

Southern Illinois University Edwardsville
BACHELOR OF SCIENCE - ELECTRICAL 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 Chem (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 Comm Skills (IGR)* 3 <hr style="width: 50%; margin-left: auto; margin-right: 0;"/> 16
2	ECE 210 Electrical Circuits++ 3 CS 145 Intro to Computing for Engineers++ 3 MATH 250 Calculus III 4 PHYS 152 University Physics II 4 PHYS 152L University Physics Lab II 1 ECON 111 Prin of Macroecon (Intro SS) 3 <hr style="width: 50%; margin-left: auto; margin-right: 0;"/> 18	ECE 211 Circuit Analysis II++ 4 ECE 282 Digital Systems Design++ 4 MATH 305 Differential Equations I++ 3 Intro Fine Arts & Humanities** 3 Dist Social Sciences** 3 <hr style="width: 50%; margin-left: auto; margin-right: 0;"/> 17

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. A special five-year BS/MS degree program is available for qualified students. Contact your department office for specific details.

UPPER-DIVISION COURSES

3	ECE 326 Electronic Circuits I++ 4 ECE 351 Signals and Systems++ 3 ECE 352 Stochastic Processes++ 3 MATH 355 Engineering Mathematics 5 <hr style="width: 50%; margin-left: auto; margin-right: 0;"/> 15	ECE 340 Engineering Electromagnetics++ 3 ECE 365 Control Systems 3 ECE 375 Intro to Communications 3 Non ECE Elective# 3 Intro Fine Arts & Hum or Soc Sci** 3 <hr style="width: 50%; margin-left: auto; margin-right: 0;"/> 15
4	ECE 341 Electromechanical Energy Conv 4 ECE 404 Elec & Computer Engr Design++ 3 ECE ELECTIVE I 3 ECE ELECTIVE II 3 PHIL 323 Engr, Ethics, & Prof (Dist FAH) 3 <hr style="width: 50%; margin-left: auto; margin-right: 0;"/> 16	ECE 405 Elec & Computer Engr Design Lab 3 ECE ELECTIVE III 3 ECE ELECTIVE IV 3 IME 345 Engineering Economic Analysis 3 Interdisciplinary Studies (IS)** 3 <hr style="width: 50%; margin-left: auto; margin-right: 0;"/> 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.
- * 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.
- # CE 240, MATH 321, ME 310, PHYS 303, or any 3 credit hour 400 level course in Engineering (non ECE), Mathematics, or Physics.
- ++ Courses which require a grade of C or better.
- ** 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.

Note: Enrollment in any of the ECE courses is limited to students with a declared major in one of the engineering disciplines. Exceptions to this rule require the approval of the department chair. A prerequisite for an ECE course can only be fulfilled by a grade of C or better. A grade of D is sufficient to pass a course, but is not sufficient to qualify the student to enroll in a more advanced ECE course that lists the former as a prerequisite.

For additional information, contact the Electrical and Computer Engineering Department, EB 3054, 650-2524, 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 requirement for students selecting Option B (see catalog).

ELECTRICAL 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.

<u>FALL</u>	<u>SPRING</u>	<u>SUMMER</u>
ECE 433 Fuzzy Logic & Applications	ECE 438* Digital Image Processing	ECE 436 Digital Signal Processing
ECE 439* Computer Vision	ECE 445 Power Distribution System	ECE 446* Power System Analysis
ECE 465* Control System Design	ECE 482* Microprocessor Systems	ECE 466 Digital Control
ECE 475 Communication Systems	ECE 483* Computer Design	ECE 481 Microcontrollers
ECE 481* Microcontrollers	ECE 484 VLSI/CAD Design	
ECE 483 Computer Design		

*Evening Offerings

EVENING AND SECOND COURSE OFFERINGS

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

Daytime

<u>FALL</u>	<u>SPRING</u>	<u>SUMMER</u>
ECE 327* Electronic Circuits II	ECE 210 Electrical Circuits	ECE 211 Circuit Analysis II
ECE 352* Stochastic Processes	ECE 326* Electronic Circuits I	
ECE 365* Control Systems	ECE 340* Engr Electromagnetics	
ECE 375* Intro to Communications	ECE 341* Electromechanical Energy Conversion	
ECE 405 EE Design Lab	ECE 351* Signals & Systems	
	ECE 382* Digital Systems Design	
	ECE 404* EE Design	

*Evening Offerings

Evening

<u>FALL</u>	<u>SUMMER</u>
ECE 210 Electrical Circuits	ECE 210 Electrical Circuits
	ECE 365** Control Systems
	ECE 375** Intro to Communications
	ECE 382 Digital Systems Design
	ECE 405 EE Design Lab

**Offered in Alternate Years

Other evening engineering courses of interest to EE students:

<u>FALL</u>	<u>SUMMER</u>
IME 345 Engr Economics Analysis	IME 345 Engr Economics Analysis
ME 244 Engineering Mechanics	

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 EE Courses: The requirements for enrollment in upper-division EE courses are: satisfactory completion of all University and School of Engineering admission requirements; satisfactory completion (C or better) of CHEM 131, 135; CS 145; ECE 210, 211, 282; ENG 101, 102; IME 106; MATH 150, 152, 250, 305; 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); and an approved application for enrollment in upper-division engineering courses.