Software Development, B.A.S.

The Bachelor of Applied Science in Software Development is a degree to provide a solid foundation of software development skills. It consists mainly of 45 credit hours of computer science classes: the core computer science classes, plus several additional computer science courses selected so as to have greatest practical applicability. The degree will qualify students for mid-level programming jobs with good long-term prospects but not necessarily technical leadership roles.

Matriculation Requirements

- Completion of CS 1400, CS 1410, CS 2300, and CS 2420 with a grade of C+ or better.
- Completion of MATH 1050 and ENGL 1010 with a grade of C or better.
- Overall GPA of 2.5 or higher.

Program Requirements

Code	Title	Credit Hours
Total Credit Hours		**120**
General Education Requirements		**36 Credits**
ENGL 1010	Introduction to Academic Writing CC	3
or ENGH 1005	Literacies and Composition Across Contexts CC	
ENGL 2010	Intermediate Academic Writing CC	3
MATH 1050	College Algebra QL	4
or MATH 1055	College Algebra with Preliminaries QL	
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	Personal Health and Wellness TE	2
or EXSC 1097	Fitness for Life TE	
Biology		3
Physical Science		3
Additional Biology or Physical Science		3
Humanities Distribution		3
Fine Arts Distribution		3
Social/Behavioral Science		3
Discipline Requirements		**51 Credits**
Complete one of the following:		6
CS 1400 & CS 1410	Fundamentals of Programming and Object Oriented Programming (6)	
CS 1420	Accelerated Introduction to Programming (undefined) (and an additional 3 credit CS elective not already completed) [1]	
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	Computer Networks I	3

CS 2810	Computer Organization and Architecture	3
CS 305G	Global Social and Ethical Issues in Computing GI WE	3
CS 3060	Operating Systems Theory	3
CS 3450	Principles and Patterns of Software Design	3
CS 3520	Database Theory	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	
One of:		3
CS 3410	Human Factors in Software Development (3)	
CS 3680	Mobile Device Programming (3)	
CS 481R	Internship (3)	
Two additional 3000 or 4000-level CS Classes not already taken		6
Extra-Major Specialization		**33 Credits**
Courses in a single major other than Computer Science or Software Engineering		33
At least 16 credit hours must be upper division		

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If students choose CS 1420, please see advisor.

Graduation Requirements

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 requirements.
3. Residency hours -- minimum of 30 credit hours through course attendance at UVU. Ten 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 Computer Science Department courses.
4. No more than 80 semester hours and no more than 20 hours of transfer credit from a two-year college may be applied to the core or elective courses.
5. No more than 30 semester hours may be earned through independent study.
6. Successful completion of at least one Global/Intercultural course.
7. Successful completion of at least two Writing Enriched 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**
MATH 1050	College Algebra QL	4
CS 1400	Fundamentals of Programming	3
GE American Institutions		3
ENGL 1010 or ENGH 1005	Introduction to Academic Writing CC or Literacies and Composition Across Contexts CC	3
HLTH 1100 or EXSC 1097	Personal Health and Wellness TE or Fitness for Life TE	2
	Credit Hours	**15**
Semester 2		
CS 1410	Object Oriented Programming	3
GE Biology Distribution		3
Extra-Major Specialization		3
ENGL 2010	Intermediate Academic Writing CC	3
GE Humanities Distribution		3
	Credit Hours	**15**

Second Year		
Semester 3		
CS 2300	Discrete Mathematical Structures I	3
CS 2420	Introduction to Algorithms and Data Structures	3
PHIL 2050	Ethics and Values IH	3
GE Physical Science distribution		3
GE Social/Behavioral Science		3
	Credit Hours	**15**
Semester 4		
CS 2370	C Plus Plus Programming	3
CS 2450	Software Engineering WE	3
GE Fine Arts distribution		3
GE Additional Science distribution		3
Extra-Major Specialization		3
	Credit Hours	**15**
Third Year		
Semester 5		
CS 2550	Web Programming I	3
CS 2810	Computer Organization and Architecture	3
CS 305G	Global Social and Ethical Issues in Computing GI WE	3
Extra-Major Specialization		6
	Credit Hours	**15**
Semester 6		
CS 2600	Computer Networks I	3
Complete one of following:		3
CS 3250	Java Software Development	
CS 3260	CsharpNET Software Development	
CS 3270	Python Software Development	
CS 3370	C Plus Plus Software Development	
CS 3380	JavaScript Software Development	
Extra-Major Specialization		9
	Credit Hours	**15**
Fourth Year		
Semester 7		
CS 3450	Principles and Patterns of Software Design	3
CS 3060	Operating Systems Theory	3
CS 3520	Database Theory	3
Extra-Major Specialization		6
	Credit Hours	**15**
Semester 8		
Complete one of following:		3
CS 3410	Human Factors in Software Development	
CS 3680	Mobile Device Programming	
CS 481R	Internship	
CS Electives (3000 or 4000-level)		6
Extra-Major Specialization		6
	Credit Hours	**15**
	Total Credit Hours	**120**

Program Learning Outcomes

1. Design a software-based solution to meet a given set of requirements.
2. Implement a software-based solution to meet a given set of requirements
3. Communicate effectively in a variety of professional contexts.
4. Function effectively as a member of a team engaged in software development.