Integrated Manufacturing Systems Engineering (MR)

Degree Requirements

Students may choose from the degree tracks below to complete coursework within a focus area.

Degrees earned will be distributed as: "Master of Integrated Manufacturing Systems Engineering" without focus area specifications.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Core Courses 27</td>
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<tr>
<td></td>
<td>Suggested areas of concentration are Manufacturing, Logistics/Supply Chain, Mechatronics, and Advanced Manufacturing, but other concentrations are possible, subject to program approval. Students are pre-approved to take 500 and 700 level courses in College of Engineering (including Computer Science), Math, Statistics, TE, MBA, and BUS.</td>
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| Project Course 6 | IMS 675 Manufacturing Systems Engineering Project | | | |

Total Hours 33

Focus Area Categories

Manufacturing

Select one course from each area below:

<table>
<thead>
<tr>
<th>Area 1</th>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
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<tbody>
<tr>
<td></td>
<td>CSC 510</td>
<td>Software Engineering</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td>ISE 562</td>
<td>Simulation Modeling</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ISE 519</td>
<td>Database Applications in Industrial and Systems Engineering</td>
<td>3</td>
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<table>
<thead>
<tr>
<th>Area 2</th>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
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<tbody>
<tr>
<td></td>
<td>ISE 510</td>
<td>Applied Engineering Economy</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MIE 501</td>
<td>Strategic Management Foundations</td>
<td>3</td>
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Logistics / Supply Chain

Select one course from each area below:

<table>
<thead>
<tr>
<th>Area 1</th>
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<table>
<thead>
<tr>
<th>Area 2</th>
<th>Code</th>
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<th>Hours</th>
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<tbody>
<tr>
<td></td>
<td>ISE 510</td>
<td>Applied Engineering Economy</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MIE 501</td>
<td>Strategic Management Foundations</td>
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<tr>
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<th>Hours</th>
<th>Counts towards</th>
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<tr>
<td></td>
<td>MBA 541</td>
<td>Supply Management</td>
<td>3</td>
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<tr>
<td></td>
<td>MBA 542</td>
<td>Supply Chain Logistics</td>
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<th>Area 4</th>
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<th>Title</th>
<th>Hours</th>
<th>Counts towards</th>
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<tr>
<td></td>
<td>ISE 552</td>
<td>Design and Control of Production and Service Systems</td>
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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>ISE 723</td>
<td>Production Planning, Scheduling and Inventory Control</td>
<td>3</td>
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<tr>
<td>MBA 549</td>
<td>Supply Chain Management Practicum</td>
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<tr>
<td>ISE 754</td>
<td>Logistics Engineering</td>
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</tbody>
</table>

**Mechatronics**

Select one course from each area below:

**Area 1**
- ECE 556 Mechatronics 3
- MAE 536 Micro/Nano Electromechanical Systems 3

**Area 2**
- MAE 531 Engineering Design Optimization 3
- MAE/ECE 535 Design of Electromechanical Systems 3

**Area 3**
- ECE 511 Analog Electronics 3
- ECE 555 Autonomous Robot Systems 3

**Area 4**
- ECE 517 Object-Oriented Design and Development 3
- ECE 561 Embedded System Analysis and Optimization 3
- ISE 519 Database Applications in Industrial and Systems Engineering 3

**Area 5**
- ECE 516 System Control Engineering 3
- ISE 707 Real-Time Control of Automated Manufacturing 3
- ISE 716 Automated Systems Engineering 3

**Advanced Manufacturing**

Select one course from each area below:

**Area 1**
- ISE 589 Special Topics in Industrial Engineering 1-6

**Area 2**
- ISE 510 Applied Engineering Economy 3

**Area 3**
- MIE 501 Strategic Management Foundations 3
- MAE 545 Metrology for Precision Manufacturing 3
- MSE 500 Modern Concepts in Materials Science 3

**Area 4**
- ECE 555 Autonomous Robot Systems 3
- ISE 589 Special Topics in Industrial Engineering 1-6
- MAE 535 Design of Electromechanical Systems 3

**Area 5**
- ISE 589 Special Topics in Industrial Engineering 1-6
- MAE 531 Engineering Design Optimization 3

**Full Professors**
- Roger L. Barker
- Michael D. Boyette
- Marianne Bradford
- Gregory D. Buckner
- Yuang Sung Al Chen
- Mo-Yuen Chow
- Timothy Gladstone Clapp
- Elizabeth Carol Dickey
- Yahya Fathi
- Tushar K. Ghosh
Robert B. Handfield
Ola Lars Anders Harrysson
Thom Joel Hodgson
Julie Simmons Ivy
Warren J. Jasper
Jeffrey Allen Joines
Russell E. King
James Woodrow Leach
Yuan-Shin Lee
Trevor J. Little
Ning Lu
Louis A. Martin
Michael A. Rappa
William John Rasdorf
Jon Paul Rust
Abdel-fattah Mohamed Seyam

**Associate Professors**
Jacob James Adams
Dennis R. Bahler
Pamela Banks-Lee
Kristin Anne Barletta
Ramon R. Collazo
Jingyan Dong
George Lawrence Hodge
Hsiao-Ying Shadow Huang
Michael G. Kay
Karlyn Mitchell
Daniel Erique Saloni
Donald P. Warsing

**Practice/Research/Teaching Professors**
Marianne Bradford
Semra Sebnem Ahiska King
Billy L. Edge
Steven D. Jackson
David Lee Lubkeman
Brandon Mark McConnell
Henry Lee Nuttle
Tania Mikova Paskova
Claude Lewis Reynolds Jr.
Javad Taheri

**Emeritus Faculty**
Roy E. Carawan
Stephen N. Chapman
Charles Thomas Culbreth Jr.
Perry L. Grady
Thom Joel Hodgson
Thomas Johnson
Stephen Dean Roberts
Ezat Sanii
William A. Smith Jr.
James Reed Wilson
Richard Allen Wysk
Robert E. Young
Carl Frank Zorowski

**Adjunct Faculty**
Brian Denton
Mihail Devetsikiotis
Tania Mikova Paskova
Amy Diane Wilson

**Assistant Professor**
Timothy Joseph Horn