

Degrees Available at SIUE

- Bachelor of Science, Industrial Engineering (specialization available in the following)
 - Manufacturing Engineering



Accelerated Combined Degree

This program provides an accelerated option for qualifying SIUE students who wish to earn simultaneous undergraduate and graduate credit for some courses taken their senior year.

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, healthcare 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 InBev, BJC Health Care, AT&T and MasterCard, among other reputable companies.

In a recent survey, typical salaries 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

At SIUE, students in the industrial engineering program have multiple opportunities to engage in hands-on learning opportunities. Students have access to state-of-the-art equipment in their classes and labs to prepare for the variety of careers available upon graduation. Our students also participate in a senior design course, which allows them to practice teamwork and critical analysis and to apply their knowledge to real-world applications.

Students gain valuable experience through internships, and research opportunities are available by working under the guidance of industrial engineering faculty members on various research projects arranged through the Undergraduate Research and Creative Activities program.

Global Experience

SIUE has partnered with the industrial engineering program at Istanbul Technical University (ITU) in Turkey to form a dual diploma program, as well as the industrial engineering program at Henan University of Science and Technology (HAUST) in China to form a transfer program.

The industrial engineering program 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 industrial engineering faculty. Additionally, the industrial engineering program hosts students from Germany through the international exchange program.



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

Sample Curriculum for the Bachelor of Science in Industrial Engineering

Fall Semester

Spring Semester

	Fall Semester	Spring Semester		
Year 1	IE 106 Engineering Problem Solving	3	ENG 102 English Composition II	3
	CHEM 131 Engineering Chemistry (BPS)	4	MATH 152 Calculus II (BPS)	5
	CHEM 135 Engineering Chemistry Lab (EL)	1	PHYS 141 University Physics I (BPS)	3
	ENG 101 English Composition I	3	PHYS 151L University Physics Lab I (EL)	1
	MATH 150 Calculus I (QR)	5	ASC 103 Interpersonal Communication (EUSC)	3
	FST 101 Succeeding & Engaging at SIUE	1	Total Credits	15
	Total Credits	17		
Year 2	CE 204 Engineering Graphics & CAD	3	CE 242 Mechanics of Solids	3
	CE 240 Statics	3	CS 145 Introduction to Computing for Engineers	3
	MATH 250 Calculus III (BPS)	4	ECE 210 Introduction to Electrical Circuits	3
	PHYS 142 University Physics II (BPS)	3	MATH 305 Differential Equations I or MATH 321-Linear Algebra (BPS)	3
	PHYS 152L University Physics Lab II (EL)	1	ECON 111 Principles of Macroeconomics (BSS)	3
	Total Credits	14	Total Credits	15
Year 3	IE 335 Intro to Information Processing Systems	3	IE 415 Operations Res-Deterministic Models	3
	IE 345 Engineering Economics Analysis	3	IE 451 Methods Design & Work Measurements	3
	STAT 380 Statistics for Application (BICS)	3	IE 465 Design & Control of Quality Systems	3
	IE 370 Manufacturing Processes	3	IE 470 Manufacturing Systems	3
	IE 375 Three Dimensional Modeling in Product Design	3	Breadth Life Science (BLS)	3
	Breadth Fine & Performing Arts (BFPA)	3	Health Experience (EH)	0-2
	Total Credits	18	Total Credits	15-17
Year 4	IE 468 Operations Research-Simulation	3	IE 490 Integrated Engineering Design	3
	IE 476 Plantwide Process Control	3	IE Elective II	3
	IE 483 Production Planning & Control	3	IE Elective III	3
	IE 484 Facilities Planning	3	PHIL 323 Engineering, Ethics, & Professionalism (BHUM)	3
	IE Elective I	3	Interdisciplinary Studies (IS)/Experience Global Cultures (EGC)	3
	Total Credits	15	Total Credits	15
	Total Hours		124-126	

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. Visit siue.edu/transfer to find course equivalency guides.

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 GPA of at least 2.0 on a 4.0 scale.

Graduation Requirements

Degree requirements include the following:

- A cumulative GPA of 2.0 or higher on a 4.0 scale for engineering courses
- A 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