

# Mechanical Engineering

## Degrees Offered

- Master of Science In Mechanical Engineering (MSME)
- Master of Engineering in Mechanical Engineering (M.Eng. ME)
- Ph.D. in Engineering -- Mechanical Engineering Option

## Admission

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

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## Master of Science in Mechanical Engineering (MSME)

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 (1 credit with in absentia graduation request on file)

### Plan A - Thesis Option (MSME)

19 formal, graded course credits: 12 required, 7 elective; 1 seminar; 10 thesis = 30 credits minimum

For Plan A the comprehensive examination is the thesis defense.

#### Required Courses

EGEN 505	Advanced Engineering Analysis	3
EGEN 506	Numerical Sol to Engr Problems	3
EM 525	Continuum Mechanics	3
3 Graduate course credits outside the student's emphasis		3
EMEC 594	Seminar	1
EMEC 590	Master's Thesis (Minimum of 10 total credits required; take 1-10 per term.)	10
Elective Courses (Maximum of 3 cr. EMEC 592)		7
<b>Total Credits</b>		<b>30</b>

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### 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

## Master of Engineering in Mechanical Engineering (M.Eng. ME) - Non-Thesis Option

Two major curricular/program components distinguish the Master of Engineering degree from the Master of Science degree:

- No professional paper or thesis is required for the M. Eng.

M. Eng. students are likely to either be practicing engineers or continuing students who wish to acquire credits required for professional licensure.

In the first case, the students have experience in practical engineering and the concepts involved in a capstone experience. In the latter case, all senior engineering students at Montana State University have completed a senior design project that is of the same depth as most professional papers, and this is also true of practically all accredited undergraduate engineering programs. Eliminating the thesis or professional paper requirement provides students the opportunity for more coursework in an area of interest.

- The M. Eng. has no comprehensive examination.

Because this is a courses-only degree that requires students to maintain a 3.0 GPA, there will be no further proof of proficiency. The intent is to provide education for practicing professionals.

Students will be supervised by an option coordinator, not by a three-member committee typical for M.S. degrees.

M. Eng students are not eligible for teaching assistantships or research funding.

## General Requirements

- 30 credits total
- At least 18 of the total credits required for degree must be at 5xx level
- 3xx level courses are not allowed
- 4xx level courses may be used (maximum allowed is 12 credits)
- Courses with grades below C cannot be used to satisfy graduation requirements
- Three credits (min.) registration required during term of graduation (1 credit with in absentia graduation request on file)
- A maximum of six credits of individual problems courses (570) are allowed
- In addition to the required courses, the Master of Engineering requires additional coursework in lieu of the 10 thesis credits.

## Course Requirements

The program of study will be customized for each student based on desired professional outcomes and will include engineering and advanced science courses.

The following courses are required for every MEng-Mechanical Engineering student:

#### Required Courses

The following courses are required of each MEng-ME student:		
EM 525	Continuum Mechanics	3
Choose at least one approved 4xx-level or 5xx-level course from each topic:		
Advanced math, statistics or numerical methods		3
Materials		3
Thermo/Fluids		3
Solid Mechanics		3

Remaining coursework must come from the approved list of 4xx-level and 5xx-level courses.

Total Credits	30
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Link to M.Eng. home page for More Information ([http://www.coe.montana.edu/m\\_eng.html#ME](http://www.coe.montana.edu/m_eng.html#ME)).