

M.S. in Mechanical Engineering

Admission Requirements

Applicants must present evidence of graduation with a bachelor's degree in engineering with ability to maintain a "B" average. Graduates in other fields may be accepted, but generally these students have to make up background material in certain subject areas. Refer to this page for detailed admission and application requirements for degrees in the Department of Mechanical Engineering: <http://www.montana.edu/mie/grad/>. Su

Plan B - Non-Thesis Option

The Plan B option substitutes a submitted journal paper or conference presentation (3-4 credits EMEC575) and additional coursework in lieu of the 10 thesis credits and the seminar credit. This option is reserved for students enroute to a Ph.D only.

For Plan B the comprehensive exam is the PhD qualifying exam

Program Learning Outcomes

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- An ability to communicate effectively with a range of audiences.
- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Plan A - Thesis Option

Mechanical Engineering Master of Science Plan A requires the student to research and write a Master's thesis as a major component of the degree program. This research may consist of making creative application of existing or new methods to substantive old or new problems (the most usual approach to a Master's thesis), or it may expand the body of knowledge in a particular area (a minimal requirement for a Ph.D. thesis).

- 30 credits total
- 3xx level courses are not allowed
- Up to 9 credits of 4xx level courses may be used
- Courses with grades below C- cannot be used to satisfy graduation requirements
- Three credits (min.) registration required during term of graduation

Required courses for MSME Plan A degree:

EGEN 505	Advanced Engineering Analysis	3
EGEN 506	Numerical Sol to Engr Problems	3
EM 525	Continuum Mechanics	3
EMEC 594	Seminar	1
Elective courses (maximum of 3 credits EMEC 592 Independent Study)		7
Graduate course credits outside the student's emphasis		3
EMEC 590	Master's Thesis	10
Total Credits		30