Industrial and 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 andtools.
- Apply systems analysis, synthesis, and problem-solving to real world settings to reduce cost andimprove 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, andbusiness graphics formats.

Degree Requirements:
Total credit hours: 30

- Core courses (12 credits): ISEN 625, 655, 665, 675

Thesis option

- ISEN electives (12 credits): Take 12 credits of additional ISEN courses with approval of advisor
- Thesis (ISEN797: 6 credits)
- ISEN Seminar: Take twice in two semesters

Project option

- ISEN electives (15 credits): Take 15 credits of additional ISEN courses with approval of advisor
- Project (ISEN 796: 3 credits)
- ISEN Seminar: Take twice in two semesters

Course option

- ISEN electives (18 credits): Take 18 credits of additional ISEN courses with approval of advisor
- Capstone Project
- ISEN Seminar: Take twice in two semesters