INDUSTRIAL ENGINEERING, M.S.

The Department of Industrial and Systems Engineering offers opportunities for graduate study leading to the master of science and the doctor of philosophy degrees in industrial and systems engineering.

The Department offers three distinct master of science programs. The Master of Science in Industrial Engineering research program is designed for students wishing to conduct research during their program. More information about the research program can be found here (http://guide.wisc.edu/graduate/industrial-systems-engineering/industrial-engineering-ms/industrial-engineering-research-ms/).

The two course-based named option programs in the MS-IE, Human Factors and Health Systems Engineering M.S. (http://guide.wisc.edu/graduate/industrial-systems-engineering/industrial-engineering-human-factors-health-systems-engineering-ms/) and Systems Engineering and Analytics M.S. (http://guide.wisc.edu/graduate/industrial-systems-engineering/industrial-engineering-systems-engineering-analytics-ms/), are accelerated programs that can be completed in one full year of study and are designed for students wishing to pursue a career in industry or government.

ADMISSIONS

Students apply to the Master of Science in Industrial Engineering through one of the named options:

- Human Factors and Health Systems Engineering (http://guide.wisc.edu/graduate/industrial-systems-engineering/industrial-engineering-human-factors-health-systems-engineering-ms/)
- Research (http://guide.wisc.edu/graduate/industrial-systems-engineering/industrial-engineering-ms/industrial-engineering-research-ms/)
- Systems Engineering and Analytics (http://guide.wisc.edu/graduate/industrial-systems-engineering/industrial-engineering-systems-engineering-analytics-ms/)

FUNDING

GRADUATE SCHOOL RESOURCES

Resources to help you afford graduate study might include assistantships, fellowships, traineeships, and financial aid. Further funding information (https://grad.wisc.edu/funding/) is available from the Graduate School. Be sure to check with your program for individual policies and restrictions related to funding.

PROGRAM RESOURCES

Tuition and funding opportunities vary according to the specific MS program. See information about the research M.S. (http://guide.wisc.edu/graduate/industrial-systems-engineering/industrial-engineering-ms/industrial-engineering-research-ms/), Human Factors and Health Systems Engineering M.S. (http://guide.wisc.edu/graduate/industrial-systems-engineering-human-factors-health-systems-engineering-ms/) and Systems Engineering and Analytics M.S. (http://guide.wisc.edu/graduate/industrial-systems-engineering/industrial-engineering-systems-engineering-analytics-ms/) programs separately.

REQUIREMENTS

MINIMUM GRADUATE SCHOOL REQUIREMENTS

Review the Graduate School minimum academic progress and degree requirements (http://guide.wisc.edu/graduate/#policiesandrequirementstext), in addition to the program requirements listed below.

MAJOR REQUIREMENTS

CURRICULAR REQUIREMENTS

Requirements

<table>
<thead>
<tr>
<th>Credit</th>
<th>Detail</th>
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<tbody>
<tr>
<td>Minimum 30 credits</td>
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<tr>
<td>Minimum 16 credits</td>
<td>Residence Requirement</td>
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<tr>
<td>Minimum 15 credits</td>
<td>Graduation Coursework Requirement</td>
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Minimum Graduate Coursework Requirement must be graduate-level coursework. Details can be found in the Graduate School's Minimum Graduate Coursework (50%) policy (https://policy.wisc.edu/library/UW-1244/).

Overall GPA: 3.00 GPA required.

Graduate GPA: This program follows the Graduate School's GPA Requirement policy (https://policy.wisc.edu/library/UW-1203/).

Other Grade Requirements: Grades of C and D received by a candidate in any graduate course will not be counted as credit toward the degree. These grades will be counted in the graduate GPA.

Assessments and Examinations: None.

Language: No language requirements.

REQUIRED COURSES

Select a Named Option (p. 1) for courses required.

NAMED OPTIONS

A named option is a formally documented sub-major within an academic major program. Named options appear on the transcript with degree conferral. Students pursuing the Master of Science in Industrial Engineering must select one of the following named options:

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• INDUSTRIAL ENGINEERING: RESEARCH, M.S. (HTTP://GUIDE.WISC.EDU/GRADUATE/INDUSTRIAL-SYSTEMS-ENGINEERING/INDUSTRIAL-ENGINEERING-MS/INDUSTRIAL-ENGINEERING-RESEARCH-MS/)

• INDUSTRIAL ENGINEERING: SYSTEMS ENGINEERING AND ANALYTICS, M.S. (HTTP://GUIDE.WISC.EDU/GRADUATE/INDUSTRIAL-SYSTEMS-ENGINEERING/INDUSTRIAL-ENGINEERING-MS/INDUSTRIAL-ENGINEERING-SYSTEMS-ENGINEERING-ANALYTICS-MS/)

Policies

Students should refer to one of the named options for policy information:

• Human Factors and Health Systems Engineering (http://guide.wisc.edu/graduate/industrial-systems-engineering/industrial-engineering-ms/industrial-engineering-human-factors-health-systems-engineering-ms/)

• Research (http://guide.wisc.edu/graduate/industrial-systems-engineering/industrial-engineering-ms/industrial-engineering-research-ms/)

• Systems Engineering and Analytics (http://guide.wisc.edu/graduate/industrial-systems-engineering/industrial-engineering-ms/industrial-engineering-systems-engineering-analytics-ms/)

Professional Development

Graduate School Resources

Take advantage of the Graduate School’s professional development resources (https://grad.wisc.edu/pd/) to build skills, thrive academically, and launch your career.

Program Resources

The Individual Development Plan (https://grad.wisc.edu/pd/idp/)

An Individual Development Plan helps with self-assessment, planning, and communication:

• An IDP can help you communicate your professional development and career planning needs and intentions to others including your mentor, which can lead to helpful advice and resources.

• You can use the IDP to make sure you and your mentor’s expectations are clearly outlined and in agreement so that there are no big surprises, particularly at the end of your training.

• The current job market is challenging and research has shown that individuals who perform structured career planning achieve greater career success and satisfaction.

The onus to engage in the IDP process is on you – although your mentor, PI, or others may encourage and support you in doing so. The IDP itself remains private to you, and you choose which parts to share with which mentors. Through the IDP process, you may decide to identify various mentors to whom you can go for expertise and advice.

Engineering Career Services (https://ecs.wisc.edu/)

Julie Rae, Assistant Director for Graduate Student Career Services

Graduate students in all Engineering programs

• Resumes & Cover Letters https://ecs.wisc.edu/students/resumes-and-cover-letters/

• Job Search Strategies

• Job Offers & Negotiation https://ecs.wisc.edu/students/offers-and-negotiation/

• CPT for Graduate Students https://ecs.wisc.edu/students/co-op-and-internship/

• Student appointments: Click Here (http://go.wisc.edu/ecs-grad-grad/) to schedule an appointment with ECS.


UW Writing Center (http://writing.wisc.edu/)

Location: 6171 Helen C. White Hall

Tel: (608) 263-1992

The UW Writing Center provides free of charge face-to-face and online consultations that focus on a number of different writing scenarios (i.e. drafts of course papers, resumes, reports, application essays, cover letters, theses, etc). Writing Center instructors will not edit or proofread papers. Instead, their goal is to teach students to edit and proofread on their own in order to become a better, more confident writer.

Learning Outcomes

1. Articulates, critiques, or elaborates the theories, research methods, and approaches to inquiry or schools of practice in industrial and systems engineering including areas such as decision science and operations research, quality engineering, manufacturing and health systems, and/or human factors.

2. Identifies sources and assembles evidence pertaining to questions or challenges in industrial and systems engineering.

3. Demonstrates understanding of the industrial and systems engineering field of study in a historical, social, or global context.

4. Selects and/or utilizes the most appropriate industrial and systems engineering methodologies and practices.

5. Evaluates or synthesizes information pertaining to questions or challenges in industrial and systems engineering.

6. Communicates clearly in ways appropriate to industrial and systems engineering.
7. Recognizes and applies principles of ethical and professional conduct.

PEOPLE

PROFESSORS
Laura Albert (Chair)
Oguzhan Alagoz
John D. Lee
Jeffrey Linderoth
James Luedtke
Robert Radwin
Leyuan Shi
Raj Veeramani
Shiyu Zhou

ASSOCIATE PROFESSORS
Alberto Del Pia
Kaibo Liu
Douglas A. Wiegmann

ASSISTANT PROFESSORS
Justin J. Boutilier
Tony McDonald
Carla Michini
Yonatan Mintz
Xin Wang
Qiaomin Xie
Gabriel Zayas-Caban

TEACHING FACULTY
Amanda G. Smith
Sinan Tas
Charlene Yauch

LECTURERS
Terry Mann
Hannah Silber
Tina Xu

UNDERGRADUATE ADVISORS
Francisca Jofre

GRADUATE PROGRAM COORDINATOR
Pam Peterson

See also Industrial and Systems Engineering Faculty Directory (http://directory.engr.wisc.edu/ie/faculty/).