Mechanical & Industrial Engineering

DEGREES OFFERED

- M.S. in Industrial and Management Engineering
- Master of Engineering - Mechanical Engineering
- M.S. in Mechanical Engineering
- Ph.D. in Engineering
  - Industrial Engineering Option
  - Mechanical Engineering Option

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The mission of the Mechanical & Industrial Engineering Department is to serve the State of Montana, the region, and the nation by providing outstanding leadership and contributions in knowledge discovery, student learning, innovation and entrepreneurship, and service to community and profession. Our vision is to be a leader in discovery, learning, innovation, and service through focus on core competencies, multi-disciplinary collaborations, and investment in the Departmental community.

The department offers the Master of Science degree in Industrial and Management Engineering and the Master of Science degree in Mechanical Engineering. These degrees may be accomplished under Plan A (thesis required) or Plan B (project or professional paper). Under either plan, a program of study is arranged for each student according to his/her particular goal.The department also participates in the Doctor of Philosophy in Engineering degree coordinated through the College of Engineering.

ADMISSIONS

The minimum requirement for admission is a Bachelor of Science degree and evidence of an ability to maintain a minimum 3.0 grade point average while pursuing a graduate degree. Applicants without a degree in Industrial Engineering or Mechanical Engineering are eligible to apply, but may be required to make up subject matter deficiencies upon admission.

PROGRAM REQUIREMENTS

M.S. in Industrial and Management Engineering:
Two masters degree plans are offered.

- Plan A – Thesis requires 21 credits of coursework and a 10-credit thesis.
- Plan B – Non-Thesis requires 33 credits of coursework.

See *http://www.montana.edu/mie/gradprog/index.html* for specific requirements and information.

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M.S. in Mechanical Engineering:
Two masters degree plans are offered. Each requires 32 credits for completion.
- Plan A – Thesis Option Includes 21 coursework credits, 1 seminar credit, 10 thesis credits.
- Plan B – Non-Thesis Option Includes 27 coursework credits, 1 seminar credit, 4 professional paper credits.See *http://www.montana.edu/mie/gradprog/index.html* for specific requirements and information.

M.Eng. in Mechanical Engineering:
Requirements include 30 credits of coursework with 3 required courses and a course in each of 3 focus areas.

This degree does not require a thesis or comprehensive exam. M.Eng. is a terminal degree for practicing professionals and does not lead to a Ph.D. See *http://www.montana.edu/mie/gradprog/index.html* for specific requirements and information.

Ph.D. in Engineering:
- Industrial Engineering Option
- Mechanical Engineering Option

Common Requirements: 60 total credit hours beyond the bachelor's degree are required. That total may include up to 24 credits of non-thesis coursework from a M.S. degree. ENGR 600 (2 credits) and ENGR 610 (3 credits) are required. 18 credits (minimum) of dissertation are required.

Industrial and Management Engineering Option:
See *http://www.montana.edu/mie/gradprog/index.html* for I&ME admission guidelines and program requirements.

Mechanical Engineering Option:
See http://www.montana.edu/mie/gradprog/index.html for information.

RESEARCH FACILITIES

The laboratories of the department are well equipped for research in all areas supported by the department. A computer integrated manufacturing laboratory is available to support the study of flexible manufacturing systems and computer-aided manufacturing. Extensive facilities for destructive and non-destructive testing of advanced materials and structures are available. Advanced manufacturing facilities for composite materials and structures are continually expanding. Additional facilities include a mechatronics laboratory, a cellular mechanotransduction laboratory, and a well equipped ceramic materials processing laboratory. An ergonomics/human factors laboratory concentrates on industrial ergonomics and product design with equipment to measure biomechanical, psychological and physiological aspects of work and product usability. Dedicated facilities for decision support systems and facilities design are available.

FINANCIAL ASSISTANCE

Both teaching and research assistantships are available on a competitive basis. Teaching assistantships involve assisting professors with the conduct of their classes, including preparation and grading. Research assistantships provide the opportunity for work on a research grant or industry sponsored project under the direction of a faculty member. Applicants will automatically be considered for teaching and research assistantships during the application review process. Additional fellowship and scholarship opportunities are listed by The Graduate School *(http://www.montana.edu/gradschool/fellowships/index.html).*