Objectives

- Describe what is Industrial Engineering
- Discuss IE experiences & opportunities
- Discuss IE curriculum & organizations
- Discuss future roles of IE practice

What is our purpose as engineers?

- Improve quality (standard) of life
- Construction
- Products
- Services
- Care for the environment
- Waste management
- Design for the environment (DFE)
- Advance methods and technology (Today ↔ Computer-based)
- Develop information systems
- Provide BETTER products/services, FASTER & at LOWER COST!

Goals for Companies

Goals for the 90's
- High quality
- Low cost
- High productivity
- Reduced TIME to customer

Goals for the 00's
- Customized services/products
- Reduced environmental impact

What is IE?

“Industrial Engineers design integrated systems of people, technology, and capital to create competitive enterprises.”

IE draws upon specialized knowledge and skills in the mathematical, physical, and social sciences.

- Institute of Industrial Engineers (IIE)

What is an IE?

Put simply:

- An Industrial Engineer is:
  - A problem solver
  - An integrator
  - A designer
  - An analyzer & evaluator
  - People centered

With a complete SYSTEM PERSPECTIVE ↔ BUSINESS CONSCIOUS
Industrial Engineering Program

- Relatively small size, but high quality
- 8 faculty, 165 undergraduates, 37 graduate students
- Ranked in top ten nationally for IE departments at public universities
- BS, MS, and PhD programs
- Specialties: human factors; design & manufacturing; computer & information systems; medical systems

Industrial Engineering Faculty

Dennis Bricker  Gary Fischer  Andrew Knud  John Lee
Peter O'Grady  Tom Schnell  Geh Thomas  Linda Boyle

IE Academic Programs

Bachelor of Science
Master of Science
Doctor of Philosophy

New Curriculum - Fall 2002

- Three-semester common core
- New EPS-I, engineering design course
- New calculus series
- Added applied statistics & information system design
- 21 s.h. elective focus area (EFA)

Industrial Engineering EFA’s

(www.mie.engineering.uiowa.edu)

- Computer & Information Systems (minor in Computer Science)
- Human Factors & Ergonomics (minor in Psychology)
- Management (minor in Business Administration)
- Medical Systems
- Product Design & Manufacturing
- UI Minor, TEC, or customized plan of study

(21 s.h. each, including math/science elective)

Opportunities for Experiential Learning

- Co-ops & internships
- Research with faculty
- Program for Enhanced Design Experience (PEDE)
- Study Abroad
- Student organizations
Opportunities for Leadership

Institute for Industrial Engineers

Typical IE Careers

- Manufacturing companies (private and government)
- Service industries
- Computer/computer software companies
- Consulting agencies
- Food processing companies
- Health care institutions & companies
- Research & teaching (professor)

? Salaries: $50,000 / $48,000 / $35,000

What’s the Future Look Like?

- More focus of business operations
- How will technology impact our bottom line?
- Invaluable as technological and organizational integrators
- It is becoming even more important for an IE to have a diverse “toolbox” of engineering skills
- Develop and enhance industrial applications, using artificial intelligence technologies
- Play an important role in improving quality assurance
- Fill the role of engineering’s management people

The System Integrator...

THE END

http://www.mie.engineering.uiowa.edu