

Computer Science - Computing and Networking Sciences Emphasis, A.A.S.

Visit the Computer Science Department page (<https://www.uvu.edu/cs/>) for more information on the program and access to advising.

Program Description

The program introduces the student to a wide range of networking and data communications technologies and entry level programming.

Program Requirements

Code	Title	Credit Hours
Total Credit Hours		65
Computer Science Requirements		25 Credits
Complete the requirements		25
Emphasis Requirements		30 Credits
Complete the following:		
CS 1410	Object Oriented Programming	3
CS 2300	Discrete Mathematical Structures I	3
CS 2420	Introduction to Algorithms and Data Structures	3
CS 2370	C Plus Plus Programming	3
CS 2450	Software Engineering	3
CS 2550	Web Programming I	3
STAT 2050	Introduction to Statistical Methods	4
IT 1510	Introduction to System Administration--Linux/UNIX	3
PHYS 2210 & PHYS 2215	Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Lab	5
Emphasis Elective Requirements		10 Credits
Complete 10 credits from the following courses (minimum grade of C- required).		10
(Must be approved by CS Department. See CS Advisor):		
CS 1030	Foundations of Computer Science (3)	
CS 2690	Computer Networks II (3)	
CS 2700	Causal Inference (3)	
CS 2810R	Internship (1-8) (3 credits max)	
MATH 1220	Calculus II (4)	
ECE 2700 & ECE 2705	Digital Design I and Digital Design I Lab (4)	
IT 1200	Scripting for Administrators (3)	

Core Requirements

Code	Title	Credit Hours
Total Credit Hours		25
General Education Requirements:		16 Credits
ENGL 1010 or ENGH 1005	Introduction to Academic Writing Literacies and Composition Across Contexts	3
MATH 1210	Calculus I	4
Choose one of the following:		3

Arts		
Humanities		
Choose one of the following:		3
Life Sciences		
Physical Sciences		
Personal, Professional, and Civic Growth		
Social & Behavioral Sciences		3
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

Graduation Requirements

1. Completion of a minimum of 65 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 or Literacies and Composition Across Contexts	3
MATH 1210	Calculus I	4
CS 1400	Fundamentals of Programming	3
STAT 2050	Introduction to Statistical Methods	4
GE		3
Credit Hours		17
Semester 2		Credit Hours
CS 1410	Object Oriented Programming	3
CS 2810	Computer Organization and Architecture	3
IT 1510	Introduction to System Administration--Linux/UNIX	3
GE		3
GE		3
Credit Hours		15
Second Year		Credit Hours
Semester 3		Credit Hours
CS 2300	Discrete Mathematical Structures I	3
CS 2420	Introduction to Algorithms and Data Structures	3
CS 2370	C Plus Plus Programming	3
CS 2550	Web Programming I	3
CS 2600	Computer Networks I	3
Credit Hours		15
Semester 4		Credit Hours
CS 2450	Software Engineering	3
PHYS 2210 & PHYS 2215	Physics for Scientists and Engineers I and Physics for Scientists and Engineers I Lab	5
Emphasis Elective		3
Emphasis Elective		3
Emphasis Elective		4
Credit Hours		18
Total Credit Hours		65

Program Learning Outcomes

1. Analyze a network-centric computing problem and apply principles and theories of computation and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a network-based solution to meet a given set of computing requirements.
3. Discuss the theoretical foundations and fundamental mechanisms of net-centric computation.
4. Apply appropriate mathematical skills and knowledge to solve problems.

Computer and information systems managers

- Total Positions 613,500
- Field Growth 17.4%
- Median Salary \$169,510
- Average Openings 54.7

Information security analysts

- Total Positions 180,700
- Field Growth 32.7%
- Median Salary \$120,360
- Average Openings 17.3

Computer and information research scientists

- Total Positions 36,600
- Field Growth 25.6%
- Median Salary \$145,080
- Average Openings 3.4

Database architects

- Total Positions 61,400
- Field Growth 10.8%
- Median Salary \$134,700
- Average Openings 4.2

Computer programmers

- Total Positions 139,400
- Field Growth -9.6%
- Median Salary \$99,700
- Average Openings 6.4

Software developers

- Total Positions 1,692,100
- Field Growth 17.9%
- Median Salary \$132,270
- Average Openings 125.1

Software quality assurance analysts and testers

- Total Positions 205,000
- Field Growth 11.8%
- Median Salary \$101,800
- Average Openings 15.0

Web developers

- Total Positions 94,100
- Field Growth 9.0%

- Median Salary\$84,960
- Average Openings6.6

Web and digital interface designers

- Total Positions128,600
- Field Growth7.9%
- Median Salary\$98,540
- Average Openings9.9

Computer occupations, all other

- Total Positions470,900
- Field Growth10.8%
- Median Salary\$104,920
- Average Openings34.8

Data scientists

- Total Positions202,900
- Field Growth36.0%
- Median Salary\$108,020
- Average Openings20.8

Computer science teachers, postsecondary

- Total Positions45,000
- Field Growth6.1%
- Median Salary\$96,430
- Average Openings3.7