Computer Science - Computer Engineering Emphasis, A.A.S.

The program introduces the student to a wide range of computer systems hardware, software, device drivers and peripheral devices.

Program Requirements

Code	Title	Credit Hours
Total Credit Hours		**63**
Computer Science Requirements		**22 Credits**
Complete the requirements		22
Emphasis Requirements		**41 Credits**
Complete the following (minimum grade of C- required)		
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
IT 1510	Introduction to System Administration--Linux/UNIX	3
MATH 1210	Calculus I QL (fulfills GE requirement)	4
CS 1410	Object Oriented Programming	3
CS 2370	C Plus Plus Programming	3
CS 2420	Introduction to Algorithms and Data Structures	3
ECE 2705	Digital Design I Lab	1
PHYS 2220	Physics for Scientists and Engineers II PP	4
PHYS 2225	Physics for Scientists and Engineers II Lab	1
Emphasis Elective Requirements		
Complete 6 credits from the following courses (minimum grade of C- required):		6
CS 2300	Discrete Mathematical Structures I (3)	
CS 2450	Software Engineering WE (3)	
CS 2550	Web Programming I (3)	
MATH 1220	Calculus II (4)	
Complete 3 credits of any CS or ECE course 1000 or higher.		3

Core Requirements

Code	Title	Credit Hours
Total Credit Hours		**22**
General Education Requirements:		**13 Credits**
A minimum of 16 credits of General Education requirements are required for graduation. Not all GE requirements are listed in this section (see Specialty Core requirements for more details).		
ENGL 1010	Introduction to Academic Writing CC	3
or ENGH 1005	Literacies and Composition Across Contexts CC	
HUMANITIES/FINE ARTS/FOREIGN LANGUAGE [1]		3
COMM 2110	Interpersonal Communication SS (Minimum grade of C- required)	3
Choose one of the following:		3
BIOLOGY		
PHYS 2210	Physics for Scientists and Engineers I PP (4) (Minimum grade of C- required)	
PHYSICAL EDUCATION/HEALTH/SAFETY OR ENVIRONMENT [2]		1

Discipline Core Requirements:		9 Credits
Complete the following:		
CS 1400	Fundamentals of Programming (Minimum grade of C- required)	3
CS 2600	Computer Networks I (Minimum grade of C- required)	3
CS 2810	Computer Organization and Architecture (Minimum grade of C- required)	3

1

COMM 1020 Public Speaking HH recommended

2

HLTH 1100 Personal Health and Wellness TE or EXSC 1097 Fitness for Life TE recommended

Graduation Requirements

1. Completion of a minimum of 63 semester credits.
2. Overall grade point average of 2.0 (C) or above.
3. Residency hours-- minimum of 20 credit hours though course attendance at UVU.

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 (http:// www.uvu.edu/wolverinetrack/).

First Year		
Semester 1		**Credit Hours**
ENGL 1010 or ENGH 1005	Introduction to Academic Writing CC or Literacies and Composition Across Contexts CC	3
MATH 1210	Calculus I QL	4
COMM 2110	Interpersonal Communication SS	3
Biology or Physical Science Distribution		3
CS 1400	Fundamentals of Programming	3
	Credit Hours	**16**
Semester 2		
PE/Health (HLTH 1100 recommended)		1
CS 1410	Object Oriented Programming	3
CS 2810	Computer Organization and Architecture	3
ECE 1000	Introduction to Electrical and Computer Engineering	3
PHYS 2220	Physics for Scientists and Engineers II PP	4
PHYS 2225	Physics for Scientists and Engineers II Lab	1
	Credit Hours	**15**
Second Year		
Semester 3		
CS 2370	C Plus Plus Programming	3
CS 2420	Introduction to Algorithms and Data Structures	3
CS 2600	Computer Networks I	3
ECE 2700	Digital Design I	3
ECE 2705	Digital Design I Lab	1
CS/ ECE Elective		3
	Credit Hours	**16**
Semester 4		
Humanities or Fine Arts (COMM 1020 recommended)		3
ECE 2250	Circuit Theory	3
ECE 2255	Circuit Theory Lab	1
IT 1510	Introduction to System Administration--Linux/UNIX	3
Emphasis Elective		3
Emphasis Elective		3
	Credit Hours	**16**
	Total Credit Hours	**63**

Program Learning Outcomes

1. Graduates are proficient in using data structures and algorithms.
2. Graduates understand the foundations of computer architecture
3. Graduates will have the ability to apply knowledge of mathematics, science, and engineering
4. Graduates will have the ability to design and conduct experiments, as well as to analyze and interpret data
5. Graduates will have the ability to design a system, component, or process to meet desired needswithin realistic constraints such as economic, environmental, social, political, ethical, health and safety manufacturability and sustainability
6. Graduates will have the ability to function on multidisciplinary teams
7. Graduates will have the ability to identify, formulate, and solve engineering problems
8. Graduates will have an understanding of professional and ethical responsibility
9. Graduates will have the ability to communicate effectively
10. Graduates will have the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
11. Graduates will have recognition of the need for, and an ability to engage in life-long learning.
12. Graduates will have knowledge of contemporary issues as they relate to computer engineering practice