Industrial and Systems Engineering, MSE

The ISEEM Department offers three plans leading to the Master of Science in Engineering degree. Each plan is designated as:

- Plan I (Thesis),
- Plan II (Non-thesis, coursework only)

For each plan, students may choose concentrations in Engineering Management, Industrial Engineering, or Systems Engineering. The following sections describe the requirements for each of these concentrations. Additional requirements, policies, and required forms may be found in the ISEEM Department office.

Program of Study: Engineering Management

The Basic Program of Study, common to the Plan I and Plan II MSE options, contains a minimum of 24 semester hours of graduate-level course work that must include:

<table>
<thead>
<tr>
<th>Engineering Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM 660 ENGR MGMT THEORY 3</td>
</tr>
<tr>
<td>EM 666 ENGR PROJECT MANAGEMENT 3</td>
</tr>
<tr>
<td>EM 760 ENGR MGMT STRUCTURES &amp; SYSTEMS 3</td>
</tr>
<tr>
<td>EM 766 MANAGING CHG IN HIGH TECH ORG 3</td>
</tr>
</tbody>
</table>

First Minor

Select two of the following 6

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>EM 661 STRATEGIC ENGR MGMT</td>
</tr>
<tr>
<td>EM 662 FOUND QUALITY SYSTEMS MGMT</td>
</tr>
<tr>
<td>EM 664 TEAMS IN ACTION</td>
</tr>
<tr>
<td>EM 679 SELECTED TOPICS IN ENGR MGMT</td>
</tr>
</tbody>
</table>

Second Minor

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ISE 690 STATISTICAL METHODS FOR ENGR 3</td>
</tr>
<tr>
<td>ISE 526 DESIGN/ANALY OF EXPERIMENT 3</td>
</tr>
</tbody>
</table>

Total Semester Hours 24

Plan I, Thesis Option

Students selecting this option must:

Complete Basic Program of Study as described above 24

<table>
<thead>
<tr>
<th>Master’s Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISE 699 MASTER’S THESIS 6</td>
</tr>
</tbody>
</table>

Complete an acceptable thesis including a public defense

Total Semester Hours 30

Plan II, Non-Thesis Option (Coursework Only)

Students selecting this option must:

Complete Basic Program of Study as described above 24

Select 6 semester hours of graduate courses to complete an approved extended program of study 6


Total Semester Hours 30

Program of Study: Industrial Engineering

The Basic Program of Study, common to the Plan I and Plan II MSE options, contains a minimum of 24 semester hours of graduate-level course work that must include:

<table>
<thead>
<tr>
<th>Engineering Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISE 623 ENGR ECON ANALYSIS 3</td>
</tr>
</tbody>
</table>
ISE 626    INTRO OPERATIONS RESEARCH 3
ISE 641    ADVANCED QUALITY CONTROL 3
ISE 726    SYSTEMS MODELING 3

First Minor
Select six hours in approved Engineering Management or Systems Engineering 6

Second Minor
ISE 526    DESIGN/ANALY OF EXPERIMENT 3
ISE 690    STATISTICAL METHODS FOR ENGR 3

Total Semester Hours 24

Plan I, Thesis Option
Students selecting this option must:

Complete Basic Program of Study as described above 24

Master’s Thesis
ISE 699    MASTER’S THESIS 6

Complete an acceptable thesis including a public defense

Total Semester Hours 30

Program of Study: Systems Engineering
The Basic Program of Study, common to the Plan I and Plan II MSE options, contains a minimum of 24 semester hours of graduate-level course work that must include:

Engineering Major
ISE 623    ENGR ECON ANALYSIS 3
ISE 627    ENGINEERING SYSTEMS 3
ISE 670    INTEGRATED PRODUCT & PROC DES 3
ISE 734    DECISION ANALYSIS 3

First Minor
Select six hours in approved Engineering Management, Quality Engineering, Systems Engineering, Industrial Engineering, Operations Research, Engineering Reliability or Human Factors courses 6

Second Minor
ISE 526    DESIGN/ANALY OF EXPERIMENT 3
ISE 690    STATISTICAL METHODS FOR ENGR 3

Total Semester Hours 24

Plan I, Thesis Option
Students selecting this option must:

Complete Basic Program of Study as described above 24

Master’s Thesis
ISE 699    MASTER’S THESIS 6

Complete an acceptable thesis including a public defense

Total Semester Hours 30
### Plan II, Non-Thesis Option (Coursework Only)

Students selecting this option must:

<table>
<thead>
<tr>
<th>Description</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete Basic Program of Study as described above</td>
<td>24</td>
</tr>
<tr>
<td>Select 6 semester hours of graduate courses to complete an approved extended program of study</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total Semester Hours**                                                                                          | 30    |