

MECHANICAL ENGINEERING, M.S.

The Department of Mechanical Engineering offers a number of master of science (M.S.) degree programs in Mechanical Engineering.

- M.S. Mechanical Engineering: Research (2 tracks) (<http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-ms/mechanical-engineering-research-ms/>)
 - Thesis
 - Independent Study (*Fall 2021 is the final term in which students can select this track. Students admitted to Spring 2022 and beyond will be required to follow the 'thesis' track.*)
- M.S. Mechanical Engineering: Accelerated Program (<http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-ms/mechanical-engineering-acelerated-program-ms/>)
- M.S. Mechanical Engineering: Automotive Engineering ([http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-automotive-engineering-ms/](http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-ms/mechanical-engineering-automotive-engineering-ms/))
- M.S. Mechanical Engineering: Modeling and Simulation in Mechanical Engineering (<http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-ms/mechanical-engineering-modeling-simulation-mechanical-engineering-ms/>)

The M.S. Mechanical Engineering degree with a named option in Research takes approximately two years to complete. The thesis track has a significant research component giving students valuable hands-on research experience with mentoring by faculty in the Department of Mechanical Engineering. The independent study track has a stronger focus on coursework but also requires at least 3 credits of independent study mentored by faculty in the Department of Mechanical Engineering. (*Fall 2021 is the final term in which students can select the 'independent study' track. Students admitted to Spring 2022 and beyond will be required to follow the 'thesis' track.*)

The M.S. Mechanical Engineering degree with named options in Accelerated Program; Automotive Engineering; and Modeling and Simulation in Mechanical Engineering; each take approximately 3 terms (1 calendar year) to complete. These three programs include only coursework.

All students are mentored by the world-class faculty in the mechanical engineering department at UW–Madison. For a list of mechanical engineering faculty along with faculty research interests, please visit our faculty directory (<https://directory.engr.wisc.edu/display.php/faculty/?page=me&search=faculty>). For more information on research areas see our page on research in Mechanical Engineering (<https://www.engr.wisc.edu/department/mechanical-engineering/research-in-mechanical-engineering/>).

ADMISSIONS

Students apply to the M.S. in Mechanical Engineering through one of the named options:

- M.S. Mechanical Engineering: Research (<http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-ms/mechanical-engineering-research-ms/>)
- M.S. Mechanical Engineering: Accelerated Program ([http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-acelerated-program-ms/](http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-ms/mechanical-engineering-acelerated-program-ms/))
- M.S. Mechanical Engineering: Automotive Engineering ([http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-automotive-engineering-ms/](http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-ms/mechanical-engineering-automotive-engineering-ms/))
- M.S. Mechanical Engineering: Modeling and Simulation in Mechanical Engineering (<http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-ms/mechanical-engineering-modeling-simulation-mechanical-engineering-ms/>)

FUNDING

GRADUATE SCHOOL RESOURCES

Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information (<https://grad.wisc.edu/funding/>) is available from the Graduate School. Be sure to check with your program for individual policies and restrictions related to funding.

PROGRAM RESOURCES

There are three mechanisms for Graduate Student funding through the university for Mechanical Engineering M.S. students:

1. Fellowships
2. Graduate assistantships: project assistantships, teaching assistantships, and research assistantships
3. Traineeships

Funding is awarded based on the qualifications of the student, the number of applicants, the amount of available funding, the number of continuing students receiving support, and the degree program a student is enrolled in. Fellowship and research assistantship funding is only considered for thesis-based M.S. students. You can apply for funding for research assistantships by contacting individual faculty members directly. Please check our website (<http://directory.engr.wisc.edu/me/faculty/>) to look for faculty (only those listed with titles of assistant professor, associate professor, or professor can serve as graduate student advisors). Search for faculty who have research interests that align closely with your own by viewing faculty directory entries, visiting the faculty's website (linked from the directory page), and reviewing publications by the faculty member. Once you have identified faculty with interests close to your own, you are encouraged to contact them by email to inquire regarding available research assistant positions. The admissions office does not know if a particular professor has research assistant positions available.

Students who apply to the department will be automatically considered for fellowship opportunities within the department. For information on applying for teaching assistant positions and for other information on funding please see the department website (<https://www.engr.wisc.edu/department/mechanical-engineering/contact/forms/>). (<https://sites.google.com/wisc.edu/meapplication/?pli=1&authuser=3>)

Students enrolled in the M.S. Mechanical Engineering named options in Accelerated Program; Modeling and Simulation in Mechanical

Engineering; and Automotive Engineering are not eligible to receive assistantships.

ADDITIONAL RESOURCES

FEDERAL LOANS

Students who are U.S. citizens or permanent residents may be eligible to receive some level of funding through the federal direct loan program. These loans are available to qualified graduate students who are taking at least 4 credits during the fall and spring semesters, and 2 credits during summer. Private loans are also available. Learn more about financial aid at their website (<https://financialaid.wisc.edu/>).

INTERNATIONAL STUDENT SERVICES FUNDING AND SCHOLARSHIPS

For information on International Student Funding and Scholarships visit the ISS website (<https://iss.wisc.edu/students/new-students/funding-scholarships/>).

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

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

MAJOR REQUIREMENTS CURRICULAR REQUIREMENTS

Requirements Detail

Minimum Credit Requirement

Minimum Residence Credit Requirement

Minimum Graduate Coursework Requirement

Overall Graduate GPA Requirement

Other Grade Requirements

Assessments and Examinations

Language Requirements

REQUIRED COURSES

Select a Named Option (p. 2) for required courses.

NAMED OPTIONS

A named option is a formally documented sub-major within an academic major program. Named options appear on the transcript with degree conferral.

View as listView as grid

- MECHANICAL ENGINEERING: ACCELERATED PROGRAM, M.S. ([HTTP://GUIDE.WISC.EDU/GRADUATE/MECHANICAL-ENGINEERING/MECHANICAL-ENGINEERING-MS/MECHANICAL-ENGINEERING-ACELERATED-PROGRAM-MS/](http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-ms/mechanical-engineering-acelerated-program-ms/))
- MECHANICAL ENGINEERING: AUTOMOTIVE ENGINEERING, M.S. ([HTTP://GUIDE.WISC.EDU/GRADUATE/MECHANICAL-ENGINEERING/MECHANICAL-ENGINEERING-MS/MECHANICAL-ENGINEERING-AUTOMOTIVE-ENGINEERING-MS/](http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-ms/mechanical-engineering-automotive-engineering-ms/))
- MECHANICAL ENGINEERING: MODELING AND SIMULATION IN MECHANICAL ENGINEERING, M.S. ([HTTP://GUIDE.WISC.EDU/GRADUATE/MECHANICAL-ENGINEERING/MECHANICAL-ENGINEERING-MS/MECHANICAL-ENGINEERING-MODELING-SIMULATION-MECHANICAL-ENGINEERING-MS/](http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-ms/mechanical-engineering-modeling-simulation-mechanical-engineering-ms/))
- MECHANICAL ENGINEERING: RESEARCH, M.S. ([HTTP://GUIDE.WISC.EDU/GRADUATE/MECHANICAL-ENGINEERING/MECHANICAL-ENGINEERING-MS/MECHANICAL-ENGINEERING-RESEARCH-MS/](http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-ms/mechanical-engineering-research-ms/))

POLICIES

Students should refer to one of the named options for policy information:

- M.S. Mechanical Engineering: Research (<http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-ms/mechanical-engineering-research-ms/>)
- M.S. Mechanical Engineering: Accelerated Program (<http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-ms/mechanical-engineering-acelerated-program-ms/>)
- M.S. Mechanical Engineering: Automotive Engineering (<http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-ms/mechanical-engineering-automotive-engineering-ms/>)
- M.S. Mechanical Engineering: Modeling and Simulation in Mechanical Engineering (<http://guide.wisc.edu/graduate/mechanical-engineering/mechanical-engineering-ms/mechanical-engineering-modeling-simulation-mechanical-engineering-ms/>)

PROFESSIONAL DEVELOPMENT

GRADUATE SCHOOL RESOURCES

Take advantage of the Graduate School's professional development resources (<https://grad.wisc.edu/pd/>) to build skills, thrive academically, and launch your career.

LEARNING OUTCOMES

1. Demonstrate a strong understanding of mathematical, scientific, and engineering principles in the field.
2. Demonstrate an ability to formulate, analyze, and independently solve advanced engineering problems.
3. Apply the relevant scientific and technological advancements, techniques, and engineering tools to address these problems.
4. Recognize and apply principles of ethical and professional conduct.

PEOPLE

PROFESSORS

Darryl Thelen (Chair)
 Christian Franck
 Jaal Gandhi
 Dan Negrut
 Gregory F. Nellis
 Tim Osswald
 Frank Pfefferkorn
 John Pfothenhauer
 Xiaoping Qian
 Douglas Reindl
 David Rothamer
 Scott T. Sanders
 Krishnan Suresh
 Lih-sheng Turng

ASSOCIATE PROFESSORS

Peter Adamczyk
 Mark Anderson
 Melih Eriten
 Katherine Fu
 Sage Kokjohn
 Tom N. Krupenkin
 Franklin Miller
 Sangkee Min
 Mario F. Trujillo
 Michael Zinn

ASSISTANT PROFESSORS

Joseph Andrews
 Lianyi Chen
 Corinne Henak
 Wenxiao Pan
 Pavana Prabhakar
 Alejandro Roldan-Alzate
 Josh Roth
 Shiva Rudraraju
 Stephan Rudykh
 Dakota Thompson
 Mike Wagner
 Michael Wehner
 Xiangru Xu

See also Mechanical Engineering Faculty Directory (<https://directory.engr.wisc.edu/me/faculty/>).