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 the Admission Policies and Application Requirements sections for detailed admission and application requirements. Successful applicants are accepted into both the Department and The Graduate School.

Below are the GRE and TOEFL scores the graduate committee is looking for. They will consider lower scores with other excellent qualifications, but these higher scores will give you a better chance of success in this program.

- GRE average scores: GRE-V = 149, GRE-Q = 155, GRE-A = 3.7
- GRE preferred scores: GRE-V = 152, GRE-Q = 156, GRE-A = >3.8
- TOEFL average score: 84
- TOEFL preferred score: 99
- IELTS minimum score: 6.5

For a M.S. in Mechanical Engineering, research is required in Plan A only. Students following Plan B or the Master of Engineering (M.Eng. ME) are not required to write a thesis, and will fill a total of 30 credits with coursework.

Research Requirements

For a M.S. in Mechanical Engineering, research is required in Plan A only.

Plan A - Thesis Option (MSME)

21 formal, graded course credits: 12 required, 9 elective; 1 seminar; 10 thesis = 32 credits minimum

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGEN 505</td>
<td>Advanced Engineering Analysis</td>
<td>3</td>
</tr>
<tr>
<td>EGEN 506</td>
<td>Numerical Sol to Engr Problems</td>
<td>3</td>
</tr>
<tr>
<td>EM 525</td>
<td>Continuum Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>3 Graduate course credits outside the student's emphasis</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>EMEC 594</td>
<td>Seminar</td>
<td>1</td>
</tr>
<tr>
<td>EMEC 590</td>
<td>Master's Thesis (Minimum of 10 total credits required; take 1-10 per term.)</td>
<td>10</td>
</tr>
<tr>
<td>Elective Courses (Maximum of 3 cr. EMEC 592)</td>
<td>9</td>
<td></td>
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</tbody>
</table>

Total Credits: 32

Plan B - Non-Thesis Option

The Plan B option substitutes an archival journal submission paper (3-4 credits) and additional coursework in lieu of the 10 thesis credits. This option is reserved for students enroute to a Ph.D.

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.

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.

Required Courses

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</tr>
<tr>
<td>EM 525</td>
<td>Continuum Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>Choose at least one approved course from each topic:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Thermo/Fluids</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Solid Mechanics</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

For a total of 30 credits, additional coursework must come from the approved list of 400 and 500 level courses.

Total Credits: 30

Link to M.Eng. home page for More Information (http://www.coe.montana.edu/m_eng.html#ME).
Font Notice

This document should contain certain fonts with restrictive licenses. For this draft, substitutions were made using less legally restrictive fonts. Specifically:

Times was used instead of Adobe Garamond Pro.

The editor may contact Leepfrog for a draft with the correct fonts in place.