M.S. in Engineering Management

Degree Requirements

Students who lack appropriate academic preparation may be required to take bridge courses in the areas of statistics, cost analysis and engineering economics.

The program requires 30 credits, 18 of which are taken in a required core. A purpose of the core is to provide knowledge in the functional areas that are the cornerstones of the discipline: organization and people management, cost management, and systems management. The remaining 12 credits are elective courses, which may be within an area of specialization to meet the individual's specific professional and personal objectives. A 3-credit project or a 6-credit thesis are optional electives. In some cases, students may select courses to enhance their technical competency. In other cases, individuals may select courses to prepare for a change in responsibilities or job function. At least half of the elective courses must be selected from those having an IE or EM prefix.

M.S. in Engineering Management (courses only)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 615</td>
<td>Management Accounting</td>
<td>3</td>
</tr>
<tr>
<td>EM 602</td>
<td>Management Science</td>
<td>3</td>
</tr>
<tr>
<td>EM 636</td>
<td>Project Management</td>
<td>3</td>
</tr>
<tr>
<td>HRM 601</td>
<td>Managing Organizational Behavior in Technology-Based Organizations</td>
<td>3</td>
</tr>
<tr>
<td>IE 673</td>
<td>Total Quality Management</td>
<td>3</td>
</tr>
<tr>
<td>MIS 645</td>
<td>Information Technology and Competitive Advantage</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives 1

Select four of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EM 634</td>
<td>Legal, Ethical and Intellectual Property Issues for Engineering Managers</td>
<td></td>
</tr>
<tr>
<td>EM 637</td>
<td>Project Control</td>
<td></td>
</tr>
<tr>
<td>EM 691</td>
<td>Cost Estimating for Capital Projects</td>
<td></td>
</tr>
<tr>
<td>IE 651</td>
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<td></td>
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<tr>
<td>IE 659</td>
<td>Supply Chain Engineering</td>
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</tr>
<tr>
<td>IE 618</td>
<td>Engineering Cost and Production Economics</td>
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<tr>
<td>IE 621</td>
<td>Systems Analysis and Simulation</td>
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</tr>
<tr>
<td>EM 640</td>
<td>Distribution Logistics</td>
<td></td>
</tr>
<tr>
<td>EM 641</td>
<td>Engineering Procurement and Materials Management</td>
<td></td>
</tr>
<tr>
<td>EM 674</td>
<td>Benchmarking and Quality Function Deployment</td>
<td></td>
</tr>
<tr>
<td>IE 605</td>
<td>Engineering Reliability</td>
<td></td>
</tr>
<tr>
<td>IE 672</td>
<td>Industrial Quality Control</td>
<td></td>
</tr>
<tr>
<td>MNE 654</td>
<td>Design for Manufacturability</td>
<td></td>
</tr>
<tr>
<td>EM 632</td>
<td>Legal Aspects in Construction</td>
<td></td>
</tr>
<tr>
<td>IE 653</td>
<td>Facility Maintenance</td>
<td></td>
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<tr>
<td>MNE 601</td>
<td>Computerized Manufacturing Systems</td>
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<tr>
<td>MNE 602</td>
<td>Flexible and Computer Integrated Manufacturing</td>
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</tr>
<tr>
<td>MNE 655</td>
<td>Concurrent Engineering</td>
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<tr>
<td>EM 655</td>
<td>Management Aspects of Information Systems</td>
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<tr>
<td>IE 661</td>
<td>Man-Machine Systems</td>
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<tr>
<td>EM 635</td>
<td>Management of Engineering Research and Development</td>
<td></td>
</tr>
<tr>
<td>EM 631</td>
<td>Legal Aspects in Environmental Engineering</td>
<td></td>
</tr>
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Total Credits 30

1 School of Management courses with a FIN, MRKT, MIS, HRM or MGMT prefix may be taken as electives
### M.S. in Engineering Management (Master’s project)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td><strong>Core Courses</strong></td>
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<tr>
<td>ACCT 615</td>
<td>Management Accounting</td>
<td>3</td>
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<td>IE 673</td>
<td>Total Quality Management</td>
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<td>3</td>
</tr>
<tr>
<td><strong>Project</strong></td>
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<td></td>
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<tr>
<td>EM 700B</td>
<td>Master's Project</td>
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<tr>
<td><strong>Electives</strong></td>
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<td></td>
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</table>

Select three of the following: 9

- EM 634 Legal, Ethical and Intellectual Property Issues for Engineering Managers
- EM 637 Project Control
- EM 691 Cost Estimating for Capital Projects
- IE 651 Industrial Simulation
- IE 659 Supply Chain Engineering
- EM 632 Legal Aspects in Construction
- IE 618 Engineering Cost and Production Economics
- IE 621 Systems Analysis and Simulation
- EM 640 Distribution Logistics
- EM 641 Engineering Procurement and Materials Management
- EM 674 Benchmarking and Quality Function Deployment
- IE 605 Engineering Reliability
- IE 672 Industrial Quality Control
- MNE 654 Design for Manufacturability
- IE 653 Facility Maintenance
- MNE 601 Computerized Manufacturing Systems
- MNE 602 Flexible and Computer Integrated Manufacturing
- MNE 655 Concurrent Engineering
- EM 655 Management Aspects of Information Systems
- IE 661 Man-Machine Systems
- EM 635 Management of Engineering Research and Development
- EM 631 Legal Aspects in Environmental Engineering

**Total Credits** 30

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### M.S. in Engineering Management (Master’s thesis)

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<td>3</td>
</tr>
<tr>
<td><strong>Thesis</strong></td>
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<tr>
<td>EM 701B &amp; 701B</td>
<td>Master's Thesis and Master's Thesis</td>
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<tr>
<td>or EM 701C</td>
<td>Master's Thesis</td>
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## Electives

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### Total Credits

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Students may also have graduate courses in their undergraduate engineering degree or other technical discipline.