

B.S. Electrical Engineering

Program Admissions Requirements

Including the university's General Education Requirements (a minimum of 36 credits--see the General Education Requirements (<http://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/>) in the Academic Information section of this catalog), the program of study for the Bachelor of Science in Electrical Engineering degree totals a minimum of 120 credits as follows:

General Education

The listing below includes program requirements that also fulfill General Education requirements.

Code	Title	Credits
Objective 1		6
Objective 2		3
Objective 3- MATH 1170		4
Objective 4		6
Objective 5- CHEM 1111 & CHEM 1111L, PHYS 2211		9
Objective 6		6
Students must fulfill Objective 7 or Objective 8		3
Objective 7- CS 1181		
Objective 8		
Objective 9		3
Total Credits		40

Major Requirements

All required courses for the B.S. Electrical Engineering major must be completed with a grade of C- or higher.

Code	Title	Credits
CHEM 1111	General Chemistry I (Partially Fulfills General Education Objective 5)	4
CHEM 1111L	General Chemistry I Lab (Partially Fulfills General Education Objective 5)	1
CS 1181	Computer Science and Programming I (Satisfies General Education Objective 7)	3
ENGL 3307	Professional and Technical Writing	3
MATH 1170	Calculus I (Fulfills General Education Objective 3)	4
MATH 1175	Calculus II	4
MATH 2240	Linear Algebra	3
MATH 2275	Calculus III	4
MATH 3360	Differential Equations	3
PHYS 2211	Engineering Physics I (Partially Fulfills General Education Objective 5)	4
PHYS 2212	Engineering Physics II	4
ECE 1100	Foundations of Electrical and Computer Engineering	1
ECE 2200	Electrical Circuits I	3
ECE 2200L	Electrical Circuits I Laboratory	1
ECE 2250	Introduction to Digital Systems	3

ECE 2250L	Introduction to Digital Systems Laboratory	1
ECE 3340	Electromagnetics	3
ECE 3320	Introduction to Electronics	3
ECE 3360	Software Methodology and Tools for Electrical and Computer Engineering	3
ECE 3300	Electrical Circuits II	3
ECE 3300L	Electrical Circuits II Laboratory	1
ECE 3310	Signals and Systems	3
ECE 4411	Applied Engineering Methods	3
ECE 4412	Communication Systems	3
ECE 4460	Advanced Computer Architecture	3
ECE 4451	Embedded Systems Engineering	2
ECE 4451L	Embedded Systems Engineering Laboratory	1
ECE 4420	Advanced Electronics	3
ECE 4420L	Advanced Electronics Laboratory	1
ECE 4440	Electrical Machines and Power	3
ECE 4440L	Electrical Machines and Power Laboratory	1
ECE 4410	Automatic Control Systems	3
ECE 4470	Digital Signal Processing	3
ECE 4495	Capstone Design Project I	3
ECE 4496	Capstone Design Project II	3
In Addition:		
ECE Elective		3
Total Credits		97

ELECTIVE SELECTIONS

Consult with your advisor when selecting electives, as there may be other new or special courses available.

ECE Electives: The following courses are pre-approved: (Note that non-ECE courses may have prerequisites that are not part of the ECE program.)

Code	Title	Credits
ECE 4421	Introduction to VLSI Systems	3
ECE 4422	Mixed Signal Design and Synthesis	3
ECE 4400	Advanced Circuit Theory	3
ECE 4423	Semiconductor Processing and Fabrication	3
ECE 4424	Semiconductor Devices	3
ECE 4428	Advanced Semiconductor Devices	3
ECE 4442	Principles of Power Electronics	3
ECE 4450	Advanced Digital Logic Design	3
ECE 4415	Digital Control Systems	3
ME 4405 & ME 4406	Measurement Systems Design and Measurement Systems Laboratory	4
ME 4425	Mechatronics	3

Degree Totals

Code	Title	Credits
	Program Admission Requirements	0
	General Education	40
	Major Requirements (w/o General Education)	81
	Free Electives	0
	<hr/> Total Credits	<hr/> 121

ISU Degree Requirements (<http://coursecat.isu.edu/undergraduate/degerequirements/>)

ISU General Education (<http://coursecat.isu.edu/undergraduate/academicinformation/generaleducation/>)

Major Academic Plan (MAP) (<https://www.isu.edu/advising/maps/>)