

# Bachelor of Science in Computer & Information Technology - Software Development Emphasis

The Bachelor of Science in Computer & Information Technology with an emphasis in Computer Science has four basic components:

1. General Education & Institutional Requirements
2. Core Discipline Requirements
3. Discipline Elective Requirements
4. Electives: college-level courses from any prefix to meet Graduation Requirements (p. 2)

## Institutional Requirement in Computer Literacy

The DSU Computer Literacy requirement is fulfilled by successfully completing the Computer Science Core Requirement courses CS 1400 Fundamentals of Programming and CS 1410 Object Oriented Programming.

## DSU General Education & Institutional Requirements

All DSU General Education and Institutional requirements must be fulfilled. A previously earned degree may fulfill those requirements, but courses must be equivalent to DSU's minimum General Education standards in American Institutions, English, and Mathematics.

Code	Title	Hours
<b>Institutional Requirement in Computer Literacy</b> (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)		
	Computer Literacy	0-6
<b>General Education Core Requirements</b> (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)		
	English	3-7
	Information Literacy	0-1
	Mathematics	3-5
	American Institutions	3-6
	Life Sciences	3-10
	Physical Sciences	3-5
	Laboratory Science	0-1
	Fine Arts	3
	Literature/Humanities	3
	Social & Behavioral Sciences	3
	Exploration	3-5
	Two (2) Global & Cultural Perspectives Courses	0-6
<b>Core Discipline Requirements</b>		
CS 1400	Fundamentals of Programming	3
CS 1410	Object Oriented Programming	3
CS 2420	Introduction to Algorithms and Data Structures	3
CS 2450	Software Engineering	3
CS 2810	Computer Organization and Architecture	3
CS 3005	Programming in C++	3
CS 3200	Web Application Development I	3
CS 4307	Database Design & Management	3
CS 4600	Senior Project	3
ENGL 3010	Writing in the Professions	3
IT 1100	Introduction to Unix/Linux	3
MATH 1210	Calculus I	4
WEB 1400	Web Design I: Fundamentals	3
<b>Discipline Elective Requirements</b>		
Complete eight of the following courses:		
CS 3010	Mobile Application Development for Android	3
CS 3020	Mobile Application Development: iOS	3

CS 3410	Distributed Systems	3
CS 3440	Software Practices	3
CS 3500	Application Development	3
CS 3520	Programming Languages	3
CS 3600	Graphics Programming	3
CS 4300	Artificial Intelligence	3
CS 4550	Compilers	3
IT 2400	Intro to Networking	3
Complete nine credits from the following courses: (Choices from above may not be repeated here)		
CS 3010	Mobile Application Development for Android	3
CS 3020	Mobile Application Development: iOS	3
CS 3310	Discrete Mathematics	3
CS 3400	Operating Systems	3
CS 3410	Distributed Systems	3
CS 3440	Software Practices	3
CS 3500	Application Development	3
CS 3510	Advanced Algorithms/Data Structures	3
CS 3520	Programming Languages	3
CS 3530	Computational Theory	3
CS 3600	Graphics Programming	3
CS 4200	Web Application Development II	3
CS 4300	Artificial Intelligence	3
CS 4550	Compilers	3
CS 4920R	Internship	1-3
CS 4990	Sem in Computer Science	3
CS 4991R	Competitive Programming	0.5
DES 2600	Creative Imaging	3
IT 2400	Intro to Networking	3
IT 3100	Systems Design and Administration I	3
IT 3110	Systems Design and Administration II	3
IT 3150	Windows Servers	3
IT 4200	Advanced Web Delivery	3
IT 4500	Information Security	3
MATH 1220	Calculus II	4
MATH 2210	Multivariable Calculus	4
MATH 2270	Linear Algebra	3
MATH 2280	Ordinary Differential Equation	3
MATH 3400	Probability & Statistics	3
WEB 3400	Web Design II: Essentials	3

<sup>1</sup> If not used to fulfill a core requirement.

**NOTE:** A course may only be used to fulfill one program requirement. Dual-listed courses may only be used once to fill requirements. Consult course descriptions in this catalog to verify dual-listed courses.

## Graduation Requirements

1. Complete a minimum of 120 college-level credits (1000 and above).
2. Complete at least 40 upper-division credits (3000 and above).
3. Complete at least 30 upper-division credits at DSU for institutional residency.
4. Cumulative GPA 2.0 or higher.
5. Grade C- or higher in each Core Discipline and Elective Requirement course.

## Graduation Plan

Course	Title	Hours
<b>1st Year</b>		
<b>Fall Semester</b>		
CIT 1001	FYE: Computer & Information Technology	1
CS 1400	Fundamentals of Programming ( CS 1400 & CS 1410 meet Computer Literacy (catalog.dixie.edu/programs/generaleducation/#gerequirementstext))	3
MATH 1210	Calculus I meets General Education (Mathematics) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)	4
ENGL 1010	Introduction to Writing	3
IT 1100	Introduction to Unix/Linux	3
LIB 1010	Information Literacy	1
Hours		15
<b>Spring Semester</b>		
WEB 1400	Web Design I: Fundamentals	3
CS 1410	Object Oriented Programming ( CS 1400 & CS 1410 meet Computer Literacy (catalog.dixie.edu/programs/generaleducation/#gerequirementstext))	3
IT 2400	Intro to Networking	3
ENGL 2010	Intern Writing Selected Topics:	3
General Education (Social & Behavioral Sciences) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)		3
Hours		15
<b>2nd Year</b>		
<b>Fall Semester</b>		
CS 2420	Introduction to Algorithms and Data Structures	3
CS 2810	Computer Organization and Architecture	3
CS 3005	Programming in C++	3
General Education (American Institutions) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)		3
General Education (Fine Arts) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)		3
Hours		15
<b>Spring Semester</b>		
CS 3010	Mobile Application Development for Android	3
CS 3410	Distributed Systems	3
CS 4307	Database Design & Management	3
General Education (Life Science) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)		3
General Education (Physical Science) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)		3
General Education (Lab Science) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)		1
Hours		16
<b>3rd Year</b>		
<b>Fall Semester</b>		
CS 3020	Mobile Application Development: iOS	3
CS 3500	Application Development	3
CS 3520	Programming Languages	3
General Education (Literature / Humanities) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)		3
General Education (Exploration) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)		3
Hours		15
<b>Spring Semester</b>		
CS 3600	Graphics Programming	3
CS 4550	Compilers	3
Software Development Elective		3
General Education (Global & Cultural Perspectives) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)		3
General Education (Global & Cultural Perspectives) (catalog.dixie.edu/programs/generaleducation/#gerequirementstext)		3
Hours		15

**4th Year****Fall Semester**

CS 2450	Software Engineering	3
CS 3200	Web Application Development I	3
CS 4300	Artificial Intelligence	3
General Elective		3
General Elective		3
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	Hours	15

**Spring Semester**

CS 4600	Senior Project	3
ENGL 3010	Writing in the Professions	3
Software Development Elective		3
General Elective		3
General Elective		2
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	Hours	14
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	Total Hours	120