

## Master of Science Degree Requirements

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The M.S.I.E. program consists of a minimum of 41 credit hours, with a *Coursework Only* and a *Thesis* option.

### Coursework Only Option:

- 21 Numerically graded course credits in Industrial Engineering (500 level or above; independent study/research credit will not count)
- 17 Numerically graded course credits in Technical Electives (a maximum of 9 technical elective credits at the 400 level)
- 3 Credits of IE Seminar: IND E 591, 592, 593 (1 credit each)
- 41 Total Credits**

### **Coursework Only students are expected to:**

1. Submit a Coursework Only Degree Plan to the ISE Advising Office *by the end of the second quarter*. The Degree Plan should reflect three or more quarters of scheduled classes that satisfy the requirements.
2. Apply online with the Graduate School to obtain the Master's "Warrant" when ready to graduate. **The deadline is the end of the seventh week of the quarter you plan to graduate (without incurring a late fee).** Any questions regarding this procedure should be addressed to the ISE Advising Office.
3. Obtain the required signatures on the Master's "Warrant" (refer to the ISE Advising Office on who needs to sign the Warrant), provide a copy of the signed Warrant to the ISE Advising Office, and return the signed original to the Graduate School (G1 Communications) no later than 5:00 pm on the last day of the quarter.

### Thesis Option:

- 18 Numerically graded course credits in Industrial Engineering (500 level or above; independent study/research credit will not count)
- 11 Numerically graded course credits in Technical Electives (a maximum of 9 technical elective credits at the 400 level)
- 9 Credits of Master's Thesis (IND E 700)
- 3 Credits of IE Seminar: IND E 591, 592, 593 (1 credit each)
- 41 Total Credits**

### **Thesis students are expected to:**

1. Submit a Thesis Degree Plan to the ISE Advising Office *by the end of the second quarter*. The Degree Plan should reflect three or more quarters of scheduled classes, which satisfy the requirements and complement the student's research interests. Students must select a thesis committee Chair/co-Chairs at this time. The Chair must be a tenured/tenure-track or Adjunct faculty in ISE. If there are co-Chairs, then one must be tenured/tenure-track or Adjunct faculty in ISE. A co-Chair must have, at a minimum, an ISE Affiliate appointment at the rank of Assistant, Associate or Full Professor. The Chair (or a co-Chair) must be a member of the Graduate Faculty.
2. Select Master's thesis committee members by the end of the third quarter. The committee should consist of three faculty members. A minimum of two members (including the Chair/co-Chairs) must be tenured/tenure-track or Adjunct faculty in Industrial & Systems Engineering. At least two committee members must be members of Graduate Faculty. Submit a thesis proposal (approved and signed by your committee Chair) to the ISE Advising Office **before** registering for IND E 700, Master's Thesis.
3. Apply online with the Graduate School to obtain the Master's "Warrant" when ready to graduate. **The deadline is the end of the seventh week of the quarter you plan to graduate (without incurring a late fee).** Any questions regarding this procedure should be addressed to the ISE Advising Office.

4. Present the thesis research in an ISE seminar, where it must be approved by the thesis committee and satisfy University requirements. Obtain the required signatures on the Master's "Warrant" (refer to the ISE Advising Office on who needs to sign the Warrant) and return the signed Warrant to the ISE Advising Office.
5. The final master's thesis is to be submitted online to the Graduate School by the last day of the quarter. See the Graduate School's website for instructions: <http://grad.uw.edu/for-students-and-post-docs/thesisdissertation/final-submission-of-your-thesisdissertation/>

**Additional MSIE Degree Requirements:**

All students (both thesis and coursework only options) must take **one course from each** of the following four sections:

**Section A**

IND E 512 Introduction to Optimization  
IND E 513 Linear Optimization Models in Engineering

**Section B**

IND E 508 Stochastic Processes in Engineering  
IND E 535 Engineering Simulation

**Section C**

IND E 521 Quality Control in Manufacturing  
IND E 524 Robust Design and Quality Engineering  
IND E 526 Reliability in Product Design and Testing  
IND E 546 Analytical Methods in Human Factors and Transportation

**Section D**

IND E 519 Healthcare Modeling and Decision Making  
IND E 543 Virtual Interface Technology  
IND E 549 Human Factors in Engineering Design