Industrial and Systems

The Department of Industrial and Systems Engineering (ISE) offers three graduate degrees; the Master of Science (MS); the Master of Industrial and Systems Engineering (MISE); and the doctorate (Ph.D). The department also offers a dual MISE/Master of Business Administration (MBA) degree. These degrees are offered to students with undergraduate degrees in industrial engineering, other engineering disciplines, mathematics or sciences from an institution of recognized standing. All applicants must be proficient in probability and statistics, operations research and engineering economy. The program is oriented towards professional practice. All applicants for each degree must submit GRE scores for the General Test or TOEFL scores for international applicants. There is no residency, foreign language or minor requirements for any of the three degree options. For more information visit: eng.auburn.edu/isegrad

Minimum Requirements for MS Degree (31 credit hours):

- 31 credit hours of graduate INSY (6000-8000 level) coursework that must include:
  - INSY 6600 Manufacturing/Production Economics
  - INSY 7300 Advanced Engineering Statistics I
  - INSY 7420 Linear Programming and Network Flows

- Two INSY electives
- Four to six hours of master’s thesis (INSY 7990)
- No more than nine hours of INSY-related courses
- One hour of graduate seminar (INSY 7950)

If only four hours of thesis is taken, an additional INSY elective course must also be taken. The thesis is supervised by an adviser (a graduate faculty member in the ISE department) and an advisory committee (at least two other graduate faculty members). Students are responsible for selecting an adviser and, together must, develop the thesis idea and plan of study. Students typically select an adviser after the first or second semester of coursework and the student and adviser select the additional committee members. In general, this degree option is not available to online students.

Minimum requirement for MISE degree (31 credit hours):

- 31 credit hours of graduate INSY (6000-8000 level) coursework that must include:
  - INSY 6600 Manufacturing/Production Economics
  - INSY 7300 Advanced Engineering Statistics I
  - INSY 7420 Linear Programming and Network Flows

- Two INSY electives
- Four to six hours of master’s thesis (INSY 7990)
- No more than nine hours of INSY-related courses
- One hour of graduate seminar (INSY 7950/7956)

The MISE degree offers a “coursework only” and a “project” option and is available to online students.
Minimum requirements for the Dual MBA/MISE degree (55 credit hours):

- MISE: 15 hours of INSY core courses including:
  - Six hours of INSY electives
  - Six additional hours of INSY or related electives
  - One hour of INSY graduate course
- MBA: 21 hours of BUSI required courses including:
  - Six hours of BUSI or related electives

For the MBA, students without two years full time work experience will be required to do a three-credit hour internship in summer in place of one of the three-hour BUSI or related electives. For more information on the dual MBA/MISE degree visit: eng.auburn.edu/dual

Minimum requirements for Ph.D degree:

- 60 credit hours including:
  - Nine hours of INSY graduate core courses
  - 12 hours of INSY elective courses
  - No more than nine hours of INSY-related courses
  - One hour of graduate seminar (INSY 7950/7956)
  - Minimum of 10 hours of research and dissertation (INSY 8990)

The content of the remaining course hours is determined by the student in consultation with his/her adviser and committee. Ph.D students complete a research-based dissertation supervised by the adviser and the advisory committee.

M.S. and Ph.D. Programs
With departmental approval, it is also possible to complete thesis-requiring master’s of science and doctoral degrees via a combination of distance learning and on-campus activities.

Special Requirements: Students with degrees in fields other than industrial and systems engineering
We expect all applicants to have an industrial and systems engineering degree or roughly its equivalent. At a minimum, the applicant should have an appropriate math and core industrial engineering background similar to our undergraduates. Below are the descriptions for our undergraduate courses and links to more information on these areas. Note that you do not necessarily have to take these courses, but you should compare your background with the background of our undergraduate students.

The following are the math courses that our undergraduate students complete:

- MATH 1610 Calculus I (4)
- MATH 1620 Calculus II (4)
- MATH 2630, Calculus III (4)
- MATH 2650 Differential Equations (3)
- MATH 2660 Linear Algebra (3)
We also expect competency in core industrial and systems engineering undergraduate areas:

INSY 3600 Engineering Economy (3). Pr., ENGR 1110.

INSY 3410 Deterministic Operations Research (3). Pr., ENGR 1110, MATH 2660.

INSY 3400 Stochastic Operations Research (3). Pr., ENGR 1110, MATH 2660, STAT 3600.

STAT 3600 Probability And Statistics I (3). Pr., MATH 1620.

STAT 3610 Probability And Statistics II (3). Pr., STAT 3600 or departmental approval. Coreq., STAT 3610 or COD Continuation of STAT 3600.

STAT 3611 Probability & Statistics II LAB (1). Coreq., STAT 3610 or departmental approval.

**Application Procedures**

- Fill out the online graduate application at app.applyyourself.com/?id=auburn-g (you will be required to create an account)
- Provide GRE or Test of Spoken English (TSE) scores
- Upload your letter of intent and related courses/work experiences
- For more information visit grad.auburn.edu

[www.eng.auburn.edu/insy](http://www.eng.auburn.edu/insy)