

**Southern Illinois University Edwardsville**  
**BACHELOR OF SCIENCE - MECHANICAL 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](http://www.siu.edu/registrar).

**LOWER-DIVISION COURSES**

YEAR	FALL	SPRING		
1	CHEM 131 Engineering Chemistry (Intro NSM)+	4	CS 145 Intro to Computing for Engineers^	3
	CHEM 135 Engineering Chemistry Laboratory+	1	MATH 152 Calculus II (Dist NSM)	5
	IME 106 Engineering Problem Solving#	3	PHYS 151 University Physics I	4
	MATH 150 Calculus I (Intro NSM)	5	PHYS 151L University Physics Laboratory I	1
	ENG 101 English Composition I	3	ENG 102 English Composition II	3
		16		16
2	CE 204 Engineering Graphics & CAD	3	ME 262 Dynamics	3
	CE 240 Statics	3	CE 242 Mechanics of Solids	3
	MATH 250 Calculus III	4	ECE 210 Electrical Circuits	3
	PHYS 152 University Physics II	4	MATH 305 Differential Equations I	3
	PHYS 152L University Physics Laboratory II	1	ECON 111 Principles of Macroecon (Intro SS)	3
	SPC 103 Interpersonal Comm Skills (IGR)*	3	Application for Upper Division++	0
	18		15	

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	ME 310 Thermodynamics I	3	ME 312 Thermodynamics II	3
	ME 350 Dynamics of Machines	3	ME 315 Fluid Mechanics	3
	ME 354 Numerical Methods	1	ME 356 Dynamics System Modeling	3
	ME 370 Materials Engineering	3	ME 380 Design of Machine Elements	3
	STAT 380 Statistics for Applications	3	ME 380L Stress & Strength Laboratory	1
	Intro Fine Arts & Humanities**	3	PHIL 323 Engr, Ethics, & Prof (Dist FAH)	3
	16		16	
4	ME 410 Heat Transfer	3	ME 356L Measurement & Simulation Lab or ME 410L Thermal Fluid Lab	1
	ME 410L Thermal Fluid Laboratory or ME 356L Measurement & Simulation Lab	1	ME 484 Mechanical Engineering Design II	2
	ME 482 Mechanical Engineering Design I	2	ME ELECTIVE II	3
	ME ELECTIVE I	3	ME ELECTIVE III	3
	IME 345 Engineering Economic Analysis	3	ME ELECTIVE IV	3
	Intro Fine Arts & Humanities or Social Sci**	3	Dist Social Sciences**	3
	Interdisciplinary Studies (IS)**	3		
		18		15

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

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

^ CS 140 is an acceptable substitute.

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

++ Application form is available in the ME Department Office. Please check the current SIUE Undergraduate Catalog for admission criteria. (This should not be confused with the application for graduation.)

\*\* 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.

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

**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 (IGR) requirement for students selecting Option B (see catalog).

### MECHANICAL 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.

<u>FALL</u>	<u>SPRING</u>	<u>SUMMER</u>
ME 414 Gas Dynamics	ME 418 Internl Combust Engine (odd years)	ME 427 Knowledge-Based Systems
ME 417 HVAC	ME 419 Gas Turbines (even years)	ME 452 Machine Vibrations
ME 458 Mechatronics	ME 427 Knowledge-Based Systems	ME 454 Robotics--Dynamics & Control
ME 492 Topics in ME (mobile robot; limited to 10 seats)	ME 450 Automatic Control	ME 466 Digital Control
	ME 470 Stress Analysis/Design	

### SECOND COURSE OFFERINGS

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

<u>FALL</u>	<u>SPRING</u>	<u>SUMMER</u>
ME 262 Dynamics	ME 354 Numerical Methods	ME 262 Dynamics
ME 312 Thermodynamics II	ME 370 Materials Engineering	ME 310 Thermodynamics I
ME 315 Fluid Mechanics	ME 410 Heat Transfer	ME 350 Dynamics of Machines
ME 356 Dynamics System Modeling	ME 482 Mechanical Engineering Design I	CE 204 Engineering Graphics & CAD
ME 484 Mechanical Engin Design II	CE 204 Engineering Graphics	CE 240 Statics
CE 242 Mechanics of Solids	CE 240 Statics	CE 242 Mechanics of Solids
CS 145 (or CS 140) Intro to Computing	IME 345 Engineering Economic Analysis	CS 145 (or CS 140) Intro to Computing
ECE 210 Electrical Circuits		ECE 210 Electrical Circuits
PHIL 323 Engin, Ethics, & Prof		IME 345 Engr Economic Analysis

**Declaration of 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 ME Courses:** The requirements for enrollment in upper-division ME 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; ME 262; PHYS 151, 151L, 152, 152L; and SPC 103, with a GPA of 2.0 for non-transfer students, transfer students from articulated programs, and Illinois resident transfer students (2.25 for other transfer students); a GPA of 2.0 or better in ME 262, CE 240, CE 242, and ECE 210 (both original and repeat grades are computed in this GPA); and an approved application for enrollment in upper-division engineering courses.