The industrial engineering curriculum covers the principal concepts of contemporary process design, facilities planning, human performance, mathematical modeling and production control, project management, systems simulation, and quality. Specifically, industrial engineering is concerned with the design, improvement and installation of integrated systems of people, materials, equipment and information typically found in all industries (e.g. manufacturing, healthcare, banking and other services, entertainment, distribution – including the design and management of supply chains, as well as the integration of sustainable practices). Lean production and Six-Sigma concepts are also introduced and reinforced throughout the curriculum.

Degree(s) Awarded
Bachelor of Science Degree (5 year, including 1 year of co-op)
  Options in: Ergonomics/Human Factors, Supply Chain Management, Manufacturing, and Lean Six Sigma
Bachelor of Science/Master of Engineering dual degrees
Bachelor of Science/Master of Science dual degrees
Bachelor of Science/Master of Science in Applied Statistics
Master of Engineering in Engineering Management
Master of Engineering in Industrial and Systems Engineering
Master of Engineering in Sustainable Engineering
Master of Science in Industrial and Systems Engineering
Master of Science in Sustainable Engineering

Enrollment
Approximately 200 full-time undergraduates, 10 part-time graduates, 75 full-time graduates.

Cooperative Education Component
Students are required to complete a total of four (4) co-op work periods during 3rd-5th years. Work periods occur year-round; two summers and two semesters.

Salary Information (Avg/Range)
- Ind. Eng. Co-op: $17.00 - $9.50 - $36.00
- Eng. Mgmt. Co-op: $21.65 - $10.00 - $36.54
- BS: $61,000 - $34,000 - $68,000
- MS: $69,000 - $62,000 - $72,300
- Eng. Mgmt. Grad: $63,000 - $50,000 - $70,000

Equipment & Facilities
The ISE department is located in the James E. Gleason building, within the Kate Gleason College of Engineering. The department houses several state-of-the-art laboratories to support their programs, including the Brinkman Machine Tools and Manufacturing Lab, the Human Performance Lab, the Advanced Systems Integration Lab, the Toyota Production Systems Lab, and a general computer lab. These labs are fully accessible to all ISE students.

There are ample computing facilities within these specialized labs, as well as a dedicated computer PC lab. These labs offer an extensive library of software to support industrial engineering research and project work, including, conventional word processing, spreadsheet, and presentation applications (ACCESS, FoxPro), data acquisition (Lab View) statistical analysis (Minitab, SAS) facilities layout (AutoCAD, Factory Flow, Factory Plan), systems simulation applications (ProModel, ARENA), and manufacturing software, MasterCam, material selection software.)
Industrial and Systems Engineering

Curriculum BS degree

1st & 2nd Years:
- Fundamentals of Process Design
- Engineering Economics
- PC applications (Office, AutoCAD, Access, MS Project)
- Computer Programming
- Chemistry
- Probability & Statistics (2 courses)
- University Physics
- Calculus; Differential Equations;
  - Linear Algebra
- Mechanics (statics, strength of materials, dynamics)
- 6 Liberal Arts Core

3rd & 4th Years:
- Engineering Management
- Operations Research
- Systems & Facilities Planning
- Production Planning and Scheduling
- Ergonomics/Human Factors
- Design and Analysis of Production
- Systems
- Statistical Quality Control
- Simulation/Modeling
- 1 Liberal Arts Immersion
- Four (4) co-op terms
- Materials Science

5th Year:
- Multi-disciplinary Senior Design Project
  - (team-based working solution to an actual engineering problem)
- Professional Electives (3)
- 2 Free Electives
- 2 Liberal Arts Immersions
- Regression

Elective Course Areas: 4th & 5th year students can take their electives in the following areas:

- Advanced Manufacturing
- Computer Engineering
- Computer Science
- Contemporary Production Systems (e.g., Lean Manufacturing)
- Accounting & Finance
- Ergonomics/Safety
- Database/Information Systems
- Operations Research
  - or Mathematics
- Microelectronics/Electrical Engineering
- Mechanical Engineering
- Psychology
- Supply Chain Management/Logistics
- Sustainable Engineering
- Systems Engineering
- Quality & Applied Statistics

Selected Employers of Industrial and Systems Engineering Co-op and Graduating Students


Contact Us

We appreciate your interest in hiring RIT co-op, graduating students or alumni. We will make every effort to make your recruiting endeavor a success. Call our office and ask to speak with Annette Stewart, the program coordinator who works with the Industrial and Systems Engineering program. For your convenience, you can access information and services through our web site at http://www.rit.edu/recruit.

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