INDUSTRIAL ENGINEERING, BS

for the degree of Bachelor of Science in Industrial Engineering

Industrial engineering is a discipline that encompasses the analysis, development, improvement, implementation, and evaluation of integrated systems and their components, including materials, information, energy, people, money, time, equipment, and associated processes. Industrial engineering draws upon a variety of disciplines, from mathematics to psychology, from communications to computer science, and from production management to process control. Industrial engineers design efficient, productive systems in a wide range of business, industrial, and governmental settings.

The technical portion of the Industrial Engineering curriculum is designed as a sequence of increasingly specialized experiences. The entering student's first year is spent mastering the basics of science: math, chemistry, and physics. Second-year students begin to take fundamental engineering courses such as statics, dynamics, statistics, and strength of materials. Third-year students take a core of industrial engineering courses and begin their chosen area of specialization in one of five tracks, including: Operations Research; Quality Engineering; Supply Chain, Manufacturing, and Logistics; Economics and Finance; and Industrial Engineering Fundamentals. The Track Option website (https://ise.illinois.edu/undergraduate/industrial-engineering-degree/industrial-engineering-track-options/) contains a full list of courses for each track option. During their senior year, students broaden and deepen their knowledge with additional technical elective courses. Engineering design, communication, teamwork, and laboratory experiences are integrated throughout all four years of the curriculum.

Track Options

- Economics and Finance
- Human Factors/Ergonomics
- Industrial Engineering Fundamentals
- Operations Research
- Quality Engineering
- Supply Chain, Manufacturing, and Logistics

The capstone experience for Industrial Engineering undergraduates is the Senior Project Course. Students work collaboratively with industry and a team of faculty members on a real-world problem during their final semester. Students participate in the practice of engineering through the capstone senior design course in which they work in teams to solve problems submitted by industry partnering companies, and present their solutions in reports and presentations supported by complete economic analyses.

Current Program Educational Objectives (https://ise.illinois.edu/undergraduate/abet/)