

# Master of Science in Mechanical Engineering – Manufacturing & Design Area

## No Thesis/No Report (Coursework-Only) Degree Requirements

- Total hours: 36 (minimum)
- Graduate hours: 30 (minimum); required M&D courses cannot be undergrad
- Mechanical Engineering hours: 24 (minimum)
- Manufacturing & Design hours: 18 (minimum); must take at least 3 hours core manufacturing and 3 hours core design
- Minor hours: 6 (minimum); courses outside M&D
- Grading: All M&D hours must be taken for a letter grade

### M&D Core Courses

#### **Manufacturing:**

- ME392Q.9 Additive Manufacturing
- ME392Q.11 High Throughput Nanopatterning
- ME392M.8 Med Device Design & Mfg
- ME392M.9 Precision Machine Design
- ME397 Additive Manufacturing Lab
- ME397 Bioinspired Micro/Nanostructures
- ME397 Data Analytics & Process Control in Semiconductor Mfg
- ME397 Optical Engineering
- ME397 Statistical Methods in Mfg
- ME397 Intro to Micro and Nano Mfg
- ME397 Polymer Nanocomposites
- ME397 X-ray Metrology for Materials and Manufacturing Engineering

#### **Design:**

- ME392M.6 Engineering Design Theory & Mathematical Techniques
- ME392M.7 Product Design, Development, & Prototyping
- ME392M.8 Medical Device Design and Mfg
- ME392M.9 Precision Machine Design
- ME397 Bioinspired Micro/Nanostructures
- ME397 Computational Methods for Engineering Design
- ME397 Data-Driven Design & Decision-Making in Complex Systems
- ME397 Theory/Design of Mechanical Measurements

#### **Other:**

- ME380Q-1 Engineering Analysis: Analytical Methods
- ME383Q-2 Dynamics of Mechanical Systems
- ME383Q-4 Modeling of Physical Systems
- ME384Q-3 Time Series Modeling, Analysis, & Control
- ME384Q-7 Stochastic Systems, Estimation, & Control
- ME 398S Assessment & Curriculum Design in Engineering
- ME 398T Supervised Teaching in Mechanical Engineering