

MANUFACTURING ENGINEERING

School of Engineering • Department of Mechanical and Industrial Engineering

Undergraduate Degree Available at SIUE

- Bachelor of Science (ABET Accredited)



Why Manufacturing Engineering?

Manufacturing engineers make things. More than 3 million parts, components, and sub-assemblies are used to make an aircraft. Manufacturing engineers must know which materials, machines, processes, robots, computer-based controls and analysis tools, information networks and people are needed to make each one of those parts. Everything ultimately is tied to the production of goods that we use everywhere — machinery, electronics, medical devices, automobile parts, household products, toys, cans, bottles, etc. It's the ingenuity of manufacturing engineers and their ability to find more efficient ways to make things that allow most people to be able to afford commonly used products such as cars and computers.

Manufacturing Engineering at SIUE

Throughout the program, there is an integrated series or sequence in the major field that includes not only basic and fundamental courses, but also specialized courses in the fields of facilities design, production planning and control, operations research, quality control, computer-integrated manufacturing, process and product design and tool engineering. These specialized courses reflect the impact of recent developments in operations research, information processing, and automation.

Career Outlook

Manufacturing engineering graduates are prepared to function as problem solvers, innovators, coordinators, and change agents and can be found in all phases of manufacturing industries, service industries, and government agencies. With 100 percent placement rate, SIUE manufacturing engineering graduates work at companies involved in aerospace, automotive, bio-engineering, manufacturing, mining, agriculture, power generation and distribution, textiles, and transportation. The SIUE School of Engineering has formed active partnerships with several St. Louis-based companies that provide exciting, challenging and well-paid internships and co-op opportunities to students.

Admission Requirements

Students admitted to programs offered in the School of Engineering shall have met the University admission requirements and the following additional School of Engineering requirements:

- completion of all Academic Development courses required by the University
- completion of any courses required to address School of Engineering high school deficiencies
- eligibility to enroll in MATH 125 – Pre-Calculus at a minimum
- maintenance of a cumulative grade point average of at least 2.0 (on a 4.0 scale)

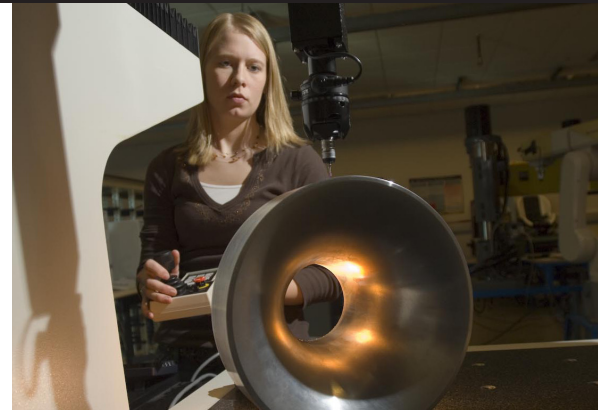
Exit Requirements

Satisfactory completion of all university, program and departmental requirements as outlined in the undergraduate catalog.

Other Engineering Programs at SIUE

Civil Engineering*, Computer Engineering, Computer Science*, Construction Management, Electrical Engineering*, Industrial Engineering*, Mechanical Engineering*

* graduate program also available



Faculty

Xin Chen, Ph.D.

2009 Purdue University- West Lafayette, IN

Sohyung Cho, Ph.D.

2000, Pennsylvania State University

Emmanuel S. Eneyo, Ph.D., P.E.

1991, Purdue University – West Lafayette, Indiana

Kevin M. Hubbard, Ph.D., CMfgE

1993, University of Missouri – Rolla

S. Cem Karacal, Ph.D. (Associate Dean)

1991, Oklahoma State University

H. Felix Lee, Ph.D. (Program Director)

1989, University of Michigan

Hasan Sevim, Eng. Sc.D. (Dean)

1984, Columbia University, New York

Sample Four-Year Curriculum (See Undergraduate Catalog for Additional Information)

FALL

SPRING

LOWER-DIVISION COURSES (Pre-engineering)

IME 106 Engineering Problem Solving (3) or **PHIL 106**
 CHEM 131 Engineering Chemistry (INSM) (4) or **CHEM 121A**
 CHEM 135 Engineering Chemistry Lab (1) or **CHEM 125A**
ENG 101 English Composition I (3)
MATH 150 Calculus I (INSM) (5)
 Total 16

ENG 102 English Composition II (3)
MATH 152 Calculus II (DNSM) (5)
PHYS 151 University Physics I (4)
PHYS 151L University Physics Lab I (1)
 SPC 103 Interpersonal Communication Skills (IGR) (3)
 Total 16

CE 204 Engineering Graphics & CAD (3)
CE 240 Statics (3)
MATH 250 Calculus III (4)
PHYS 152 University Physics II
PHYS 152L University Physics Lab II (1)
 Introductory Fine Arts & Humanities (3)
 Total 18

CE 242 Mechanics of Solids (3)
CS 145 Introduction to Computing for Engineers (3) or **CS 140**
ECE 210 Introduction to Electrical Circuits (3)
MATH 305 Differential Equations I (3)
ME 262 Dynamics (3)
ECON 111 Principles of Macroeconomics (ISS) (3)
 Total 18

Admission to upper-division courses requires satisfactory completion of lower-division core courses (see catalog for specific requirements).
 An "APPLICATION FOR ADMISSION TO UPPER-DIVISION ENGINEERING COURSES" form must also be completed and approved.

UPPER-DIVISION COURSES

IME 365 Quantitative Methods in Engineering (3)
 IME 370 Manufacturing Processes (3)
 IME 375 3-D Modeling in Product Design (3)
 ME 310 Thermodynamics I (3)
 ME 370 Materials Engineering (3)
 Introductory Fine Arts & Hum or Introductory Social Sciences (3)
 Total 18

IME 345 Engineering Economic Analysis (3)
 IME 465 Design of Quality Systems (3)
 IME 470 Manufacturing Systems (3)
 IME 482 Manufacturing Engineering Design (3)
 ME 380 Machine Elements (3)
 Distribution Social Sciences (3)
 Total 18

IME 476 Plantwide Process Control (3)
 IME 480 Tool Engineering (3)
 IME 483 Production Planning & Control (3)
 IME Manufacturing Elective I (3)
 IME Manufacturing Elective II (3)
 Total 15

IME 475 CAD/CAM/CAE (3)
 IME 490 Senior Design Project (3)
 IME Mfg Elective III (3)
 PHIL 323 Engineering Ethics (3)
 Interdisciplinary Studies (IS) (3)
 Total 15

TRANSFER STUDENTS Maximize your transfer experience - complete the **bolded** courses/requirements pre-transfer **AND** satisfy 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/

Academic Advising Information

School of Engineering Student Services
 Southern Illinois University Edwardsville
 Campus Box 1806, Edwardsville, IL 62026-1806
 618.650.5300
www.siue.edu/engineering/studentsservices

Contact Info

Industrial and Manufacturing Engineering Program
 School of Engineering
 Southern Illinois University Edwardsville
 Campus Box 1805
 Edwardsville, IL 62026-1805
 618.650.3389

