MECHANICAL ENGINEERING: MODELING AND SIMULATION IN MECHANICAL ENGINEERING, M.S.

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (http://guide.wisc.edu/graduate/#policiesandrequirementstext), in addition to the program requirements listed below.

NAMED OPTION REQUIREMENTS

MODE OF INSTRUCTION

Face to Face  Evening/Weekend  Online  Hybrid  Accelerated
Yes  No  No  No  Yes

Mode of Instruction Definitions

Accelerated: Accelerated programs are offered at a fast pace that condenses the time to completion. Students are able to complete a program with minimal disruptions to careers and other commitments.

Evening/Weekend: Courses meet on the UW–Madison campus only in evenings and/or on weekends to accommodate typical business schedules. Students have the advantages of face-to-face courses with the flexibility to keep work and other life commitments.

Face-to-Face: Courses typically meet during weekdays on the UW-Madison Campus.

Hybrid: These programs combine face-to-face and online learning formats. Contact the program for more specific information.

Online: These programs are offered 100% online. Some programs may require an on-campus orientation or residency experience, but the courses will be facilitated in an online format.

CURRICULAR REQUIREMENTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>M E 903</td>
<td>Graduate Seminar (Two semesters are required and must be taken in the first two semesters.)</td>
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A minimum of 6 courses (18 credits total) must be taken from the courses listed:

M E 440  Intermediate Vibrations
M E 451  Kinematics and Dynamics of Machine Systems
M E 459  Computing Concepts for Applications in Engineering
M E 460  Applied Thermal / Structural Finite Element Analysis
M E 468  Computer Modeling and Simulation of Autonomous Vehicles and Robots
M E 531  Digital Design and Manufacturing
M E/COMP SCI/E C E 532  Matrix Methods in Machine Learning
M E 535  Computer-Aided Geometric Design
M E 548  Introduction to Design Optimization
M E/COMP SCI/ I SY E 558  Introduction to Computational Geometry
M E 564  Heat Transfer
M E 573  Computational Fluid Dynamics
M E 601  Special Topics in Mechanical Engineering (Applied & Computational Math w/Engineering Apps)
M E/B M E 603  Topics in Bio-Medical Engineering (Finite Element Method for Biomechanics)
M E/E C E 739  Advanced Robotics

Overall  3.00 GPA required.
Graduate GPA  This program follows the Graduate School's GPA Requirement policy (https://policy.wisc.edu/library/UW-1203).
Other Grade Requirements  Students may not have more than two incompletes on their record at any one time.
Assessments and Examinations  None.
Language  No language requirements.

REQUIRED COURSES

A minimum of 24 formal course credits are required (minimum of 15 credits in Mechanical Engineering (M E) taken at UW-Madison).

Acceptable courses are numbered 400 and above.

No thesis/research credits are permitted. Up to 3 credits of independent study are permitted but not required.

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Other Grade Requirements  Students may not have more than two incompletes on their record at any one time.
Assessments and Examinations  None.
Language  No language requirements.
Advisor Approval of Study Plan
The faculty advisor must always approve the courses a student takes in the MS program. Students should schedule an appointment with their adviser when selecting their courses. During the final semester, the faculty advisor will review the courses taken again and if approved, sign the warrant request form.

Other Policy
Students in this program may not take courses outside the prescribed curriculum without faculty advisor and program director approval. Students in this program cannot enroll concurrently in other undergraduate, graduate or certificate programs.