

Computer Engineering, B.S.

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Requirements

Computer Engineering encompasses the science and technology of design, construction, implementation, testing, and maintenance of integrated software and hardware components of modern computing systems and computer-controlled equipment (cell phones, video games, laptops).

Total Program Credits: 124

Matriculation Requirements:		
To be admitted to the BSCE program a student must complete the following courses with a minimum grade of C in these courses and a 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 computer engineering program coordinator.		
<ul style="list-style-type: none"> • MATH 1210 Calculus I (4) • MATH 1220 Calculus II (4) • PHYS 2210 Physics for Scientists and Engineers I (4) • 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) • CS 1400 Fundamentals of Programming (3) • ECE 1000 Introduction to Electrical and Computer 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) 		
General Education Requirements:		38 Credits
	ENGL 1010 Introduction to Academic Writing	3
or	ENGL 1005 Literacies and Composition Across Contexts (5)	
	ENGL 2010 Intermediate Writing Academic Writing and Research	3
American Institutions: Complete one of the following:		3
	HIST 2700 US History to 1877 (3)	
and	HIST 2710 US History since 1877 (3)	
	HIST 1700 American Civilization (3)	
	HIST 1740 US Economic History (3)	
	POLS 1000 American Heritage (3)	
	POLS 1100 American National Government (3)	
Complete the following:		
	PHIL 205G Ethics and Values	3
	HLTH 1100 Personal Health and Wellness	2
or	EXCS 1097 Fitness for Life (2)	
Distribution Courses:		
	COMM 1020 Public Speaking	3
	COMM 2110 Interpersonal Communication	3
	Fine Arts (Choose from list)	3
	Biology (Choose from list)	3
	MATH 1210 Calculus I	4

	PHYS 2210 Physics for Scientists and Engineers I	4
	CHEM 1210 Principles of Chemistry I	4
Discipline Core Requirements:		86 Credits
	ECE 1000 Introduction to Electrical and Computer 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 2750 Engineering Analysis	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 3760 Electronic Systems	3
	ECE 3765 Electronic Systems Lab	1
	ECE 3770 Signals and Systems	3
	ECE 3780 Communication Systems and Circuits	3
	ECE 3785 Communication Systems and Circuits Lab	1
	ECE 4700 Computer Architecture for Engineering Applications	3
	ECE 4730 Embedded Systems II	3
	ECE 4750 Digital Signal Processing	3
	ECE 4755 Digital Signal Processing Lab	1
	ECE 4760 VLSI Design	3
	ECE 4765 VLSI Design Laboratory	1
	ECE 4900 Electrical and Computer Engineering Capstone I WE	3
	ECE 4950 Electrical and Computer Engineering Capstone II WE	3
	CS 1400 Fundamentals of Programming	3
	CS 1410 Object-Oriented Programming	3
	CS 2300 Discrete Mathematical Structures I	3
	CS 2370 C plus plus Programming WE	3
	CS 2420 Introduction to Algorithms and Data Structures	3
	CS 3060 Operating Systems Theory	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	4
Elective Requirements:		3 Credits
Complete 3 credits from the following:		3
	ECE 4780 Wireless and Mobile Communications (3)	
	ECE 4850 Machine Learning (3)	

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	ECE 481R	Electrical and Computer Engineering Internship (1-3)	
	ECE 4260	Smart Power Grids (3)	

Graduation Requirements:

1. Completion of a minimum of 124 semester credits, with a minimum of 40 upper-division credits.
2. Overall grade point average of 2.5 or above, with a minimum grade of C in all discipline core and elective requirements.
3. 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.
4. All transfer credit must be approved in writing by UVU.
5. No more than 80 semester hours and no more than 20 hours in CS and ECE courses of transfer credit.
6. No more than 6 semester hours may be earned through independent study.
7. Successful completion of at least one Global/Intercultural course.
8. Taking Fundamentals of Engineering (FE) (NCEES - Electrical and Computer Engineering) exam.

Computer 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>CS 1400</i>	Fundamentals of Programming	3
<i>ECE 1000</i>	Introduction to Electrical and Computer Engineering	3
<i>ENGL 1010 or ENGH 1005</i>	Introduction to Academic Writing or Literacies and Composition Across Context	3
<i>MATH 1210</i>	Calculus I	4
General Education	Choose from American Institutions Distribution list	3
	Semester total:	16
Semester 2	Course Title	Credit Hours
<i>CS 1410</i>	Object-Oriented Programming	3
<i>ENGL 2010</i>	Intermediate Writing	3
<i>MATH 1220</i>	Calculus II	4
<i>PHYS 2210</i>	Physics for Scientists and Engineers I	4
<i>PHYS 2215</i>	Physics for Scientists and Engineers I Lab	1
	Semester total:	15
Semester 3	Course Title	Credit Hours
<i>CS 2420</i>	Intro to Algorithms and Data Structures	3
<i>ECE 2700</i>	Digital Design I	3
<i>ECE 2705</i>	Digital Design I Lab	1
<i>ECE 2750</i>	Engineering Analysis	3
<i>PHYS 2220</i>	Physics for Scientists and Engineers II	4
<i>PHYS 2225</i>	Physics for Scientists and Engineers II Lab	1
	Semester total:	15
Semester 4	Course Title	Credit Hours
<i>ECE 3740</i>	Digital Design II	3
<i>ECE 3770</i>	Signals and Systems	3
<i>ECE 2250</i>	Circuit Theory	3
<i>ECE 2255</i>	Circuit Theory Lab	1
<i>CHEM 1210</i>	Principles of Chemistry I	4
<i>CHEM 1215</i>	Principles of Chemistry I Lab	1
	Semester total:	15
Semester 5	Course Title	Credit Hours
<i>CS 2300</i>	Mathematical Discrete Structures I	3
<i>CS 2370</i>	C plus plus Programming WE	3
<i>ECE 3730</i>	Embedded Systems I	3

<i>ECE 3710</i>	Applied Probability and Statistics for Engineers and Scientists	3
<i>ECE 3760</i>	Electronic Systems	3
<i>ECE 3765</i>	Electronic Systems Lab	1
	Semester total:	16
Semester 6	Course Title	Credit Hours
<i>CS 3060</i>	Operating Systems Theory	3
<i>ECE 4730</i>	Embedded Systems II	3
<i>ECE 3780</i>	Comm Sys and Circuits	3
<i>ECE 3785</i>	Comm System Lab	1
<i>ECE 4700</i>	Computer Architecture for Engineering Application	3
<i>COMM 1020</i>	Public Speaking and Public Speaking Lab	3
	Semester total:	16
Semester 7	Course Title	Credit Hours
<i>ECE 4900</i>	ECE Capstone I WE	3
<i>ECE 4750</i>	Digital Signal Processing	3
<i>ECE 4755</i>	DSP Lab	1
<i>ECE 4760</i>	VLSI Design	3
<i>ECE 4765</i>	VLSI Design Lab	1
General Education	Choose from HILTH 1100 or EXSC 1097	2
General Education	Choose from Fine Arts Distribution List	3
	Semester total:	16
Semester 8	Course Title	Credit Hours
<i>ECE 4950</i>	ECE Capstone II WE	3
<i>ECE Elective</i>	Choose from ECE 4770 or ECE 4780 or ECE 481R	3
<i>COMM 2110</i>	Interpersonal Communication	3
General Education	Choose from Biology Distribution list	3
<i>PHIL 205G</i>	Ethics and Values	3
	Semester total:	15
Notes: Complete CE Exit Survey		
	Degree total:	124