

## Industrial and Systems Engineering – Systems Engineering, MS

College of Engineering

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The Master of Science (M.S.) in Industrial and Systems Engineering (ISE) program prepares students for successful careers in industry and continuation to doctoral study. The program emphasizes the systems engineering, collaboration and engagement skills critical to addressing the complex societal problems of tomorrow. ISE graduate students tackle these problems in a supportive environment working with nationally-recognized faculty. ISE programs are inclusive of many undergraduate majors. Any engineering major may choose graduate education in ISE to expand systems skills. Many related non-engineering majors might choose ISE with some background courses to expand technical capability.

### **Program Outcomes:**

The Master of Science in Industrial and Systems Engineering program will prepare graduates to:

- Decompose systems into component parts and logically model and evaluate using mathematical, statistical and computational tools.
- Construct and improve integrated systems or processes consisting of people, materials, information, equipment and energy considering life cycle factors.
- Formulate and solve multi-objective problems using industrial and systems engineering methods and tools.
- Apply systems analysis, synthesis, and problem-solving to real world settings to reduce cost and improve productivity and quality.
- Perform presentable research under the supervision of a faculty member.
- Communicate Industrial and Systems technical information a professional level in written, oral, and business graphics formats.

### **Degree Requirements:**

Total credit hours: 30

- Core courses (12 credits): ISEN 625, 655, 665, 675
- Systems Engineering Core (9 credit hours): SYEN 605, 710, 715
- Systems Engineering Electives: Take 9 credit hours: ISEN 658, 664, 721
- ISEN Seminar: Take twice in two semesters