

Electrical Engineering, B.S.

Requirements

A Bachelor of Science in Electrical Engineering provides a broad foundation in electrical engineering through combined classroom and laboratory work and prepares students for entering the profession of electrical engineering as well as further study at the graduate level. The core courses will provide students with a strong background in mathematics, physical science, and fundamentals of engineering.

Total Program Credits: 126

Matriculation Requirements:		
To be admitted to the BSEE program a student must complete the following courses with a minimum grade of C in these courses and grade point average of 2.5 or above. A student not meeting all of the admission requirements, may request in writing, a provisional admission status for a semester from the department. The provisional admission status must be approved by the electrical engineering program coordinator.		
<ul style="list-style-type: none"> MATH 1210 Calculus I MATH 1220 Calculus II PHYS 2210 Physics for Scientists and Engineers I PHYS 2215 Physics for Scientists and Engineers I Lab PHYS 2220 Physics for Scientists and Engineers II PHYS 2225 Physics for Scientists and Engineers II Lab CS 1400 Fundamentals of Programming CS 2810 Assembly Language and Computer Architecture ENGR 1000 Introduction to Engineering ECE 2700 Digital Design I ECE 2705 Digital Design I Lab ECE 2250 Circuit Theory ECE 2255 Circuit Theory Lab 		
General Education Requirements:		39 Credits
ENGL 1010	Introduction to Writing	3
ENGL 2010	Intermediate Writing Humanities Social Sciences	3
MATH 1210	Calculus I	5
American Institutions: Complete one of the following:		3
HIST 2700	US History to 1877 (3.0)	
and HIST 2710	US History since 1877 (3.0)	
HIST 1700	American Civilization (3.0)	
HIST 1740	US Economic History (3.0)	
POLS 1000	American Heritage (3.0)	
POLS 1100	American National Government (3.0)	
Complete the following:		
PHIL 2050	Ethics and Values	3
HLTH 1100	Personal Health and Wellness	2
or PES 1097	Fitness for Life (2.0)	
Distribution Courses:		
COMM 1020	Public Speaking	3
COMM 2110	Interpersonal Communication	3
Fine Arts (Choose from list)		3
Biology (Choose from list)		3
PHYS 2210	Physics for Scientists and Engineers I	4
CHEM 1210	Principles of Chemistry I	4
Discipline Core Requirements:		81 Credits
CS 1400	Fundamentals of Programming	3
CS 2810	Computer Organization and Architecture	3

ENGR 1000	Introduction to Engineering	3
ECE 2250	Circuit Theory	3
ECE 2255	Circuit Theory Lab	1
ECE 2700	Digital Design I	3
ECE 2705	Digital Design I Lab	1
ECE 2760	Introduction to Semiconductor Theory and Nanotechnology	3
ECE 3250	Power Systems Engineering	3
ECE 3350	Control Systems	3
ECE 3450	Electromagnetics and Transmission Lines	3
ECE 3710	Applied Probability and Statistics for Engineers and Scientists	3
ECE 3730	Embedded Systems I	3
ECE 3740	Digital Design II	3
ECE 3750	Engineering Analysis	3
ECE 3760	Electronic Systems	3
ECE 3765	Electronic Systems Lab	1
ECE 3770	Signals and Systems	3
ECE 3780	Communication Systems and Circuits	3
ECE 4730	Embedded Systems II	3
ECE 4750	Digital Signal Processing	3
ECE 4760	VLSI Design	3
ECE 4900	Electrical Engineering Capstone I	3
ECE 4950	Electrical Engineering Capstone II	3
PHYS 2215	Physics for Scientists and Engineers I Lab	1
PHYS 2220	Physics for Scientists and Engineers II	4
PHYS 2225	Physics for Scientists and Engineers II Lab	1
CHEM 1215	Principles of Chemistry I Laboratory	1
MATH 1220	Calculus II	5
MATH 2210	Calculus III	3
Elective Requirements:		6 Credits
Complete a minimum of six credits from the following:		6
ECE 4770	Artificial Neural Networks (3.0)	
ECE 4780	Wireless and Mobile Communications (3.0)	
CS 4480	Digital Image Processing and Computer Vision (3)	

Graduation Requirements:

- Completion of a minimum of 126 semester credits, with a minimum of 40 upper-division credits.
- Overall grade point average of 2.5 or above, with a minimum grade of C in all discipline core and elective requirements.
- Residency hours - minimum of 30 credit hours through course attendance at UVU. 10 of these hours must be within the last 45 hours earned. At least 12 of the credit hours earned in residence must be in approved CS + ECE courses.
- All transfer credit must be approved in writing by UVU and the electrical engineering program coordinator.
- No more than 80 semester hours and no more than 20 hours in CS and ECE courses of transfer credit.
- No more than 6 semester hours may be earned through independent study.
- Successful completion of at least one Global/Intercultural course.

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Electrical Engineering, B.S. Graduation Plan

This graduation plan is a sample plan and is intended to be a guide. Your specific plan may differ based on your Math and English placement and/or transfer credits applied. You are encouraged to meet with an advisor and set up an individualized graduation plan in [Wolverine Track](#).

Milestone courses (pre-requisites for a course in one of the subsequent semesters) are marked in red and Italicized.

Semester 1	Course Title	Credit Hours
<i>MATH 1210</i>	Calculus I	5
CHEM 1210	Principles of Chemistry I	4
CHEM 1215	Principles of Chemistry I Lab	1
<i>ENGL 1010</i>	Introduction to Writing	3
<i>ENGR 1000</i>	Introduction to Engineering	3
	Semester total:	16
Semester 2	Course Title	Credit Hours
<i>MATH 1220</i>	Calculus II	5
<i>PHYS 2210</i>	Physics for Scientists and Engineers I	4
PHYS 2215	Physics for Scientists and Engineers I Lab	1
ENGL 2010	Intermediate Writing	3
<i>CS 1400</i>	Fundamentals of Programming	3
	Semester total:	16
Semester 3	Course Title	Credit Hours
<i>PHYS 2220</i>	Physics for Scientists and Engineers II	4
PHYS 2225	Physics for Scientists and Engineers II Lab	1
<i>ECE 2700</i>	Digital Design I	3
ECE 2705	Digital Design I Lab	1
Biology	Choose from GE approved Biology Elective List	3
CS 2810	Computer Organization and Architecture	3
HLTH 1100 or	Personal Health and Wellness or	2
PES 1097	Fitness for Life	
	Semester total:	17
Semester 4	Course Title	Credit Hours
MATH 2210	Calculus III	3
<i>ECE 3750</i>	Engineering Analysis	3
ECE 2760	Introduction to Semiconductor Theory and Nanotechnology	3
ECE 3710	Applied Probability and Statistics for Engineers and Scientists	3
<i>ECE 2250</i>	Circuit Theory	3
ECE 2255	Circuit Theory Lab	1
	Semester total:	16
Semester 5	Course Title	Credit Hours
<i>ECE 3770</i>	Signals and Systems	3
ECE 3740	Digital Design II	3

<i>ECE 3760</i>	Electronic Systems	3
ECE 3765	Electronic Systems Lab	1
<i>ECE 3730</i>	Embedded Systems I	3
Fine Arts	Choose from the GE approved Fine Arts Electives	3
	Semester total:	16
Semester 6	Course Title	Credit Hours
COMM 1020	Public Speaking	3
ECE 3250	Power Systems Engineering	3
<i>ECE 3350</i>	Control Systems	3
ECE 3780	Communication Systems and Circuits	3
ECE 4730	Embedded Systems II	3
	Semester total:	15
Semester 7	Course Title	Credit Hours
<i>ECE 4900</i>	Electrical Engineering Capstone I	3
ECE 4760	VLSI Design	3
EE Elective	Choose from the EE approved Electives	3
American Institution	Choose from the GE approved American Institution list	3
COMM 2110	Interpersonal Communication	3
	Semester total:	15
Semester 8	Course Title	Credit Hours
ECE 4950	Electrical Engineering Capstone II	3
	EE Elective	3
ECE 3450	Electromagnetics and Transmission Lines	3
PHIL 2050	Ethics and Values	3
ECE 4750	Digital Signal Processing	3
	Semester total:	15
	Degree total:	126