900 Robotics

Mechatronics Systems Concentration

ENGR 5780 Mechatronics
ENGR 5790 Mechatronics: Simulation and Modeling
ENGR 5520 Sensors and Actuators
MENG 5900 Robotics

Thermal Systems and Alternative Energy Conversion Concentration

ENGR 5040 Conduction Heat Transfer
ENGR 5060 Convection Heat Transfer
ENGR 5080 Computational Fluid Dynamics
ENGR 5480 Advanced Fluid Mechanics
MENG 5810 Alternative Energy Systems

For Further information, please contact:

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International Students:

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