

# INDUSTRIAL ENGINEERING





# INDUSTRIAL ENGINEERING

The **DEPARTMENT OF INDUSTRIAL ENGINEERING AND MANAGEMENT SCIENCES** equips students with the analytical and organizational skills they need to pursue a broad range of career options. The department's internationally recognized faculty members conduct research in areas such as **financial and healthcare engineering** and **humanitarian logistics**, and teach courses designed to develop our students' **analytic skills** and **understanding of business**.

## UNDERGRADUATE STUDY

The undergraduate program was developed for students interested in probability, statistics, and mathematical modeling, as well as economics and decision science.

### PROGRAMS OF STUDY

- \ Bachelor of science in industrial engineering
- \ Dual major with economics
- \ Kellogg Certificate Program for undergraduates

### EXAMPLE COURSES

- IEMS 313 *Deterministic Models and Optimization*
- IEMS 325 *Engineering Entrepreneurship*
- IEMS 341 *Social Networks Analysis*
- IEMS 381 *Supply-chain Modeling and Analysis*
- IEMS 385 *Introduction to Health Systems Management*

### OUTSIDE THE CLASSROOM

**RESEARCH** \ Work with faculty on research. Recent projects include enhancing medical preparedness for marathons and optimizing delivery routes for local nonprofits.

**NETWORKING** \ Attend regional and national meetings; participate in competitions against other universities.

**INSTRUCTION** \ Assist faculty in curriculum studies, course grading, and development.

**STUDY ABROAD** \ Apply for an IEMS study abroad award to study industrial engineering in Hong Kong or Istanbul.

**THE INSTITUTE OF INDUSTRIAL ENGINEERS** \ This student group advances industrial engineering through networking, training, and knowledge sharing.

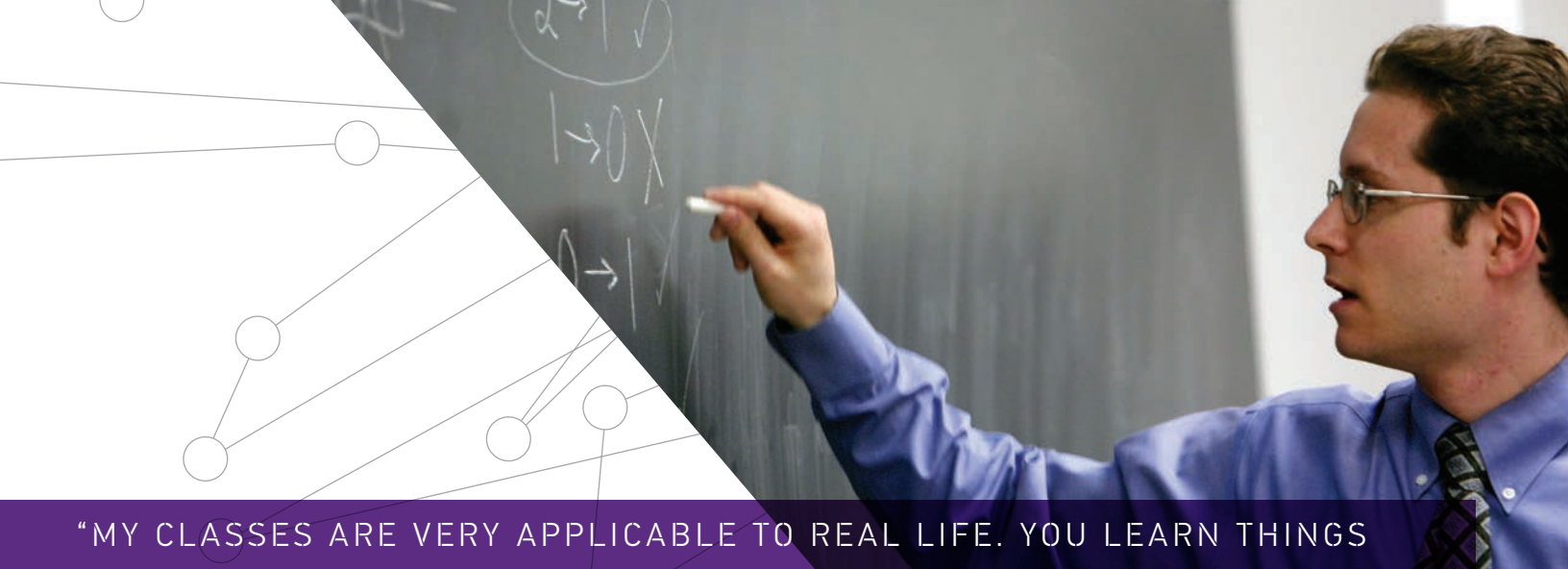
## GRADUATE STUDY

### PROGRAMS OF STUDY

- \ Master of Engineering Management
- \ Master of science in analytics
- \ PhD in industrial engineering and management sciences

### RESEARCH AREAS

- \ Analytics and statistics
- \ Financial engineering
- \ Health and humanitarian systems
- \ Optimization
- \ Organization science
- \ Production and logistics
- \ Stochastic modeling and simulation



“MY CLASSES ARE VERY APPLICABLE TO REAL LIFE. YOU LEARN THINGS YOU’LL REALLY USE. MY PROFESSORS ARE SO SUPPORTIVE, AND THEY HAVE REAL INDUSTRY EXPERIENCE. I THINK THAT’S THE MOST IMPORTANT THING A TEACHER CAN OFFER.”

SARI NAHMAD \ INDUSTRIAL ENGINEERING

## CAREERS IN INDUSTRIAL ENGINEERING

### WHAT’S NEXT?

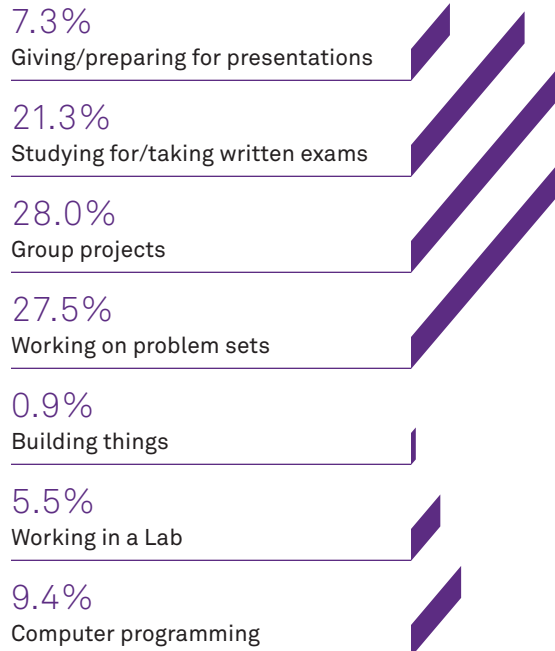
- \ Many industrial engineering graduates pursue advanced study in business and analytics.
- \ Others go on to careers in logistics, manufacturing, finance, and consulting.

### RECENT GRADUATE PLACEMENTS

- \ Systems analyst at **Nike**
- \ Business analyst at **McKinsey & Co.**
- \ Associate industrial engineer at **DSC Logistics**
- \ Data analyst at **Oracle**
- \ Consultant at **IBM**
- \ Product manager at **Redfin**
- \ Industrial engineer at **JetBlue Airways**
- \ Business analyst at **Accenture**
- \ Corporate banker at **HSBC**
- \ Analyst at **J.P. Morgan**

## HOW YOU SPEND YOUR TIME IN THIS PROGRAM

BASED ON A SURVEY OF CURRENT STUDENTS.



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## ENVISION WHAT'S POSSIBLE

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NORTHWESTERN ENGINEERING STUDENTS  
CONSTANTLY EXPLORE NEW PATHWAYS  
IN INDUSTRIAL ENGINEERING. IMAGINE YOURSELF:

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- \ Learning how to design, analyze, and improve any organization
  - \ Getting a systems-level view of business—organizational behavior, economics, entrepreneurship, and innovation
  - \ Developing the skills to create and implement mathematical, statistical, and computer models with confidence
  - \ Learning industrial engineering concepts and applications from leading innovators and practitioners

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## FIND YOUR DIRECTION HERE

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Northwestern | McCORMICK SCHOOL OF  
ENGINEERING

[www.iems.northwestern.edu](http://www.iems.northwestern.edu)