

Southern Illinois University Edwardsville
BACHELOR OF SCIENCE - INDUSTRIAL ENGINEERING

This guide provides only a suggested course of study and should be used in consultation with an advisor and the SIUE Undergraduate Catalog, available online at www.siu.edu/registrar.

LOWER-DIVISION COURSES

YEAR	FALL	SPRING
1	CHEM 131 Engineering Chemistry (Intro NSM)+ 4 CHEM 135 Engineering Chemistry Lab+ 1 IME 106 Engineering Problem Solving^ 3 MATH 150 Calculus I (Intro NSM) 5 ENG 101 English Composition I 3 <hr style="width: 50%; margin-left: auto; margin-right: 0;"/> 16	MATH 152 Calculus II (Dist NSM) 5 PHYS 151 University Physics I 4 PHYS 151L University Physics Lab I 1 ENG 102 English Composition II 3 SPC 103 Interpersonal Communication Skills (IGR)* 3 <hr style="width: 50%; margin-left: auto; margin-right: 0;"/> 16
2	CE 204 Engineering Graphics & CAD 3 CE 240 Statics 3 MATH 250 Calculus III 4 PHYS 152 University Physics II 4 PHYS 152L University Physics Lab II 1 Intro Fine Art & Humanities** 3 <hr style="width: 50%; margin-left: auto; margin-right: 0;"/> 18	CE 242 Mechanics of Solids 3 CS 145 Introduction to Computing for Engineers^^ 3 ECE 210 Introduction to Electrical Circuits 3 MATH 305 Differential Equations I or MATH 321 Linear Algebra 3 ME 262 Dynamics 3 ECON 111 Principles of Macroeconomics (Intro SS) 3 <hr style="width: 50%; margin-left: auto; margin-right: 0;"/> 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 BE COMPLETED AND APPROVED. This form is available at all engineering department offices.

UPPER-DIVISION COURSES

3	IME 335 Intro to Information Processing Systems 3 IME 345 Engineering Economics Analysis# 3 IME 365 Quantitative Methods in Engineering# 3 IME 370 Manufacturing Processes 3 IME 375 Three Dimen Modeling in Product Design 3 PSYC 320 Industrial/Organizational Psyc (Dist SS)++ 3 <hr style="width: 50%; margin-left: auto; margin-right: 0;"/> 18	IME 415 Operations Res - Deterministic Models 3 IME 451 Methods Design & Work Measurements 3 IME 465 Design & Control of Quality Systems 3 IME 470 Manufacturing Systems 3 Intro Fine Art & Humanities or Social Sciences** 3 <hr style="width: 50%; margin-left: auto; margin-right: 0;"/> 15
4	IME 468 Operations Research – Simulation# 3 IME 476 Robotics & Automated Systems 3 IME 483 Production Planning & Control# 3 IME 484 Facilities Planning 3 IME ELECTIVE I 3 <hr style="width: 50%; margin-left: auto; margin-right: 0;"/> 15	IME 490 Integrated Engineering Design 3 IME ELECTIVE II 3 IME ELECTIVE III 3 PHIL 323 Engr, Ethics, & Prof (Dist FAH) 3 Interdisciplinary Studies (IS)** 3 <hr style="width: 50%; margin-left: auto; margin-right: 0;"/> 15

^ IME 106 is for incoming freshmen & transfer students with less than 16 hours. Other students should take PHIL, MATH, or FL 106.

+ CHEM 121a, 125a may be substituted with departmental approval.

* If SPC 105 is taken instead of SPC 103, then a course from the list of Intergroup Relations in the current SIUE catalog must also be taken.

A grade of C or better is required.

** It is recommended that students choose a course to meet a general education requirement, i.e. Intro Fine Arts & Humanities, and International Issues/International Cultures. If a course is not selected that meets two general education requirements, then a course from the list of II/IC in the current SIUE Undergraduate Catalog must be taken.

^^ CS 140 is an acceptable substitution.

++ Industrial Engineering majors are permitted to enroll in PSYC 320 without completing the listed prerequisite course, PSYC 111.

NOTE: The General Education courses listed in the curriculum guide meet Option A of the skills requirement. A student who wishes to select Option B may replace IME 106 and SPC 103 with two semesters of a foreign language (101 and 102). An appropriate course is required to meet the Intergroup Relations requirement for students selecting Option B (see catalog).

For additional information, contact the Mechanical & Industrial Engineering Department, EB 2036, 650-3389, or Engineering Student Services, EB 2012, 650-5300.

INDUSTRIAL ENGINEERING ELECTIVES

Not all elective courses are offered every year. The courses to be offered are selected from the list below on the basis of student demand and faculty availability. All electives contain at least 1.5 design hours as a minimum. Three required electives must come from the following list, with at least two electives from the IME classification.

Approved List of IE Electives

<u>FALL</u>	<u>SPRING</u>	<u>SUMMER</u>
IME 458 Human Factors Engineering	IME 427 Knowledge-Based Systems	IME 427 Knowledge-Based Systems
IME 463 Reliability Engineering	IME 461 Operations Research - Stochastic Models	IME 430 Managing Engineering & Technology
IME 466 Engineering Metrology	IME 467 Total Quality & Taguchi Methods	
IME 480 Tool Engineering	IME 475 CAD/CAM/CAE	
	IME 477 Computer-Integrated Manufacturing Systems	
	IME 488 Lean Manufacturing	

For all other approved technical electives, please see the program director for details as these tend to change from time to time.

EVENING AND SECOND COURSE OFFERINGS

IME courses are offered during either the Fall or Spring Semester as shown on the reverse side of this page. Additional offerings of many IME courses are available as shown below. (The department reserves the right to cancel these offerings because of lack of student demand or faculty availability.)

Evening

<u>FALL</u>	<u>SPRING</u>	<u>SUMMER</u>
CE 204 Engineering Graphics & CAD	CE 204 Engineering Graphics & CAD	CE 204 Engineering Graphics & CAD
ECE 210 Electrical Circuits	ECE 210 Electrical Circuits	CE 240 Statics
IME 458 Human Factors Engineering	IME 427 Knowledge-Based Systems	CE 242 Mechanics of Solids
		ECE 210 Electrical Circuits
		IME 345 Engr Economic Analysis
		IME 427 Knowledge-Based Systems
		IME 430 Engineering Management
		ME 262 Dynamics

Declaring an Industrial Engineering Major: Students interested in any of the majors offered by the School of Engineering should seek advisement from the School of Engineering when they initially enroll in the University and should declare a major as soon as possible. Students admitted to programs offered by the School of Engineering shall have met University admission requirements, successfully completed any required academic development and high school deficiency courses, eligibility to enroll in MATH 125 – Pre-Calculus Math with Trigonometry, and have a cumulative GPA of 2.0 or better in any completed University course work.

Students with high school deficiencies, those with AD (academic development) requirements, and those starting in a mathematics course before MATH 150--Calculus I, will require more than the eight (8) academic semesters shown in this curriculum guide. This may require a summer session(s) or an extra semester(s).

Enrollment in Upper-Division IME Courses: The requirements for enrollment in upper-division IME courses are: satisfactory completion of all University and School of Engineering admission requirements; satisfactory completion (C or better) of CE 204, 240, 242; CHEM 131, 135; CS 145; ECE 210; ENG 101, 102; MATH 150, 152, 250, 305 or 321; ME 262; PHYS 151, 151L, 152, 152L; and SPC 103, with a GPA 2.0 for nontransfer students, transfer students from articulated programs, and Illinois resident transfer students (2.25 for other transfer students); a GPA 2.0 or better in CS 145; CE 204, 240, 242; ECE 210; and ME 262 (both original and repeat grades are computed in the GPA); and an approved application for enrollment in upper-division engineering courses.