

ISyE MS Course: SEA Program Course Suggestions

Below are some typical course option suggestions for those pursuing a MS Course degree in System Engineering & Analytics. (For other IE and Non IE course options (such as in Computer Science, Math etc...), please consult with your ISyE faculty advisor for approval of course selection prior to enrollment to ensure coursework taken meets the expectation of the degree requirements for SEA program planning).

Please note: These are suggested course options and are not guaranteed to be offered at the time of enrollment, please refer to [UW Madison Course Guide](#) for further course information.

- At least **18** credits of ISyE Course Credits must be taken during the graduate program is required. (ISyE / UW Madison seniors can count up to 6 credits of prior ISyE undergraduate or department approved coursework toward meeting this requirement).
- [50% Graduate School Policy](#) – Graduate school requires 50% (**15** credits) of courses be taken at the graduate level (See Course Description in UW Course Guide - Look for Graduate 50%: Y). (Note: Students cannot count prior UW undergraduate course work toward this requirement).
- [MS SEA Program Plan Form](#)

FALL POTENTIAL COURSE SUGGESTIONS: ([UW Course guide](#) will be published mid-March to confirm scheduled course options)

- ISyE 313: Engineering Economic Analysis
- ISyE 412: Fundamentals of Industrial Data Analytics
- ISyE 425: Introduction to Combinatorial Optimization
- ISyE / ME 510: Facilities Planning
- ISyE / ME 512: Inspection, Quality Control and Reliability
- ISyE 515: Engineering Management of Continuous Process Improvement
- ISyE 516 Intro to Decision Analysis
- ISyE 517 Decision Making in Health Care
- ISyE 521 ML in Action for IEs
- ISyE 524: Introduction to Optimization
- ISyE 525: Linear Programming Methods
- ISyE 601: 004 IE Special Topics – TBD
(i.e. Digital Mfg Tech for Enterprise System; Other Topics - if offered, advisor approval needed)
- ISyE 605: Computer Integrated Manufacturing
- ISyE 624: Stochastic Modeling Techniques
- ISyE 632: Introduction to Stochastic Processes
- ISyE 645: Engineering Models for Supply Chains
- ISyE 653: Organization and Job Design
- ISyE 699: Independent Studies or ISyE 790 Research up to 6 credits towards program requirements – contact faculty advisor/ instructor directly for permission.
- ISyE 722: Computer-Based Data Management

Course Enrollment Information:

If you are unable to enroll or get on a waitlist for an ISyE lecture/lab class due to a prerequisite course error message in the system, please contact the instructor directly for enrollment options. (For ISyE lecture/lab course permissions and logistical issues, please contact enrollment@ie.wisc.edu). Please remember to include your Campus ID #, Course #, and Section # (if applicable) in your email when emailing instructors and staff about any enrollment.

For enrollment in **ISyE 699 – Independent Study**, please consult first with your ISyE faculty advisor/ instructor that you wish to do an ind study with; then please send an email prpeters@engr.wisc.edu with your campus ID# and faculty advisor/ instructor name for the permission to enroll.

SPRING ISyE POTENTIAL COURSE SUGGESTIONS: ([UW course guide](#) will be published mid-October)

- ISyE 313: Engineering Economic Analysis
- ISyE 412: Fundamentals of Industrial Data Analytics
- ISyE / ME 512: Inspection, Quality Control and Reliability
- ISyE 516: Introduction to Decision Analysis
- ISyE 517: Decision Making in Health Care
- ISyE 524: Introduction to Optimization
- ISyE 525: Linear Programming Methods
- ISyE 601: Special topics TBD (if offered and advisor approval needed)
- ISyE 612: Information Sensing and Analysis for Manufacturing Processes
- ISyE 615: Production Systems Control
- ISyE 620: Simulation Modeling and Analysis
- ISyE / ME 641: Design and Analysis of Manufacturing Systems
- ISyE / ME 643: Performance Analysis of Manufacturing Systems
- ISyE 699: Independent Studies or ISyE 790 Research
-up to 6 credits towards program requirements allowed – contact faculty advisor/ instructor directly for permission.

SUMMER ISyE POTENTIAL COURSE SUGGESTIONS: ([UW course guide](#) will be published mid-January)

- ISyE 313: Engineering Economic Analysis
- ISyE 516: Introduction to Decision Analysis
- ISyE 524: Introduction to Optimization
- ISyE 575: Introduction to Quality Engineering
- ISyE 601: Special topics TBD (if offered and advisor approval needed)
- ISyE 632: Introduction to Stochastic Processes
- ISyE 699: Independent Studies or ISyE 790 MS Research (up to 6 credits towards program requirements allowed – contact faculty advisor/ instructor directly for permission)
- ISyE 702: Grad Cooperative Program (thru Eng Career Services office – contact Julie Rae for additional information and permission to enroll - julie.rae@wisc.edu)

Other Department Potential Course Suggestions (Non ISyE Courses):

Please note: Enrollment and offering of non ISyE courses availability not guaranteed pending primary department demand and schedule; Semester typically offered listed below. (Please refer to [UW Course Guide](#) for scheduling information):

- COMP SCI 300: Programming II - Fall
- COMP SCI 301: Introduction to Data Programming – Spring
- COMP SCI 475: Introduction to Combinatorics - Spring
- COMP SCI 532: Matrix Methods in Machine Learning - Spring
- COMP SCI 533: Image Processing – Fall
- COMP SCI 540: Introduction to Artificial Intelligence – Spring

- COMP SCI 760: Machine Learning - Spring
- COMP SCI 787: Advanced Algorithms – Spring
- Marketing 722: Logistics Management - Fall
- Marketing 727: Enterprise Systems and Supply Chain Management – Spring
- Math 521: Analysis I – Spring
- MHR 412: Management Consulting – Spring
- MHR 723: Business Strategy – Spring
- OTM 421: Fundamentals of Supply Chain Management – Spring
- OTM 422: Database Management & Applications – Spring
- OTM 422: Logistics Management – Spring
- OTM 654: Production Planning and Control – Spring
- OTM 714: Supply Chain Management - Spring
- OTM 722: Logistics Management - Fall
- OTM 753: Healthcare Operations Management - Spring
- OTM 765: Contemporary Topics – Spring
- Pop Health 703: Quality of Health Care: Evaluation & Assurance - Fall
- RMI 660: Risk Analytics and Behavioral Science -Spring
- STAT 471: Introduction to Computational Statistics - Spring
- STAT 479: Special Topics in Statistics – Spring
- STAT 609: Mathematical Statistics – Fall
- STAT 701: Applied Series Analysis, Forecasting & Control – Fall