Industrial Engineering (MR)

Degree Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Required Course</td>
<td>4</td>
</tr>
<tr>
<td>ISE 601</td>
<td>Seminar</td>
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<td></td>
<td>Select one 700-level ISE course approved in conjunction with the academic committee</td>
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|       | Breadth Requirement Courses                   | 15    |
|       | See "Breadth Requirement Courses" listed below |       |

|       | Technical Elective Courses                   | 9     |
|       | “Technical Elective Courses” will be determined in conjunction with the academic committee |       |

|       | Additional Technical Elective Courses        | 6     |
|       | “Additional Technical Elective Courses” are approved in conjunction with the academic committee |       |

|       | Total Hours                                   | 34    |

Breadth Requirement Courses

Select a minimum of one course from at least four of the following groups:

**Group A: Economic & Decision Analysis**
- ISE 510 Applied Engineering Economy
- ISE 711 Capital Investment Economic Analysis
- ISE 712 Bayesian Decision Analysis For Engineers and Managers
- ISE 721 Multi-Attribute Decision Analysis

**Group B: Human Factors and Ergonomics Category**
- ISE 540 Human Factors In Systems Design
- ISE 541 Occupational Safety Engrg
- ISE 544 Occupational Biomechanics
- ISE 744 Human Information Processing
- ISE 745 Human Performance Modeling

**Group C: Manufacturing Systems Category**
- ISE 515 Manufacturing Process Engineering
- ISE 714 Product Manufacturing Engineering for the Medical Device Industry
- ISE 716 Automated Systems Engineering
- ISE 519 Database Applications in Industrial and Systems Engineering

**Group D: Production Systems Category**
- ISE 552 Design and Control of Production and Service Systems
- ISE 723 Production Planning, Scheduling and Inventory Control
- ISE 726 Theory of Activity Networks
- ISE 748 Quality Engineering
- ISE 754 Logistics Engineering

**Group E: Systems Analytics and Optimization Category**
- ISE 501 Introduction to Operations Research
- OR 504 Introduction to Mathematical Programming
- ISE 505 Linear Programming
- ISE 560 Stochastic Models in Industrial Engineering
- ISE 562 Simulation Modeling
- ISE 563 Dynamic Programming
- ISE 565 Applied Stochastic Models in Industrial Engineering
- ISE 566 Queues and Stochastic Service Systems
- ISE 567 Computer Simulation Techniques

Select one course from the following:

**Group F: Computer Science, Mathematics, and Statistics**
- CSC 513 Electronic Commerce Technology
- CSC 520 Artificial Intelligence I
- CSC 570 Computer Networks
- CSC 742 Database Management Systems
- MA 520 Linear Algebra
- MA 580 Numerical Analysis I
- ST 516 Experimental Statistics For Engineers II
- ST 711 Design Of Experiments

Total Hours: 15

Faculty

**Full Professors**
- Paul Cohen
- Shu-Cherng Fang
- Yahya Fathi
- Ola Lars Anders Harrysson
- Julie Simmons Ivy
- Russell E. King
- Yuan-Shin Lee
- Maria Esther Mayorga
- Chan S. Nam
- Binil Starly
- Julie Swann
- Reha Uzsoy

**Associate professors**
- Jingyan Dong
- Michael G. Kay
- Yunan Liu
- Osman Yalin Ozaltin
- Rohan Ajit Shirwaiker
Hong Wan

Assistant Professors
Karen Boru Chen
Xiaolei Fang
Leila Hajibabai Dizaji
Sara Shashaani
Xu Xu

Practice/Research/Teaching Professors
Steven D. Jackson
Brandon Mark McConnell
Kanton Tyrone Reynolds
Javad Taheri
Harvey A. West II

Emeritus Faculty
Mahmoud A. Ayoub
Richard Harold Bernhard
Charles Thomas Culbreth Jr.
Thom Joel Hodgson
Henry Nuttle
Richard G. Pearson
Stephen Dean Roberts
Ezat Sanli
Clarence Smith Jr.
James Reed Wilson
Richard Wysk
Robert E. Young