MECHANICAL ENGINEERING - MASTER OF SCIENCE IN MECHANICAL ENGINEERING

(30 credits)

Students may select one of two options for completing their MS degree. Selection of a particular option must be made during the first semester of study in conjunction with selecting a permanent adviser.

Thesis Option

Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>M 570</td>
<td>Engineering Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>Select at least 18 credits of M E graduate courses</td>
<td>18</td>
<td></td>
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<tr>
<td>Select one or both from the following:</td>
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<tr>
<td>M 509</td>
<td>Individualized Study</td>
<td>3</td>
</tr>
<tr>
<td>M 510</td>
<td>Special Topics 2</td>
<td>6</td>
</tr>
</tbody>
</table>

Total Credits 30

1 Up to 6 credits of A E graduate courses may be substituted with the approval of the Graduate Coordinator. All course must be 500 level or above.

2 Special topics courses offered formally on a one time basis.

Publication Requirement: a refereed conference paper accepted or a refereed journal article in review or accepted by graduation. The MS thesis can be a reformatted version of this paper. Exceptions may be made on a case by case basis by the department head.

Coursework Option

Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>M 570</td>
<td>Engineering Analysis I</td>
<td>3</td>
</tr>
</tbody>
</table>

Core Courses

Select one core course from 4 of the 5 following topic areas: 12

Solid Mechanics

Select one from the following:

- M 502 Elasticity I
- M 504 Continuum Mechanics

Thermal Science

Select one from the following:

- M 503 Thermodynamics
- M 540 Intermediate Heat Transfer

Fluids

Select one from the following:

- M 530 Intermediate Fluid Mechanics
- M 533 Computational and Theoretical Fluid Mechanics

Dynamics and Vibrations

Select one from the following:

- M 511 Dynamics
- M 512 Vibrations

Engineering Analysis and Control

Select one from the following:

M 518 Finite Element Analysis
M 527 Control of Mechanical Systems
M 580 Engineering Analysis II

Additional Requirements

Select 4 additional M E courses (500 level or above) from the following: 12

Core Courses listed above
Research Area Courses
Dual Listed Courses
M 509 Individualized Study
M 510 Special Topics

Select one course (500 level or above) from related areas 3

Total Credits 30

3 Graduate A E courses may be substituted for M E courses with the approval of the Graduate Program Coordinator.

4 If course is not in A E or M E program, approval of the Graduate Program Coordinator is required.

Selection of MS Option and Permanent Adviser

Newly admitted graduate students will be assigned a temporary adviser for the first semester, but they must select a degree option and permanent adviser before registering for the second semester.

In considering a decision about option and adviser, the student should arrange to meet with several members of the graduate faculty during the first six weeks of study to discuss specific educational objectives. The student can use these meetings to become familiar with faculty interests and research projects currently in progress. The faculty member must agree (in writing) to serve as the student’s adviser.

All students must pass a final examination. The final examination is to be conducted by the student’s advisory committee and is taken after completing all coursework and thesis work for the thesis option, or all coursework for the course-only option.