

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 (PhD). 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 MISE is oriented towards professional practice. The GRE is no longer required for students who wish to obtain their master's degree. In addition, if a student has already earned a master's degree from Auburn, and plans to pursue a Ph.D., they do not have to take the GRE. However, if a student has a master's degree from an institution outside of Auburn and wishes to earn a Ph.D. from Auburn, GRE test scores are required. There is no residency, foreign language or minor requirements for the MISE or MISE/MBA degree.

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 or three INSY electives
- ▶ Four to six hours of master's thesis (INSY 7990)
- ▶ No more than nine hours of ISE 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 – course work only)

- ▶ 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
- ▶ Minimum of four INSY electives
- ▶ Up to three ISE related electives
- ▶ One hour of graduate seminar (INSY 7950/7956)

Minimum requirements for Dual MBA/MISE degree (55 credit hours):

- ▶ MISE: 28 hours of INSY core courses including:
 - ◆ INSY 6600 Manufacturing/Production Economics
 - ◆ INSY 7300 Advanced Engineering Statistics I
 - ◆ INSY 7420 Linear Programming and Network Flows
 - ◆ Minimum four ISE electives
 - ◆ Up to two ISE related electives
- ▶ MBA: Plus 27 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: www.eng.auburn.edu/programs/insy/programs/graduate-students/prospective-students/dual

Minimum requirements for Ph.D degree:

- ▶ 60 credit hours including:
 - ◆ INSY 6600 Manufacturing/Production Economics
 - ◆ INSY 7300 Advanced Engineering Statistics I
 - ◆ INSY 7420 Linear Programming and Network Flows
 - ◆ 12 to 40 hours of INSY courses
 - ◆ 0 to 28 hours of ISE related courses
 - ◆ One hour of graduate seminar (INSY 7950/7956)
 - ◆ Minimum of 10 hours of research and dissertation (INSY 8990)

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 is the list for our undergraduate courses. Note that you do not necessarily have to take these courses, but you should compare your background with the background of our undergraduate students. Course descriptions can be found in the Auburn Bulletin at bulletin.auburn.edu.

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

STAT 3610, Probability and Statistics II (3), Pr., STAT 3600 or 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)
- ▶ Submit TSE scores, if applicable
- ▶ Upload your letter of intent and related courses/work experiences
- ▶ For more information visit grad.auburn.edu

www.eng.auburn.edu/insy