INDUSTRIAL ENGINEERING: RESEARCH, M.S.

This is a named option within the Industrial Engineering M.S. (http://guide.wisc.edu/graduate/industrial-systems-engineering/industrial-engineering-ms/)

The Master of Science in Industrial Engineering research program is designed for students wishing to conduct research during their program.

ADMISSIONS

Please consult the table below for key information about this degree program's admissions requirements. The program may have more detailed admissions requirements, which can be found below the table or on the program's website.

Graduate admissions is a two-step process between academic programs and the Graduate School. Applicants must meet the minimum requirements (https://grad.wisc.edu/apply/requirements/) of the Graduate School as well as the program(s).

Once you have researched the graduate program(s) you are interested in, apply online (https://grad.wisc.edu/apply/).

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Deadline</td>
<td>December 15</td>
</tr>
<tr>
<td>Spring Deadline</td>
<td>This program does not admit in the spring.</td>
</tr>
<tr>
<td>Summer Deadline</td>
<td>December 15</td>
</tr>
<tr>
<td>GRE (Graduate Record Examinations)</td>
<td>Required.</td>
</tr>
<tr>
<td>English Proficiency Test</td>
<td>Every applicant whose native language is not</td>
</tr>
<tr>
<td></td>
<td>English or whose undergraduate instruction was</td>
</tr>
<tr>
<td></td>
<td>not in English must provide an English proficiency</td>
</tr>
<tr>
<td></td>
<td>test score and meet the Graduate School minimum</td>
</tr>
<tr>
<td></td>
<td>requirements (<a href="https://grad.wisc.edu/apply/requirements/#english-proficiency">https://grad.wisc.edu/apply/requirements/#english-proficiency</a>).</td>
</tr>
<tr>
<td>Other Test(s) (e.g., GMAT, MCAT)</td>
<td>n/a</td>
</tr>
<tr>
<td>Letters of Recommendation</td>
<td>3 Required</td>
</tr>
</tbody>
</table>

NOTE: These admissions requirements are only relevant for the M.S. research program. You can find the admissions requirements for the Human Factors and Health Systems (http://guide.wisc.edu/graduate/industrial-systems-engineering/industrial-engineering-ms/industrial-engineering-human-factors-health-systems-engineering-ms/#admissionstext) and the Systems Engineering and Analytics (http://guide.wisc.edu/graduate/industrial-systems-engineering/industrial-engineering-ms/industrial-engineering-systems-engineering-analytics-ms/#admissionstext) programs on their respective pages.

The UW–Madison graduate program in industrial and systems engineering offers students extraordinary opportunities to pursue a course of study that is customized to the student’s interests and ambitions, under the auspices of the foremost experts in their field, in one of the top-ranked industrial and systems engineering departments.

The flexible graduate curricula enables students to tailor their degree program to suit their particular needs and career objectives. Concentration areas in industrial and systems engineering includes: Decision Sciences and Operations Research, Health Systems Engineering, Human Factors and Ergonomics, Manufacturing, and Product Systems and Quality Engineering. Students also have opportunities to take graduate courses in any other departments at UW–Madison, which has a comprehensive set of top-ranked graduate and professional programs.

APPLICATION DEADLINES:

- Fall: Dec. 15th
- Reentry applicants: July 15 (fall); must consult with I SY E faculty advisor prior to reapplying
- Additional reentry information (https://grad.wisc.edu/admissions/previoussenrolled/)

APPLICATION REQUIREMENTS

Application deadlines are strictly enforced and ALL application materials including transcripts, GRE and TOEFL scores MUST be included and submitted by the application deadline.

*Please note our office does not provide feedback to applications as to their potential for admission—please review both the I SY E department and Graduate School requirements for admission, and if you feel you meet the necessary criteria for applying, please do so.

1. Applicants must first meet all of the requirements of the Graduate School (https://grad.wisc.edu/acadpolicy/?policy=enrollmentrequirements).
2. Applicants must also meet department specific requirements as outlined below:
   - Bachelor’s degree or equivalent
   - Mathematical Statistics course (for example STAT 312)
   - Computer Programming course
   - Three introductory courses in Industrial Engineering, such as: I SY E 313, I SY E 315, I SY E 320, I SY E 323, I SY E/PSYCH 349, I SY E 415, I SY E 417
   - The Graduate Record Examination (GRE) is required for this master’s program in I SY E. Please visit here (https://www.ets.org/gre/) for more information on taking the GRE exam. Please note: Applicants should plan to take their exam by December 1 to allow scores to be sent and processed.

Note: Depending on applicant background, applicants may be deficient in up to two prerequisite courses.

APPLICATION STEPS

1. Fill out an online application (https://apply.grad.wisc.edu/Account/Login/?ReturnUrl=%2f) through the Graduate School website and pay the application fee. (https://grad.wisc.edu/admissions/faq/)
2. List three recommenders and their contact information as part of the online application. An email will be sent to the recommender, asking that they submit their letter online using the Graduate School’s recommendation form. Applicants can log back into their online application to re-send the email request if the recommender loses the email. Letters of recommendation must be submitted electronically.
3. Submit a Statement of Purpose (https://grad.wisc.edu/prospective/prepare/statement/) with your online application.
4. **TOEFL Exam Information:** Ask ETS (https://www.ets.org/) to submit your GRE and/or TOEFL scores to the UW–Madison Graduate School (Institution Number 1846). If you have your scores sent to UW–Madison, they will be available online to all the departments to which you have applied. The institution code, therefore, is the only number needed. For more information please visit the Graduate School Requirements (https://grad.wisc.edu/admissions/requirements/) page. Please note: Exam information must be valid at the start date of the semester that you are applying for (nonexpired).

5. **GRE Exam Information:** (https://www.ets.org/gre/) The IE graduate program does require the GRE exam be taken by prospective students as part of the application but note there are no specific scoring guidelines for the exam as the GRE is only one part of the consideration for admission into the program. Exam information must be valid at the start date of the semester that you are applying for (nonexpired). Please note: Applicants should plan to take their exam by Dec. 1st to allow scores to be sent and processed.

6. **Electronically submit one copy of your official transcript with your application.** Unofficial copies of transcripts will be accepted for review but official copies are required for admitted students.

**NOTE:** PLEASE DO NOT SEND MATERIALS/DOCUMENTS TO THE I SY E DEPARTMENT OR GRADUATE SCHOOL UNTIL YOU ARE RECOMMENDED FOR ADMISSIONS. ALL DOCUMENTS SHOULD BE UPLOADED WITH YOUR APPLICATION. Check out the Admissions FAQ or contact us at iegradadmission@engr.wisc.edu.

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**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**

**FINANCIAL ASSISTANCE**

If you choose to attend UW–Madison and plan to pursue funding on your own, the following sites could be very helpful:

- Graduate School Funding Resources (https://grad.wisc.edu/studentfunding/prospective/)
- Graduate School Costs and Funding (https://grad.wisc.edu/studentfunding/currentstudents/)
- Tuition & Fees (https://registrar.wisc.edu/tuition__fees.htm)

**TO APPLY FOR TA OR GRADER POSITION**

- Teaching Assistant (https://docs.google.com/forms/d/e/1FAIpQLSeT-Q11sNemo4R8MJo9rohsFHpT7DoWivVK8_0t-iYce16Q/viewform?usp=sf_link)
- Grader (https://docs.google.com/a/wisc.edu/forms/d/e/1FAIpQLSeh-wQWWIXxp_y_GF_utRk9Tv-8Lmy9-0LKU83xWRcsjJiAGA/viewform/)

Teaching assistant and grader positions are appointed each semester. New TAs must submit an application each semester in order to be considered. If you currently are a TA in Industrial and Systems Engineering, you do not need to complete an application each semester.

The number of positions is limited, and the application process is highly competitive. Priority is given to those with current positions who are in good standing and would like to continue teaching. Only after these positions are filled do we look at other applicants. The number of new positions available each semester is generally low, especially in the spring. While this should not deter you from applying, please keep it in mind when planning for the semester.

The department will consider graduate students from other departments only when there are no qualified applicants from the Department of Industrial and Systems Engineering.

**Expected timing for appointments:**

Appointments for teaching assistants are generally made in August for the fall semester and in early December for the spring semester. Grader appointments are appointed along a similar timeline, but often a few weeks later.

**Once hired:**

Students hired into a TA position are required to attend the New Educator Orientation (NAO) training in late August. For more details, please see this website (http://ceete.engr.wisc.edu/ta-training/).

**Speaking requirements for international students:**

All international students applying for teaching assistant positions must meet the UW–Madison Graduate School's requirements (https://www.google.com/url?q=https%3A%2F%2Fkb.wisc.edu%2Fpage.php%3Fid%3D25268&sa=D&sntz=1&usg=AFQjCN9Gc8qLuqvUy99uLOQF5zTnKMZmhBVYA) for spoken English BEFORE they can be considered as a TA. This requirement can be fulfilled in two ways:

1. Pass the SPEAK (https://esl.wisc.edu/ita-training/speak/)—you can register for the SPEAK test through Aaron Webster in Room 3107 ME, aaron.webster@wisc.edu.
2. Receive a 26 or higher on the speaking portion of the TOEFL test (or equivalent). Provide a copy of your score to Aaron Webster in Room 3107 ME, aaron.webster@wisc.edu

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**REQUIREMENTS**

**MINIMUM GRADUATE SCHOOL REQUIREMENTS**

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

MODE OF INSTRUCTION

<table>
<thead>
<tr>
<th>Face to Face</th>
<th>Evening/Weekend</th>
<th>Online</th>
<th>Hybrid</th>
<th>Accelerated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Mode of Instruction Definitions
- **Evening/Weekend**: These programs are offered in an evening and/or weekend format to accommodate working schedules. Enjoy the advantages of on-campus courses and personal connections, while keeping your day job. For more information about the meeting schedule of a specific program, contact the program.
- **Online**: These programs are offered primarily online. Many available online programs can be completed almost entirely online with all online programs offering at least 50 percent or more of the program work online. Some online programs have an on-campus component that is often designed to accommodate working schedules. Take advantage of the convenience of online learning while participating in a rich, interactive learning environment. For more information about the online nature of a specific program, contact the program.
- **Hybrid**: These programs have innovative curricula that combine on-campus and online formats. Most hybrid programs are completed on-campus with a partial or completely online semester. For more information about the hybrid schedule of a specific program, contact the program.
- **Accelerated**: These on-campus programs are offered in an accelerated format that allows you to complete your program in a condensed time-frame. Enjoy the advantages of on-campus courses with minimal disruption to your career. For more information about the accelerated nature of a specific program, contact the program.

CURRICULAR REQUIREMENTS

Requirements Detail
- **Minimum Credit Requirement**: 30 credits
- **Minimum Residence Credit Requirement**: 16 credits
- **Minimum Graduate Coursework Requirement**: Half of degree coursework (15 credits out of 30 total credits) must be completed graduate-level coursework; courses with the Graduate Level Coursework attribute are identified and searchable in the university's Course Guide (https://registrar.wisc.edu/course-guide/).

Overall 3.00 GPA required.

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 Requirements
- No language requirements.

REQUIRED COURSES

Students may choose to specialize in one of the below research areas. The program recommends working with your faculty advisors to answer any questions and to form a plan of study (Course Planning Grid MS Research (https://www.engr.wisc.edu/app/uploads/2016/02/MS-RESEARCH-PLANNING-GRID-DRAFT-1192-002.pdf)).

Decision Science/Operations Research Area

Highly Recommended Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>I SY E 516</td>
<td>Introduction to Decision Analysis</td>
<td>3</td>
</tr>
<tr>
<td>I SY E/COMP SCI/ E C E 524</td>
<td>Introduction to Optimization</td>
<td>3</td>
</tr>
<tr>
<td>I SY E/COMP SCI/ MATH/STAT 525</td>
<td>Linear Optimization</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 620</td>
<td>Simulation Modeling and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 624</td>
<td>Stochastic Modeling Techniques</td>
<td>3</td>
</tr>
</tbody>
</table>

Other Suggested Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>I SY E 412</td>
<td>Fundamentals of Industrial Data Analytics</td>
<td>3</td>
</tr>
<tr>
<td>I SY E/COMP SCI/ MATH 425</td>
<td>Introduction to Combinatorial Optimization</td>
<td>3</td>
</tr>
<tr>
<td>I SY E/M E 512</td>
<td>Inspection, Quality Control and Reliability</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 517</td>
<td>Decision Making in Health Care</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 575</td>
<td>Introduction to Quality Engineering</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 603</td>
<td>Special Topics in Engineering Analytics and Operations Research</td>
<td>1-3</td>
</tr>
<tr>
<td>I SY E 612</td>
<td>Information Sensing and Analysis for Manufacturing Processes</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 604</td>
<td>Special Topics in Manufacturing and Supply Chain Management</td>
<td>1-3</td>
</tr>
<tr>
<td>I SY E/MATH/OTM/ STAT 632</td>
<td>Introduction to Stochastic Processes</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 645</td>
<td>Engineering Models for Supply Chains</td>
<td>3</td>
</tr>
</tbody>
</table>

Health Systems Engineering Research Area

Highly Recommended Courses:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>I SY E 417</td>
<td>Health Systems Engineering</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 517</td>
<td>Decision Making in Health Care</td>
<td>3</td>
</tr>
<tr>
<td>I SY E/ MED PHYS 559</td>
<td>Patient Safety and Error Reduction in Healthcare</td>
<td>2</td>
</tr>
<tr>
<td>I SY E 606</td>
<td>Special Topics in Healthcare Systems Engineering</td>
<td>1-3</td>
</tr>
<tr>
<td>I SY E/ POP HLTH 703</td>
<td>Quality of Health Care: Evaluation and Assurance</td>
<td>1-3</td>
</tr>
</tbody>
</table>

Other Suggested Courses:
### Human Factors and Ergonomics Research Area

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>I SY E/COMP SCI/DS 518</td>
<td>Wearable Technology</td>
<td>3</td>
</tr>
<tr>
<td>I SY E/PSYCH 549</td>
<td>Human Factors Engineering</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 552</td>
<td>Human Factors Engineering Design and Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 555</td>
<td>Human Performance and Accident Causation</td>
<td>3</td>
</tr>
<tr>
<td>I SY E/MED PHYS 559</td>
<td>Patient Safety and Error Reduction in Healthcare</td>
<td>2</td>
</tr>
<tr>
<td>I SY E/B M E 564</td>
<td>Occupational Ergonomics and Biomechanics</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 601</td>
<td>Special Topics in Industrial Engineering 2</td>
<td>1-3</td>
</tr>
<tr>
<td>I SY E 602</td>
<td>Special Topics in Human Factors 2</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 603</td>
<td>Special Topics in Engineering Analytics and Operations Research</td>
<td>1-3</td>
</tr>
<tr>
<td>I SY E 615</td>
<td>Production Systems Control</td>
<td>3</td>
</tr>
<tr>
<td>I SY E/B M I 617</td>
<td>Health Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 620</td>
<td>Simulation Modeling and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 624</td>
<td>Stochastic Modeling Techniques</td>
<td>3</td>
</tr>
<tr>
<td>I SY E/M E 643</td>
<td>Performance Analysis of Manufacturing Systems</td>
<td>3</td>
</tr>
<tr>
<td>I SY E/PSYCH 652</td>
<td>Sociotechnical Systems</td>
<td>3</td>
</tr>
<tr>
<td>I SY E/PSYCH 653</td>
<td>Organization and Job Design</td>
<td>3</td>
</tr>
<tr>
<td>I SY E/M H R 729</td>
<td>Behavioral Analysis of Management Decision Making</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 555</td>
<td>Human Performance and Accident Causation</td>
<td>3</td>
</tr>
<tr>
<td>I SY E/POP HLTH 875</td>
<td>Cost Effectiveness Analysis in Health and Healthcare</td>
<td>3</td>
</tr>
<tr>
<td>B M I/COMP SCI 576</td>
<td>Introduction to Bioinformatics</td>
<td>3</td>
</tr>
<tr>
<td>B M I 773</td>
<td>Clinical Research Informatics</td>
<td>3</td>
</tr>
<tr>
<td>B M I/COMP SCI 776</td>
<td>Advanced Bioinformatics</td>
<td>3</td>
</tr>
<tr>
<td>OTM 753</td>
<td>Healthcare Operations Management</td>
<td>3</td>
</tr>
<tr>
<td>ED PSYCH 711</td>
<td>Current Topics in Educational Psychology</td>
<td>1-3</td>
</tr>
<tr>
<td>NURSING 761</td>
<td>Health Program Planning, Evaluation, and Quality Improvement</td>
<td>3</td>
</tr>
<tr>
<td>POP HLTH/SOC 797</td>
<td>Introduction to Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>POP HLTH 876</td>
<td>Measuring Health Outcomes</td>
<td>3</td>
</tr>
<tr>
<td>PSYCH 610</td>
<td>Design and Analysis of Psychological Experiments I</td>
<td>4</td>
</tr>
<tr>
<td>PSYCH 710</td>
<td>Design and Analysis of Psychological Experiments II</td>
<td>4</td>
</tr>
<tr>
<td>STAT/F&amp;W ECOL/HORT 571</td>
<td>Statistical Methods for Bioscience I</td>
<td>4</td>
</tr>
<tr>
<td>STAT/B M I 641</td>
<td>Statistical Methods for Clinical Trials</td>
<td>3</td>
</tr>
</tbody>
</table>

Various courses count as "Tools and Methods." The HFE faculty group updates the list of "Tools and Methods" courses and advisors decide which set of courses are appropriate for each student. The following are categories of "Tools and Methods": Research Methods, Statistics, Qualitative Research, Biomechanics Methods, and Psychology. Students can work with their faculty advisor for non-I SY E course work.

1. These tracks are internal to the program and represent different pathways a student can follow to earn this degree. Track names do not appear in the Graduate School admissions application, and they will not appear on the transcript.

2. Topics vary for this course. Obtain advance approval from your faculty advisor.

### Manufacturing and Production Systems Research Area

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>I SY E 412</td>
<td>Fundamentals of Industrial Data Analytics</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 415</td>
<td>Introduction to Manufacturing Systems, Design and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>I SY E/M E 510</td>
<td>Facilities Planning</td>
<td>3</td>
</tr>
<tr>
<td>I SY E/M E 512</td>
<td>Inspection, Quality Control and Reliability</td>
<td>3</td>
</tr>
<tr>
<td>I SY E/M E 513</td>
<td>Analysis of Capital Investments</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 515</td>
<td>Engineering Management of Continuous Process Improvement</td>
<td>3</td>
</tr>
<tr>
<td>I SY E 575</td>
<td>Introduction to Quality Engineering</td>
<td>3</td>
</tr>
</tbody>
</table>

1. These tracks are internal to the program and represent different pathways a student can follow to earn this degree. Track names do not appear in the Graduate School admissions application, and they will not appear on the transcript.

2. Topics vary for this course. Obtain advance approval from your faculty advisor.
### Quality Engineering Research Area

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISYE 601</td>
<td>Special Topics in Industrial Engineering 2</td>
<td>1-3</td>
</tr>
<tr>
<td>ISYE 603</td>
<td>Special Topics in Engineering Analytics and Operations Research</td>
<td>1-3</td>
</tr>
<tr>
<td>ISYE 604</td>
<td>Special Topics in Manufacturing and Supply Chain Management</td>
<td>1-3</td>
</tr>
<tr>
<td>ISYE 605</td>
<td>Computer Integrated Manufacturing</td>
<td>3</td>
</tr>
<tr>
<td>ISYE 612</td>
<td>Information Sensing and Analysis for Manufacturing Processes</td>
<td>3</td>
</tr>
<tr>
<td>ISYE 615</td>
<td>Production Systems Control</td>
<td>3</td>
</tr>
<tr>
<td>ISYE/M E 641</td>
<td>Design and Analysis of Manufacturing Systems</td>
<td>3</td>
</tr>
<tr>
<td>ISYE/M E 643</td>
<td>Performance Analysis of Manufacturing Systems</td>
<td>3</td>
</tr>
<tr>
<td>ISYE 645</td>
<td>Engineering Models for Supply Chains</td>
<td>3</td>
</tr>
<tr>
<td>STAT/M E 424</td>
<td>Statistical Experimental Design</td>
<td>3</td>
</tr>
</tbody>
</table>

1. These tracks are internal to the program and represent different pathways a student can follow to earn this degree. Track names do not appear in the Graduate School admissions application, and they will not appear on the transcript.
2. Topics vary for this course. Obtain advance approval from your faculty advisor.

### GRADUATE SCHOOL POLICIES

The Graduate School’s Academic Policies and Procedures (https://grad.wisc.edu/acadpolicy/) provide essential information regarding general university policies. Program authority to set degree policies beyond the minimum required by the Graduate School lies with the degree program faculty. Policies set by the academic degree program can be found below.

#### NAMED OPTION-SPECIFIC POLICIES

#### PRIOR COURSEWORK

**Graduate Work from Other Institutions**

Not allowed for graduate residence credit requirement but allowed for graduate degree credit requirement and graduate coursework (50%) requirement. Coursework earned five or more years prior to admission to a master’s degree is not allowed to satisfy requirements.

**UW–Madison Undergraduate**

Not allowed for graduate residence credit requirement for master’s thesis option or the Ph.D. track but allowed up to 6 credits numbered 300 level or above toward the graduate degree credit requirement for master’s course option tracks but not toward the 50% graduate coursework except for 700 level or above courses. Coursework earned five or more years prior to admission to a master’s degree is not allowed to satisfy requirements.

**UW–Madison University Special**

Allowed up to 15 credits numbered 300 or above toward graduate residence credit requirement and graduate degree credit requirement. If the courses were numbered 700 or above they may count toward the minimum graduate coursework (50%) requirement. Coursework earned five or more years prior to admission to a master’s degree is not allowed to satisfy requirements.

#### PROBATION

The Graduate School regularly reviews the record of any student who earned grades of BC, C, D, F, or Incomplete in a graduate course (300 or above), or grade of U in research credits. This review could result in academic probation with a hold on future enrollment or in being suspended from the Graduate School.
ADVISOR / COMMITTEE
Per Graduate School policy, every graduate student MUST have a faculty advisor. A faculty advisor provides the graduate student with academic guidance regarding their course selection and research oversight in their thesis or project. Graduate students should always seek advice from their advisor and other faculty in their interest area prior to enrolling for courses.

CREDITS PER TERM ALLOWED
Enrollment of 12 credits or less recommended. (Full time status considered 8-12 credits).

TIME CONSTRAINTS
Master’s degree students who have been absent for five or more consecutive years lose all credits that they have earned before their absence. Individual programs may count the coursework students completed prior to their absence for meeting program requirements; that coursework may not count toward Graduate School credit requirements.

GRIEVANCES AND APPEALS
These resources may be helpful in addressing your concerns:

- Bias or Hate Reporting (https://doso.students.wisc.edu/bias-or-hate-reporting/)
- Graduate Assistantship Policies and Procedures (https://hr.wisc.edu/policies/gapp/#grievance-procedure)
- Hostile and Intimidating Behavior Policies and Procedures (https://hr.wisc.edu/hib/)
  - Office of the Provost for Faculty and Staff Affairs (https://facstaff.provost.wisc.edu/)
- Dean of Students Office (https://doso.students.wisc.edu/) (for all students to seek grievance assistance and support)
- Employee Assistance (http://www.eao.wisc.edu/) (for personal counseling and workplace consultation around communication and conflict involving graduate assistants and other employees, post-doctoral students, faculty and staff)
- Employee Disability Resource Office (https://employeedisabilities.wisc.edu/) (for qualified employees or applicants with disabilities to have equal employment opportunities)
- Graduate School (https://grad.wisc.edu/) (for informal advice at any level of review and for official appeals of program/departmental or school/college grievance decisions)
- Office of Compliance (https://compliance.wisc.edu/) (for class harassment and discrimination, including sexual harassment and sexual violence)
- Office of Student Conduct and Community Standards (https://conduct.students.wisc.edu/) (for conflicts involving students)
- Ombuds Office for Faculty and Staff (http://www.ombuds.wisc.edu/) (for employed graduate students and post-docs, as well as faculty and staff)
- Title IX (https://compliance.wisc.edu/titleix/) (for concerns about discrimination)

Grievance Procedures: Industrial and Systems Engineering
If a graduate student feels unfairly treated or aggrieved by faculty, staff, or another student, the University offers several avenues to resolve the grievance. Student’s concerns about unfair treatment are best handled directly with the person responsible for the objectionable action. If the student is uncomfortable making direct contact with the individual(s) involved, they should contact the advisor or the person in charge of the unit where the action occurred (program or department chair, section chair, lab manager, etc). Many departments and schools/colleges have established specific procedures for handling such situations; check their web pages and published handbooks for information. If such procedures exist at the local level, these should be investigated first. For more information, see the College of Engineering Policies and Procedures (https://www.engr.wisc.edu/academics/student-services/academic-advising/policies-and-procedures/). The Assistant Dean for Graduate Affairs (engr-dean-graduateaffairs@engr.wisc.edu) provides overall leadership for graduate education in the College of Engineering (CoE), and is a point of contact for graduate students who have concerns about education, mentoring, research, or other difficulties.

Procedures for handling graduate student grievances against ISyE faculty, staff, or students:

1. The student is encouraged to speak first with the person toward whom the grievance is directed to see if a situation can be resolved at this level.

2. Should a satisfactory resolution not be achieved, the student should contact the Associate Chair for Graduate Affairs, to discuss the grievance. The Associate Chair will facilitate problem resolution through informal channels and facilitate any complaints or issues of students. The first attempt is to help students informally address the grievance prior to formal complaint. Students are also encouraged to talk with their faculty advisors regarding concerns or difficulties, if necessary. University resources for sexual harassment, discrimination, disability accommodations, and other related concerns can be found on the UW Office of Compliance website (https://compliance.wisc.edu/).

3. If the issue is not resolved to the student’s satisfaction, the student can submit the grievance to the Department Chair. The grievance should be submitted in writing, within 60 calendar days of the alleged unfair treatment.

4. On receipt of a written complaint, the Department Chair will form a faculty committee that will review the complaint and gather further information as necessary from the filer of the complaint and other parties involved (including the party toward whom the complaint is directed).

5. The faculty committee will determine a decision regarding the grievance. The Department Chair will report on the action taken by the committee in writing to both the student and the party toward whom the complaint was directed within 15 working days from the date the complaint was received.

6. At this point, if either party (the student or the person toward whom the grievance is directed) is unsatisfied with the decision of the faculty committee, the party may file a written appeal to the College of Engineering Assistant Dean for Graduate Affairs (engr-dean-graduateaffairs@engr.wisc.edu). Either party has 10 working days to file a written appeal to the School/College.

7. Documentation of the grievance will be stored for at least 7 years. Significant grievances that set a precedent will be stored indefinitely.

The Graduate School has procedures for students wishing to appeal a grievance decision made at the school/college level. These policies are described in the Graduate School Academic Policies and Procedures -

OTHER
n/a

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/IPD/)

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-appt/) to schedule an appointment with ECS.


UW WRITING CENTER (HTTPS://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.

PEOPLE

Faculty Directory (https://directory.engr.wisc.edu/display.php/faculty/?page=ie&search=faculty)

PROFESSORS

- Oguzhan Alagoz (https://directory.engr.wisc.edu/ie/Faculty/Alagoz_Oguzhan/)
- Laura Albert (https://directory.engr.wisc.edu/ie/Faculty/Albert-mclay_Laura/)
- Vicki Bier (https://directory.engr.wisc.edu/ie/Faculty/Bier_Vicki/)
- Justin Boutilier (https://directory.engr.wisc.edu/ie/Faculty/Boutilier_Justin/)
- Pascale Carayon (https://directory.engr.wisc.edu/ie/Faculty/Carayon_Pascale/)
- Alberto Del Pia (https://directory.engr.wisc.edu/ie/Faculty/Delpia_Alfredo/)
- John Lee (https://directory.engr.wisc.edu/ie/Faculty/Lee_Lee/)
- Jingshan Li (https://directory.engr.wisc.edu/ie/Faculty/Li_Jingshan/)
- Jeff Linderoth (https://directory.engr.wisc.edu/ie/Faculty/Linderoth_Jeffrey/)
- Kaibo Liu (https://directory.engr.wisc.edu/ie/Faculty/Liu_Kaibo/)
- Jim Luedtke (https://directory.engr.wisc.edu/ie/Faculty/Luedtke_James/)
- Carla Michini (https://directory.engr.wisc.edu/ie/Faculty/Michini_Carla/)
- Yonatan Mintz
- Robert Radwin (https://directory.engr.wisc.edu/ie/Faculty/Radwin_Robert/)
- Leyuan Shi (https://directory.engr.wisc.edu/ie/Faculty/Shi_Leyuan/)
- Raj Veeramani (https://directory.engr.wisc.edu/ie/Faculty/Veeramani_Raj/)
- Xin Wang (https://directory.engr.wisc.edu/ie/Faculty/Wang_Xin/)
- Nicole Werner (https://directory.engr.wisc.edu/ie/Faculty/Werner_Nicole/)
- Doug Wiegmann (https://directory.engr.wisc.edu/ie/Faculty/Wiegmann_Douglas/)
- Gabriel Zayas-Caban (https://directory.engr.wisc.edu/ie/Faculty/Zayas-caban_Gabriel/)
- Shiyu Zhou (https://directory.engr.wisc.edu/ie/Faculty/Zhou_Shiyu/)

AFFILIATE FACULTY

- Barbara Bowers (https://directory.engr.wisc.edu/ie/Faculty/Bowers_Barbara/)
- Elizabeth S. Burnside (https://directory.engr.wisc.edu/ie/Faculty/Burnside_Elizabeth/)

The current job market is challenging and research has shown that individuals who perform structured career planning achieve greater career success and satisfaction.
• Molly Carnes (https://directory.engr.wisc.edu/ie/Faculty/Carnes_Mary/)
• Peter Chien (https://directory.engr.wisc.edu/ie/Faculty/Chien_Peter/)
• Gregory DeCroix (https://directory.engr.wisc.edu/ie/Faculty/Decroix_Gregory/)
• Michael Ferris (https://directory.engr.wisc.edu/ie/Faculty/Ferris_Michael/)
• Caprice Greenberg (https://directory.engr.wisc.edu/ie/Faculty/Greenberg_Caprice/)
• Po-ling Loh (https://directory.engr.wisc.edu/ece/Faculty/Loh_Poling/)
• Eneida Mendonca (https://directory.engr.wisc.edu/ie/Faculty/Mendonca_Eneida/)
• Bilge Mutlu (https://directory.engr.wisc.edu/ie/Faculty/Mutlu_Bilge/)
• David Noyce (https://directory.engr.wisc.edu/cee/Faculty/Noyce_David/)
• Kevin Ponto (https://directory.engr.wisc.edu/ie/Faculty/Ponto_Kevin/)
• Carla Pugh (https://directory.engr.wisc.edu/ie/Faculty/Pugh_Carla/)
• Andrew Quanbeck (https://directory.engr.wisc.edu/ie/Faculty/Quanbeck_Andrew/)
• Thomas Rutherford (https://directory.engr.wisc.edu/ie/Faculty/Rutherford_Thomas/)
• Nasir Safdar (https://directory.engr.wisc.edu/ie/Faculty/Safdar_Nasir/)
• Mary Elizabeth Sesto (https://directory.engr.wisc.edu/bme/Faculty/Sesto_Mary/)
• Dhavan V. Shah (https://directory.engr.wisc.edu/ie/Faculty/Shah_Dhavan/)
• Maureen A. Smith (https://directory.engr.wisc.edu/ie/Faculty/Smith_Maureen/)
• Linsey Steege (https://directory.engr.wisc.edu/ie/Faculty/Steege_Linsey/)
• Bruce R. Thomadsen (https://directory.engr.wisc.edu/bme/Faculty/Thomadsen_Bruce/)
• David J. Vanness (https://directory.engr.wisc.edu/ie/Faculty/Vanness_David/)
• Rebecca Willett (https://directory.engr.wisc.edu/ece/Faculty/Willett_Rebecca/)
• Stephen J. Wright (https://directory.engr.wisc.edu/ie/Faculty/Wright_Stephen/)
• Victor Zavala (https://directory.engr.wisc.edu/che/Faculty/Zavala_Victor/)

EMERITUS PROFESSORS
• John G. Bollinger (https://directory.engr.wisc.edu/ie/Faculty/Bollinger_John/)
• Patricia Brennan (https://directory.engr.wisc.edu/ie/Faculty/Brennan_Patricia/)
• Dennis G. Fryback (https://directory.engr.wisc.edu/ie/Faculty/Fryback_Dennis/)
• David Gustafson (https://directory.engr.wisc.edu/ie/Faculty/Gustafson_David/)
• William G. Reddan (https://directory.engr.wisc.edu/ie/Faculty/Reddan_William/)
• Stephen M. Robinson (https://directory.engr.wisc.edu/ie/Faculty/Robinson_Stephen/)
• Jerry L. Sanders (https://directory.engr.wisc.edu/ie/Faculty/Sanders_Jerry/)
• Michael J. Smith (https://directory.engr.wisc.edu/ie/Faculty/Smith_Michael/)
• Harold J. Steudel (https://directory.engr.wisc.edu/ie/Faculty/Steudel_Harold/)
• Rajan Suri (https://directory.engr.wisc.edu/ie/Faculty/Suri_Rajan/)
• Arne Thesen (https://directory.engr.wisc.edu/ie/Faculty/Thesen_Arne/)
• Gregg Vanderheiden (https://directory.engr.wisc.edu/ie/Faculty/Vanderheiden_Gregg/)
• David R. Zimmerman (https://directory.engr.wisc.edu/ie/Faculty/Zimmerman_David/)