# ISYE MS REQUIREMENTS: Decision Science/Operations Research Area

NAME: _____ CAMPUS ID# _____ DATE: _____

ADVISOR: _____ Advisor Signature _____

Cont. on For PHD Yes No Graduation Requirements Confirmed: _____

| **Core Courses - 18 credits total** | | **Term Taken** | **Grade** |
|---|---|---|---|
| **Optimization (6 cr min)** | | | |
| IE 525 | Linear Programming Methods | | |
| IE 635 | Tools and Environ. for Optimization | | |
| IE 719 | Network Flows | | |
| IE 720 | Integer Programming | | |
| IE 723 | Dynamic Programming and Associated Topics | | |
| IE 726 | Nonlinear Programming Theory and Applications | | |
| IE 727 | Nonsmooth Optimization | | |
| IE 730 | Nonlinear Programming Algorithms | | |
| Auth Substitution | | | |
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| **Stochastic Processes (6 cr min)** | | | |
| IE 624 | Stochastic Modeling Techniques | | |
| IE 632 | Intro to Stochastic Processes | | |
| IE 633 | Queuing Theory and Stoch. Modeling | | |
| IE 643 | Performance Analy. of Mfg. Systems | | |
| Auth Substitution | | | |
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| **Simulation (3 cr min)** | | | |
| IE 620 | Simulation Modeling & Analysis of IE Systems | | |
| IE 625 | Discrete Event Simulation | | |
| Auth Substitution | | | |
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| **Organizations, Decisions, and Implementation Issues (3 cr min)** | | | |
| IE/ME 513 | Analysis of Capital Investments | | |
| IE 516 | Intro to Decision Analysis | | |
| IE 641 | Design & Analysis of Mfg. Systems | | |
| IE 658 /OTM 758 | Managing Techno Change in Mfct'g Systems | | |
| ISyE/OTM 671 | E-Business - Technologies, Strategies and Applications | | |
| ISyE/OTM 672 | E-Business Trans - Design, Analysis and Justification | | |
| MHR 700 | Organizational Behavior | | |
| MHR 720 | Organization & Mgmt Processes | | |
| ISyE/NEEP/Soc 708 | Societal Risk Management of Technological Hazards | | |
| Auth Substitution | | | |
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| **Electives (12 credits) Advisors approval needed** | | | |
| Info Sys 722 | Computer-Based Data Mgt | | |
| COMP SCI 736 | Advanced Operating Systems | | |
| COMP SCI 764 | Topics-Database Mgt Systems | | |
| COMP SCI 564 | Database Mgt Systems | | |
| COMP SCI 784 | Data Models and Languages | | |
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| **Independent study or project work (6 cr max)** | | | |
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**Please complete & return form to Student Services, 3182 ME Bldg your final semester.

## MS DEGREE REQUIREMENTS

The curriculum is designed to provide both balance and breadth in the student's understanding of decision science and operations research techniques and applications. To accomplish this, students must take a specified number of classes in each of several core areas. The program is rounded out with electives. Flexibility is built into the curriculum to accommodate a wide range of interests and applications.

Popular Electives:

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|---|---|
| ISyE/CS/Math 425 | Combinatorial Optimization |
| ISyE/ME 510 | Facilities Planning |
| ISyE/ME 512 | Inspection, Quality Control, & Reliability |
| ISyE 575 | Introduction to Quality Engineering |
| ISyE 605 | Computer Integrated Manufacturing |
| ISyE/Psych 653 | Organization and Job Design |
| OTM 750 | Operations Management |

## EXIT REQUIREMENTS

To complete the MS program, a GPA of 3.20 or above in graduate level courses and 30 degree credits are required with 15 degree credits in the ISyE Department.

## JOB PLACEMENT

Contact:

Engineering Career Services Office
1550 Engineering Drive, Room M1002
Madison, WI 53706
Tel: (608) 262-3471
FAX: (608) 262-7262
http://www.engr.wisc.edu/services

## FURTHER INFORMATION

Contact:

University of Wisconsin-Madison
Department of Industrial and Systems Engineering
1513 University Avenue, Room 3270
Madison, WI 53706-1572
Tel: (608) 262-2686
FAX: (608) 262-8454
Email: ie-admission@engr.wisc.edu
http://www.engr.wisc.edu/ie