

## Software Development, B.A.S.

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### Requirements

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.

The program will appeal to students who largely complete a major, but realize that they need a different major in order to secure a good job. The program is also designed for individuals who have graduated from college, but find it necessary to be retrained in software development in order to enhance long-term employment prospects. For students who already have a baccalaureate degree, they can complete the computer science portion of the program in five to six semesters, depending on the desired course load.

### Total Program Credits: 120

Matriculation Requirements:			
<ol style="list-style-type: none"> <li>1. Completion of CS 1400, CS 1410, CS 2300, and CS 2420 with a grade of C+ better.</li> <li>2. Completion of MATH 1050 and ENGL 1010 with a grade of C or better.</li> <li>3. Overall GPA of 2.5 or higher.</li> </ol>			
General Education Requirements:			36 Credits
	ENGL 1010	Introduction to Academic Writing	3
or	ENGH 1005	Literacies and Composition Across Contexts (5)	
	ENGL 2010	Intermediate Writing Academic Writing and Research	3
	MATH 1050	College Algebra	4
or	MATH 1055	College Algebra with Preliminaries (5)	5
American Institutions, complete one of the following:			3
	HIST 1700	American Civilization (3)	
	HIST 1740	US Economic History (3)	
	POLS 1000	American Heritage (3)	
	POLS 1100	American National Government (3)	
	HIST 2700	US History to 1877 (3)	
and	HIST 2710	US History since 1877 (3)	

Complete the following:			
	PHIL 2050	Ethics and Values	3
	HLTH 1100	Personal Health and Wellness	2
or	EXSC 1097	Fitness for Life (2)	
Distribution Requirements:			
Biology			3
Physical Science			3
Additional Biology or Physical Science			3
Humanities Distribution			3
Fine Arts Distribution			3
Social/Behavioral Science			3
Discipline Core Requirements:			51 Credits
	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 2450	Software Engineering	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	3
	CS 3060	Operating Systems Theory	3
	CS 3450	Principles and Patterns of Software Design	3
	CS 3520	Database Theory	3
	CS 3660	Web Programming II	3
	CS 3250	Java Software Development	3
or	CS 3260	CsharpNET Software	

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		Development (3)	
or	CS 3270	Python Software Development (3)	
or	CS 3370	Python Software Development (3)	
or	CS 3380	JavaScript Software Development (3)	
Complete one of the following:			3
	CS 3410	Human Factors in Software Development (3)	
	CS 3680	Database Theory (3)	
	CS 481R	Internship (3)	
	One additional 3000-level CS Class not already taken		3
Extra-Major Specialization:			
	Courses in a single major other than Computer Science or Software Engineering. At least 16 credit hours must be upper division		33

### **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.

**Software Development, B.A.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
MATH 1050	College Algebra	4
CS 1400	Fundamentals of Programming	3
GE American Institutions		3
ENGL 1005 or ENGL 1010	Literacies and Composition Across Contexts or Introduction to Academic Writing	3
HLTH 1100 or EXSC 1097	Personal Health and Wellness or Fitness for Life	3
Semester total:		15
Notes: Matriculation based on minimum grade of C+ in CS 1400, CS 1410, CS 2300, and CS 2420; C in Math 1050, ENGL 1010		
Semester 2	Course Title	Credit Hours
CS 1410	Object Oriented Programming	3
GE Biology Distribution		3
Extra-Major Specialization		3
ENGL 2010	Intermediate Writing	3
Extra-Major Specialization		3
GE Humanities Distribution		3
Semester total:		15
Notes: Matriculation based on minimum grade of C+ in CS 1400, CS 1410, CS 2300, and CS 2420; C in Math 1050, ENGL 1010		
Semester 3	Course Title	Credit Hours
CS 2300	Discrete Mathematical Structures I	3
PHIL 2050	Ethics and values	3
Extra-Major Specialization		3
GE Physical Science distribution		3
GE Social/Behavioral Science		3
Semester total:		15
Notes: Matriculation based on minimum grade of C+ in CS 1400, CS 1410, CS 2300, and CS 2420; C in Math 1050, ENGL 1010		
Semester 4	Course Title	Credit Hours
CS 2370	C plus plus Programming WE	3
CS 2420	Introduction to Algorithms & Data Structures	3
GE Fine Arts distribution		3
GE Additional Science distribution		3
Extra-Major Specialization		3
Semester total:		15

Notes: Matriculation based on minimum grade of C+ in CS 1400, CS 1410, CS 2300, and CS 2420; C in Math 1050, ENGL 1010

Semester 5	Course Title	Credit Hours
CS 2550	Web Programming I	3
CS 2810	Computer Organization & Architecture	3
CS 305G	Global Social and Ethical Issues in Computing	3
Extra-Major Specialization		6
Semester total:		15
Semester 6	Course Title	Credit Hours
CS 2450	Software Engineering I	3
CS 2600	Computer Networks I	3
Extra-Major Specialization		6
Complete one of the following:		3
CS 3250	Java Software Development	
CS 3260	C#Net Software Development	
CS 3270	Python Software Development	
CS 3370	C Plus Plus Software Development	
CS 3380	Java Script Software Development	
Semester total:		15
Semester 7	Course Title	Credit Hours
CS 3060	Operating Systems Theory	3
CS 3450	Principles & Patterns of Software Design	3
CS 3520	Database Theory	3
Extra-Major Specialization		6
Semester total:		15
Semester 8	Course Title	Credit Hours
CS 3660	Web Programmin II	3
CS Elective	(3000 level)	3
Extra-Major Specialization		6
Complete one of the following:		3
CS 3410	Human Factors in Software Development	
CS 3480	Mobile Device Programming	
CS 481R	Internship	
Semester total:		15
Degree total:		120