

Electrical & Computer Engineering Major, B.S.E.C.E.

Department of Electrical and Computer Engineering

This program combines traditional electrical engineering topics with current computer design and analysis topics. The program is concerned with the theory, design, and application of electrical phenomena and digital computers, including electronic circuits, signal analysis, system design, and computer architecture. The program balances theoretical and practical experience in electrical and computer engineering through analysis, synthesis, and experimentation.

Typical Program of Study:

Fall Semester

First Year

ECE 1001 Introduction to Elec/Computer Eng	2 cr
CS 1511 Computer Science I	5 cr
Math 1296 Calculus I ^a	5 cr
Comp 1120 College Writing	<u>3 cr</u>
	15 cr

Second Year

Math 3280 Diff Equations/Linear Algebra	4 cr
Phys 2012 General Physics II	4 cr
ECE 2006 Electrical Circuit Analysis	4 cr
ECE 2325 Microcomputer System Design	<u>4 cr</u>
	16 cr

Third Year

ECE 3151 Control Systems	3 cr
CS 2511 Software Analysis and Design	4 cr
ECE 3235 Electronics II	4 cr
Econ 1023 Principles of Economics: Micro	3 cr
Liberal education elective ^b	<u>3 cr</u>
	17 cr

Fourth Year

ECE 3445 Electromagnetic Fields	3 cr
ECE 4899 Senior Design Project I ^c	1 cr
ECE technical elective	3 cr
Comp 3130 Advanced Writing: Engineering	3 cr
Liberal education elective ^b	<u>4 cr</u>
	14 cr

Spring Semester

ECE 1315 Digital System Design	4 cr
CS 1521 Computer Science II	5 cr
Math 1297 Calculus II	5 cr
Phys 2011 General Physics I	<u>4 cr</u>
	18 cr

Math 3298 Calculus III	4 cr
Chem 2172 General Chemistry	4 cr
ECE 2111 Linear Systems & Signals	4 cr
ECE 2212 Electronics I	<u>4 cr</u>
	16 cr

ECE 3341 Digital Computer Circuits	4 cr
ECE 3611 Solid-state Semiconductors	3 cr
CS 5631 Operating Systems	4 cr
Stat 3611 Probability & Statistics	4 cr
Liberal education elective ^b	<u>3 cr</u>
	18 cr

ECE 4999 Senior Design Project II ^c	3 cr
ECE 4305 Computer Architecture	4 cr
ECE technical elective	3 cr
IE 2105 Materials Science	
OR Engr 2015 Statics	3 cr
Liberal education elective ^b	<u>4 cr</u>
	17 cr

^aFirst math course is determined by math placement exam. This schedule presupposes placement into Math 1296.

^bLiberal education electives (plus Econ 1023) must include the following: a least one course from each of categories 7 and 8; two courses with different prefixes from category 9; at least one course numbered 2xxx or higher AND one 1xxx course with the same prefix, both from categories 6-9 (OR any course that specifies as prerequisite any course in categories 6-9).

^cECE 4951 Design Workshop (4 cr) may be taken in place of ECE 4899 and ECE 4999.

For further information:

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ELECTRICAL AND COMPUTER ENGINEERING MAJOR, B.S.E.C.E.

2003-2005 Catalog

Major Course Requirements	Credits	Prerequisites	Semester To Be Completed	Grade When Completed
Year 1				
ECE 1001 Introduction to ECE	2			
ECE 1315 Digital System Design	4			
CS 1511 Computer Science I	5	3.5 years high school math		
CS 1521 Computer Science II	5	CS 1511		
Math 1296 Calculus I	5	Math placement test		
Math 1297 Calculus II	5	Math 1296		
Phys 2011 General Physics I	4	Math 1290 or 1296		
Comp 1120 College Writing	3			
Year 2				
ECE 2006 Electrical Circuit Analysis	4	Phys 2011; concurrent registration in Math 3280 and Phys 2012		
ECE 2111 Linear Systems & Signal Analysis	4	ECE 2006		
ECE 2212 Electronics I	4	ECE 2006		
ECE 2325 Microcomputer System Design	4	ECE 1315		
Chem 2172 General Chemistry	4	Math 1296		
Math 3280 Diff Equations w/ Linear Algebra	4	Math 1297		
Math 3298 Calculus III	4	Math 1297		
Phys 2012 General Physics II	4	Phys 2011; Math 1297		
Year 3				
ECE 3151 Control Systems	3	ECE 2111		
ECE 3235 Electronics II	4	ECE 2212		
ECE 3341 Digital Computer Circuits	4	ECE 2325		
ECE 3611 Intro to Solid State Semiconductors	3	Phys 2012		
CS 2511 Software Analysis and Design	4	CS 1521		
CS 5631 Operating Systems	4	CS 2511; CS 2521 or instructor consent		
Econ 1023 Principles of Economics: Micro	3			
Stat 3611 Intro to Probability & Statistics	4	Math 1296		
Liberal Education Electives *	6			
Year 4				
ECE 3445 Electromagnetic Fields	3	Math 3280 and 3298; Phys 2012		
ECE 4305 Computer Architecture	4	ECE 3341		
ECE technical electives	6			
ECE 4951 Design Workshop OR	4	Comp 3130; 100 credits		
ECE 4899 Senior Design Project I and	1	ECE 3341		
ECE 4999 Senior Design Project II	3	ECE 4899		
IE 2105 Material Science OR	3	Chem 1151		
Engr 2015 Statics	3	Math 1297, Phys 2011		
Comp 3130 Advanced Writing: Engineering	3	Comp 1120; 60 credits		
Liberal Education Electives *	7			

* Liberal education electives (including Econ 1023) must include the following: at least one course each from Categories 7-8; 2 courses with different prefixes from Category 9; one course each emphasizing international perspective and cultural diversity; at least 16 credits in Categories 6-9; at least one course numbered 2xxx or higher AND one 1xxx course with the same prefix, both from Category 6-9 (OR any course that specifies as prerequisite a course in Category 6-9).