

# Degree Requirements, Operations Research and Industrial Engineering

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Graduate handbook information is updated and maintained by each program. Graduate handbooks are available within each program's office and online at <https://utexas.box.com/v/UTAustinGraduateHandbooks>. Please contact the program with concerns or questions.

## Master of Science in Engineering

To enter the MSE program, a student should have an undergraduate degree in engineering or an equivalent quantitative field such as mathematics, economics, or one of the physical sciences. The graduate advisor may require those with degrees in other fields to take additional courses. In general, an adequate background includes coursework in probability, statistics, programming, linear algebra, calculus, engineering economics, and optimization. These courses may be taken after enrollment, but they usually will not be counted toward fulfillment of degree requirements.

The operations research component of the program emphasizes the application of mathematics to a variety of economic and operational problems. Students take advanced coursework in optimization, probability and statistics, and stochastic processes. Those interested primarily in industrial engineering may concentrate on forecasting, production planning and control, scheduling, or logistics. Each student must complete either 24 semester hours of coursework plus a six-hour thesis; 27 semester hours of coursework, plus a three-hour research report; or 30 semester hours of coursework. More coursework may be required, depending on the student's background and goals. All options require at least two courses in a minor area, which usually comprises work in mathematics, business, computer science, or other branches of engineering. The graduate advisor, after consultation with a student's research supervisor, is the final approver of each student's degree plan. All ORI-designated courses must be taken for a letter grade if they are to count towards the degree.

## Doctor of Philosophy

The chief components of this program are scholastic excellence and original research. Although there is no specific number of semester hours required for the doctoral program, the student must meet the requirements of the Graduate Studies Committee (GSC), which means completing at least 24 hours of graduate coursework beyond a master's degree in a related field. The graduate advisor, in consultation with the members of the GSC, will determine the exact coursework requirements for those doctoral students with a Master's degree from another program. Formal admission to candidacy is considered by the GSC after a thorough review of the student's overall academic record and performance on the doctoral qualifying examination.