RUTGERS SCHOOL OF ENGINEERING
Advancing Leaders to Solve Today’s Complex Engineering Challenges

Industrial and Systems Engineering
Master of Science Graduate Degree Program
Rutgers School of Engineering’s Master of Science in Industrial and Systems Engineering is a research-directed program that provides advanced training in critical areas that span three degree options in industrial and systems engineering, production and manufacturing systems engineering, or quality reliability engineering. Focused areas of specialization include planning and operations engineering, data analytics, and risk and uncertainty. Designed to integrate theory with applied training and skills, students will combine diversified coursework with hands-on learning and research. The Master of Science degree is a pre-requisite to a doctoral degree.

Quality and Reliability Engineering
Offered in cooperation with the Department of Statistics, this option prepares students with a specialty focusing on design of experiments, process control, reliability, and quality management. Courses include:

- ISE
  - Production Analysis
  - Quality Management
  - Systems Reliability Engineering I
  - Systems Reliability Engineering II
- Statistics
  - Statistical Quality Control I
  - Life Data Analysis
  - Design of Experiments

Applied Learning
Emphasis on mastery of the essential aspects of practice and research areas within the field of industrial and systems engineering is a key component of the program. Students completing this degree will engage in and conduct original research, often in collaboration with industry and other disciplines, in preparation for careers that require training at the highest levels.

ISE Master of Science Program Options

Industrial and Systems Engineering
This option allows students to select electives in focused areas of interest and provides a firm foundation in mathematical modeling, simulation, and production systems. Courses include:

- Deterministic Models in Industrial Engineering
- Stochastic Models in Industrial Engineering
- Simulation of Production Systems
- Production Analysis
- Design of Experiments

Manufacturing and Production Systems Engineering
This is the most flexible option offering a rich specialty in production systems, simulation, supply chain engineering, automation, and manufacturing. Courses include:

- Supply Chain Engineering
- Simulation of Production Systems
- Production Analysis
- Advanced Manufacturing Processes

Master of Science Degree Requirements

- 30 credits; non-thesis option
- 24 credits; thesis option includes 6 credits of thesis research
- Focused coursework in engineering-specific areas of interest

Why Rutgers Industrial and Systems Engineering?

- Our vibrant academic community is committed to integrating education and research to achieve transformational innovation that is ethically responsible and sustainable.
- Our Industrial and Systems Engineering graduate program is ranked among the top 20 in the nation by U.S. News and World Report.
- Our students engage in relevant hands-on projects with leading corporations.
- Our accomplished faculty are experts in their fields of research.
- Our collaborative relationships across a variety of industries allow us to offer career support for students.

For application deadlines and more information, visit: ise.rutgers.edu/GraduatePrograms