

# Computer Science Education, B.S.

The Bachelor of Science in Computer Science Education provides a solid foundation of software and web development skills specifically for secondary educators. It consists of computer science and web development classes as well as education courses necessary to obtain a Utah teaching license with endorsements in Computer Science and Web Development.

## Matriculation Requirements

- Pass MATH 1050 and ENGL 1010 with a grade of “C” or better.
- Pass CS 1400, CS 1410, CS 2300, and CS 2420 with a grade of “C+” or better.
- GPA of 3.0 or higher with no grade lower than a C in content area courses.
- Completion of all General Education requirements and 70% of content area courses.
- Pass LiveScan Criminal Background Check.
- ENGL 2010 and MATH QL courses must have a grade C or higher

## Program Requirements

Code	Title	Credit Hours
<b>Total Credit Hours</b>		<b>120</b>
<b>General Education Requirements</b>		<b>36 Credits</b>
ENGL 1010 or ENGL 1005	Introduction to Academic Writing CC Literacies and Composition Across Contexts CC	3
ENGL 2010	Intermediate Academic Writing CC	3
MATH 1050 or MATH 1055	College Algebra QL College Algebra with Preliminaries QL	4
American Institutions - Complete one of the following:		3
HIST 1700	American Civilization AS (3)	
HIST 1740	US Economic History AS (3)	
POLS 1000	American Heritage AS (3)	
POLS 1100	American National Government AS (3)	
HIST 2700 & HIST 2710	US History to 1877 AS and US History since 1877 AS (6)	
Complete the following:		
PHIL 2050	Ethics and Values IH	3
HLTH 1100 or EXSC 1097	Personal Health and Wellness TE Fitness for Life TE	2
Biology		3
Physical Science		3
Additional Biology or Physical Science		3
Humanities Distribution		3
Fine Arts Distribution		3
Social/Behavioral Science		3
<b>Discipline Requirements</b>		<b>84 Credits</b>
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	3
CS 2420	Introduction to Algorithms and Data Structures	3
CS 2450	Software Engineering WE	3
CS 2550	Web Programming I	3
CS 2600 or IT 2600	Computer Networks I Data Communication Fundamentals	3

CS 2810	Computer Organization and Architecture	3
CS 305G	Global Social and Ethical Issues in Computing GI WE	3
or INFO 405G	Global Ethical and Professional Perspectives in IS and IT GI WE	
CS 3100	Data Privacy and Security	3
CS 3450	Principles and Patterns of Software Design	3
CS 3250	Java Software Development	3
or CS 3260	CsharpNET Software Development	
or CS 3270	Python Software Development	
or CS 3370	C Plus Plus Software Development	
or CS 3380	JavaScript Software Development	
DGM 1110	Digital Media Essentials I	4
DWDD 1400	Digital Design Essentials	3
DWDD 1600	Web Essentials	3
Education Methods Component		
EDSC 1010	Introduction to Education	2
EDSP 340G	Exceptional Students GI	2
EDSC 3000	Educational Psychology	3
EDSC 325G	Equitable Technology Integration GI	2
EDSC 4200	Classroom Management I	2
EDSC 4250	Classroom Management II	2
EDSC 4440	Content Area Literacies	3
EDSC 445G	Multicultural and Multilingual Education	3
EDSC 455G	Secondary Curriculum Instruction and Assessment GI	3
EDSC 4850	Student Teaching Secondary	8
EDSC 4990	Teacher Assessment Project	2
BMED 4300	Methods of Teaching Computer Science	3

## Graduation Requirements

Graduation standards are:

1. Completion of a minimum of 120 semester credits, with a minimum of 40 upper-division credits.
2. Overall grade point average of 2.0 or above. Must have a minimum grade of C- with a combined GPA of 2.5 or higher in all discipline core and emphasis 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 CSE Department 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 type courses of transfer credit from a two-year college.
6. No more than 30 semester hours may be earned through independent study and/or extension classes.
7. Successful completion of at least one Global/Intercultural course.
8. Successful completion of at least two Writing Enriched (WE) courses.

## 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	Introduction to Academic Writing CC	3
or ENGH 1005	or Literacies and Composition Across Contexts CC	
MATH 1050	College Algebra QL	4
or MATH 1055	or College Algebra with Preliminaries QL	
HLTH 1100	Personal Health and Wellness TE	2
or EXSC 1097	or Fitness for Life TE	
CS 1400	Fundamentals of Programming	3

DWDD 1600	Web Essentials	3
<b>Credit Hours</b>		<b>15</b>
<b>Semester 2</b>		
ENGL 2010	Intermediate Academic Writing CC	3
Humanities Distribution		3
Fine Arts Distribution		3
CS 1410	Object Oriented Programming	3
DGM 1110	Digital Media Essentials I	4
<b>Credit Hours</b>		<b>16</b>
<b>Second Year</b>		
<b>Semester 3</b>		
Biology Distribution		3
CS 2300	Discrete Mathematical Structures I	3
CS 2370	C Plus Plus Programming	3
CS 2420	Introduction to Algorithms and Data Structures	3
EDSC 1010	Introduction to Education	2
<b>Credit Hours</b>		<b>14</b>
<b>Semester 4</b>		
CS 2550	Web Programming I	3
CS 2810	Computer Organization and Architecture	3
CS 3250	Java Software Development	3
Physical Science Distribution		3
American Institutions		3
<b>Credit Hours</b>		<b>15</b>
<b>Third Year</b>		
<b>Semester 5</b>		
CS 2450	Software Engineering WE	3
CS 2600	Computer Networks I	3
CS 3450	Principles and Patterns of Software Design	3
PHIL 2050	Ethics and Values IH	3
Social/Behavioral Science Distribution		3
<b>Credit Hours</b>		<b>15</b>
<b>Semester 6</b>		
EDSC 3000	Educational Psychology	3
EDSC 455G	Secondary Curriculum Instruction and Assessment GI	3
EDSP 340G	Exceptional Students GI	2
Additional Biology or Physical Science Distribution		3
CS 3100	Data Privacy and Security	3
<b>Credit Hours</b>		<b>14</b>
<b>Fourth Year</b>		
<b>Semester 7</b>		
EDSC 325G	Equitable Technology Integration GI	2
BMED 4300	Methods of Teaching Computer Science	3
EDSC 4200	Classroom Management I	2
EDSC 4440	Content Area Literacies	3
EDSC 445G	Multicultural and Multilingual Education	3
DWDD 1400	Digital Design Essentials	3
<b>Credit Hours</b>		<b>16</b>
<b>Semester 8</b>		
CS 305G	Global Social and Ethical Issues in Computing GI WE	3
EDSC 4250	Classroom Management II	2
EDSC 4850	Student Teaching Secondary	8
EDSC 4990	Teacher Assessment Project	2
<b>Credit Hours</b>		<b>15</b>
<b>Total Credit Hours</b>		<b>120</b>

## Program Learning Outcomes

1. Apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a set of computing requirements.
3. Apply pedagogical theories to facilitate learning in the field of computer science and web programming.

4. Demonstrate how to teach computer science and web programming in the secondary education system.
5. Evaluate student computer programming performance.