

**Degrees Available at SIUE**

- Bachelor of Science in Industrial Engineering

**Specializations**

Manufacturing Engineering

**Industrial Engineering at SIUE**

Industrial engineers design, produce and deliver quality products (parts or services) to customers at affordable prices in a timely manner. This process involves not only designing and producing value-added products, but also planning and managing people, processes, systems, equipment and other resources efficiently and cost-effectively. In the Department of Mechanical and Industrial Engineering at SIUE's School of Engineering, students learn the knowledge and skills necessary in engineering and management and are uniquely positioned to work in a variety of industries, such as automobile and aircraft manufacturing industries, health care organizations, shipping and logistics, and business.

**Career Opportunities**

SIUE graduates of the industrial engineering program are employed as industrial engineers, manufacturing/production engineers, quality engineers/managers, operations/system engineers/managers, and process design engineers at various major corporations. These corporations include Boeing, Caterpillar, Inc., Pepsi, Pinnacle Foods, Schnucks, Kraft Foods, Eaton Corporation, Nestle Purina, Lockheed Martin, Lowe's, GM, Mallinckrodt, Monsanto, Chrysler, Emerson Electric, Motorola, American Airlines, USPS, Intelligrated Systems, Anheuser-Busch, BJC Health Care, AT&T and MasterCard, among other reputable companies.

In 2015, typical initial salaries of graduates ranged from \$63,000 to \$70,000 per year. The future is promising in the industrial engineering field. It is the third most in-demand engineering discipline and is one of the two fastest-growing engineering fields, according to Forbes Magazine.

**Hands-On Learning**

Students in the industrial engineering program at SIUE gain valuable experience through internships during the summer months and year round. At SIUE, students can also gain research experience by working under the guidance of industrial engineering faculty members on various research projects arranged through the Undergraduate Research and Creative Activities (URCA) program. Over the past five years, our students have also had the opportunity to study abroad in Turkey during the summer term.

**Global Experience**

SIUE has partnered with the industrial engineering program at Istanbul Technical University (ITU) in Turkey to form a dual diploma program. Both programs are Accreditation Board for Engineering and Technology (ABET) accredited. Students in the dual diploma program complete their freshman and junior years at ITU, and their sophomore and senior years at SIUE. The first cohort of four dual diploma students arrived at SIUE in the fall of 2008. Since then, that number has steadily grown to 30 students per class each year.

SIUE also welcomes students from Brazil through the Brazilian Science Mobility Program. Students in the Brazilian Science Mobility Program stay at SIUE for up to one year during their junior or senior year to take industrial engineering courses or to gain research experience under the guidance of the industrial engineering faculty.

**Admission Requirements**

To be admitted to the Bachelor of Science program, students must:

- Complete all Academic Development courses required by the University.
- Complete any courses required to address high school deficiencies.
- Complete MATH 120, College Algebra (or high school equivalents) with a grade of C or better.
- Attain a cumulative grade point average (GPA) of at least 2.0 on a 4.0 scale.

School of Engineering  
Department of Mechanical and  
Industrial Engineering

**Faculty****Xin Chen, PhD**

2009, Purdue University  
Supply Chain Logistics, Financial Engineering  
and Operations Research

**Sohyung Cho, PhD**

2000, Pennsylvania State University  
Robotics, Biomechanics, Manufacturing  
Automation and Control

**Emmanuel S. Eneyo, PhD, PE**

1991, Purdue University  
Production Planning and Control, Project  
Management, Lean Methodologies and  
Engineering Economic Analysis

**S. Cem Karacal, PhD**

1991, Oklahoma State University  
Quality Control, Operations Research  
Simulation

**Hoo Sang Ko, PhD**

2010, Purdue University  
Machine Learning, Intelligent Systems, IT  
Applications, Computer Simulation and Design  
of Experiments

**H. Felix Lee, PhD**

1989, University of Michigan  
3D Modeling for Product Design and  
Engineering Applications, Simulation, and  
Continuous Quality Improvements

**Sinan Onal, PhD, MSEM**

2014, University of South Florida  
Computer-Aided Diagnosis, Product  
Development and Medical Applications,  
Manufacturing and R&D Strategy, Engineering  
Management and Leadership

SOUTHERN ILLINOIS UNIVERSITY  
**EDWARDSVILLE**

SCHOOL OF ENGINEERING

# Sample Four-Year Curriculum

## Fall Semester

## Spring Semester

	Fall Semester	Spring Semester
<b>Year 1</b>	IE 106 Engineering Problem Solving 3 <b>CHEM 131</b> Engineering Chemistry (BPS) 4 <b>CHEM 135</b> Engineering Chemistry Lab (EL) 1 ENG 101 English Composition I 3 <b>MATH 150</b> Calculus I (QR) 5 Total Credits 16	ENG 102 English Composition II 3 <b>MATH 152</b> Calculus II (BPS) 5 <b>PHYS 141</b> University Physics I (BPS) 3 <b>PHYS 151L</b> University Physics Lab I (EL) 1 ASC 103 Interpersonal Communication Skills (EUSC) 3 Total Credits 15
<b>Year 2</b>	<b>CE 204</b> Engineering Graphics & CAD 3 <b>CE 240</b> Statics 3 <b>MATH 250</b> Calculus III (BPS) 4 <b>PHYS 142</b> University Physics II (BPS) 3 <b>PHYS 152L</b> University Physics Lab II (EL) 1 Total Credits 14	<b>CE 242</b> Mechanics of Solids 3 <b>CS 145</b> Introduction to Computing for Engineers 3 <b>ECE 210</b> Introduction to Electrical Circuits 3 <b>MATH 305</b> Differential Equations I or MATH 321-Linear Algebra (BPS) 3 <b>ME 262</b> Dynamics 3 <b>ECON 111</b> Principles of Macroeconomics (BSS) 3 Total Credits 18
<b>Year 3</b>	IE 335 Intro to Information Processing Systems 3 IE 345 Engineering Economics Analysis 3 STAT 380 Statistics for Application (BICS) 3 IE 370 Manufacturing Processes 3 IE 375 Three Dimensional Modeling in Product Design 3 Breadth Fine & Performing Arts (BFPA) 3 Total Credits 18	IE 415 Operations Res-Deterministic Models 3 IE 451 Methods Design & Work Measurements 3 IE 465 Design & Control of Quality Systems 3 IE 470 Manufacturing Systems 3 Breadth Life Science (BLS) 3 Health Experience (EH) 0-2 Total Credits 15-17
<b>Year 4</b>	IE 468 Operations Research-Simulation 3 IE 476 Plantwide Process Control 3 IE 483 Production Planning & Control 3 IE 484 Facilities Planning 3 IE Elective I 3 Total Credits 15	IE 490 Integrated Engineering Design 3 IE Elective II 3 IE Elective III 3 PHIL 323 Engineering, Ethics, & Professionalism (BHUM) 3 Interdisciplinary Studies (IS)/Experience Global Cultures (EGC) 3 Total Credits 15

**Transfer Students** To maximize your transfer experience, complete the **bolded** courses/requirements pre-transfer **AND** satisfy either the Illinois Articulation Initiative (IAI) General Ed Core or receive an AA, AS, or AAT (early childhood, special ed or math) degree from an IAI community college. If 'Minor' requirements are shown, discuss careful course selection with the academic advising contact listed. Transfer Credit Equivalency Guides are located at [siue.edu/transfer](http://siue.edu/transfer).

### Graduation Requirements

Degree requirements include the following:

- Cumulative grade point average (GPA) of 2.0 or higher on a 4.0 scale for engineering courses.
- Cumulative GPA of 2.0 or higher on a 4.0 scale for Industrial Engineering courses numbered above 299.
- Completion of all departmental and University requirements.
- Completion of the Senior Assignment in IE 490 Integrated Engineering Design.
- A grade of C or better for IE 345, 468 and 483.

### Contact Information

Industrial Engineering  
 School of Engineering  
 Phone: 618-650-3389