

# ELECTRICAL ENGINEERING (B.S.)

Degree: Bachelor of Science

Major: Electrical Engineering

Total Hours: 123

Grade requirements for completion of degree: a grade of at least "C" in each course and at least a 2.0 GPA overall.

No more than 6 hours of independent study.

Code	Title	Hours
<b>General Education Core Curriculum</b>		
<i>Communication</i>		
ENGL 1301	Composition I	3
Select one of the following:		3
COMM 1315	Public Speaking I	
COMM 1321	Business and Professional Speech	
DSDE 1371	ASL I	
ENGL 1302	Composition II	
FREN 1311	Beginning French I	
SPAN 1311	Beginning Spanish I	
<i>Mathematics</i>		
MATH 2413	Calculus and Analytical Geometry I	4
<i>Life and Physical Sciences</i>		
PHYS 2425	University Physics I	4
PHYS 2426	University Physics II	4
<i>Language, Philosophy and Culture</i>		
PHIL 1370	Philosophy of Knowledge	3
	or PHIL 2306 Ethics	
<i>Creative Arts</i>		
Select one of the following:		3
ARTS 1301	Art Appreciation	
ARTS 1303	Art History I	
DANC 2304	Dance Appreciation	
COMM 1375	Film Appreciation	
COSC 1324	The Art of Computer Game Development	
MUSI 1306	Music Appreciation	
MUSI 1309	Jazz History and Appreciation	
MUSI 1310	History of Rock and Roll	
PHIL 1330	Arts and Ideas	
THEA 1310	Theatre Appreciation	
<i>American History</i>		
Select two of the following:		6
HIST 1301	U S History I 1763-1877	
HIST 1302	U S History II Since 1877	
HIST 2301	Texas History	
<i>Government/Political Science</i>		
POLS 2301	Intro to American Government I	3
POLS 2302	Intro/American Government II	3
<i>Social and Behavioral Sciences</i>		

Select one of the following: 3

ANTH 2346	Introduction to Anthropology	
ANTH 2351	Cultural Anthropology	
BULW 1370	Business Environment and Public Policy	
CRIJ 1301	Intro to Criminal Justice	
ECON 1301	Principles and Policies	
ECON 2301	Principles of Economics I Macro	
ECON 2302	Principles of Economics II Micro	
FINC 2310	Intro to Consumer Finance	
INEN 2373	Engineering Economics	
POLS 1301	Intro to Political Science	
PSYC 2301	General Psychology	
PSYC 2315	Lifespan Development	
SOCI 1301	Introduction to Sociology	
SOWK 2361	Intro Social Work	

### Component Area Option

MATH 2414	Calculus and Analytical Geometry II	4
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The additional hours from Life and Physical Sciences are applied here

### Required Major Courses

#### Engineering Courses

CHEM 1111	General Chemistry I Laboratory	1
CHEM 1311	General Chemistry I	3
ELEN 1100	Introduction to ECE	1
ELEN 1301	Computers and Programming I <sup>1</sup>	3
ELEN 2411	Circuits Analysis I	4
ELEN 3312	Circuits Analysis II	3
ELEN 3313	Signals, Systems and Transforms	3
ELEN 3322	Electronics II	3
ELEN 3381	Electrical Analysis	3
ELEN 3371	Electromagnetics	3
ELEN 3421	Electronics I	4
ELEN 3431	Digital System Design I	4
ELEN 3441	Fundamentals of Power Engineering	4
ELEN 4306	Senior Project Design I	3
ELEN 4307	Senior Project Design II	3
ELEN 4351	Control Engineering	3
ELEN 4486	Embedded Microprocessor Systems	4
ELEN 4361	Communication Systems	3
ELEN 4387	Computer Organization and Architecture	3
MATH 2318	Linear Algebra	3
MATH 2415	Calculus III	4
MATH 3301	Ordinary Differential Equations	3
MATH 3370	Introduction to the Theory of Statistical Inference	3
	or INEN 3320 Probability and Statistics for Engineering	

#### ELEN Elective 3000-4000

Select three courses <sup>2</sup> 9

**Total Hours 123**

<sup>1</sup> Required unless substituted by an equivalent high school programming course

<sup>2</sup> Non-ELEN courses may be substituted with departmental approval.

## 2 Electrical Engineering (B.S.)

Course	Title	Hours
<b>First Year</b>		
<b>Fall</b>		
MATH 2413	Calculus and Analytical Geometry I	4
CHEM 1311	General Chemistry I	3
CHEM 1111	General Chemistry I Laboratory	1
ELEN 1100	Introduction to ECE	1
ENGL 1301	Composition I	3
Social & Behavioral Sciences		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
MATH 2414	Calculus and Analytical Geometry II	4
Communication		3
PHYS 2425	University Physics I	4
History		3
ELEN 1301	Computers and Programming I <sup>1</sup>	3
<b>Hours</b>		<b>17</b>
<b>Second Year</b>		
<b>Fall</b>		
MATH 2415	Calculus III	4
MATH 2318	Linear Algebra	3
PHYS 2426	University Physics II	4
INEN 3320 or MATH 3370	Probability and Statistics for Engineering or Introduction to the Theory of Statistical Inference	3
PHIL 1370 or PHIL 2306	Philosophy of Knowledge or Ethics	3
<b>Hours</b>		<b>17</b>
<b>Spring</b>		
MATH 3301	Ordinary Differential Equations	3
ELEN 3381	Electrical Analysis	3
ELEN 2411	Circuits Analysis I	4
ELEN 3431	Digital System Design I	4
<b>Hours</b>		<b>14</b>
<b>Third Year</b>		
<b>Fall</b>		
ELEN 3312	Circuits Analysis II	3
ELEN 3421	Electronics I	4
ELEN 3371	Electromagnetics	3
ELEN 4486	Embedded Microprocessor Systems	4
POLS 2301	Intro to American Government I	3
<b>Hours</b>		<b>17</b>
<b>Spring</b>		
ELEN 3322	Electronics II	3
ELEN 3313	Signals, Systems and Transforms	3
ELEN 3441	Fundamentals of Power Engineering	4
ELEN 4387	Computer Organization and Architecture	3
POLS 2302	Intro/American Government II	3
<b>Hours</b>		<b>16</b>
<b>Fourth Year</b>		
<b>Fall</b>		
ELEN 4306	Senior Project Design I	3
ELEN 4351	Control Engineering	3
ELEN 4361	Communication Systems	3
ELEN	Elective 3000-4000 <sup>2</sup>	3
Creative Arts		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
ELEN 4307	Senior Project Design II	3
ELEN	Elective 3000-4000 <sup>2</sup>	6

History	3
<b>Hours</b>	<b>12</b>
<b>Total Hours</b>	<b>123</b>

<sup>1</sup> Required unless substituted by an equivalent high school programming course

<sup>2</sup> Non-EE courses (upper-level STEM) may substitute EE Electives if approved by the department chair