

Computer Science ADT to BS - Computer Science

Title	C-ID Designation	C-ID Units	Double	CSUEB Course	Units
Programming Concepts & Methodology I (CS1)	COMP 122	3			
Programming Concepts & Methodology II (CS2)	COMP 132	3			
Computer Architecture & Organization	COMP 142	3			
Discrete Structures	COMP 152	3			
Choose 1					
Single Variable Calculus I and II – Early Transcendentals (min. 8 units)		8			
or					
Single Variable Calculus I and II – Late Transcendentals (min. 8 units)		8			
or	MATH 210 and 220	8			
Single Variable Calculus Sequence (min. 8 units)					
or					
MATH 211 and 221		8			
or					
MATH 900S					
Choose 1					
PHYS 205	4				
	4				
(min. 4 units)					
or					
Cell and Molecular Biology		4			
(min. 4 units)					
or					
Organismal Biology		4			
Choose 1					
PHYS 210		4			
General Chemistry for Science Majors I, with Lab (min. 5 units)					
or					
BIOL 190					
or					
BIOL 140					
or					
CHEM 110					
<b>TOTAL MAJOR UNITS</b>		<b>28</b>			
<b>CSU GE Requirements</b>		<b>39</b>			
<b>Double Counting GE</b>		<b>7</b>			
<b>Elective</b>		<b>0</b>			
<b>Total Units</b>		<b>60</b>			

<b>GRADUATION REQUIREMENTS</b> These should be fulfilled at the Community College, however if not taken at the Community College, they must be completed at CSU East Bay			
<b>US History, Constitution &amp; American Ideals</b>			
First Category US-1			0-3
Second Category US-2			0-3
Third Category US-3			0-3
		<b>Total Units</b>	<b>0-9</b>
<b>These courses must be taken at CSU East Bay</b>			
Please note: A minimum of three courses in the Upper Division General Education pattern must have a topic/learning outcome oriented toward one of the following topic areas (overlays): <b>Diversity (DIV)</b> , <b>Social Justice (SJ)</b> , or <b>Sustainability (S)</b> .			
Upper Division GE/Overlay	Courses	Overlay	Units
GE-UD-B			3
GE-UD-C			3
GE-UD-D			3
		<b>Total Units</b>	<b>9</b>
University Writing Requirement	Course	GE/Overlay	Units
UWR			
		<b>Total Units</b>	<b>3</b>
Lower Division Coursework	Course	GE/Overlay	Units
CS 230	Computing and Social Responsibility	GE-D1-2	3
		<b>Total Units</b>	<b>3</b>
Upper Division Coursework	Course	GE/Overlay	Units
Students must complete all 27 units of upper-division courses with a grade of C- or above:			
CS 301	Data Structures and Algorithms		3
CS 311	Programming Language Concepts		3
CS 321	Computer Architecture		3
CS 401	Software Engineering		3
CS 411	Automata and Computation		3
CS 413	Analysis of Algorithms		3
CS 421	Operating Systems		3
CS 441	Computer Networks		3
STAT 316	Statistics and Probability for Science and Engineering		3
		<b>Total Units</b>	<b>27</b>
<b>Computer Science Breadth Coursework</b>			
Students must complete two (2) courses of the following for 6 units:			
CS 351	Website Development		3
CS 431	Database Architecture		3
CS 453	Mobile Programming		3
CS 455	Computer Graphics		3
CS 461	Artificial Intelligence		3
CS 471	Security and Information Assurance		3
		<b>Total Units</b>	<b>6</b>

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<b>Elective Courses</b>			
Students must take two (2) courses with the CS prefix numbered 300 or above for a minimum of 6 units. Courses must not be the same as those already used. Note: 1-3 units of CS 498 Internship and/or 1-4 units of CS 490 Independent Study and/or CS 497 Topics in Computer Science may be used to fulfill the Electives category.			
		<b>Total Units</b>	<b>6</b>
<b>ADDITIONAL COURSE(S) to MEET 60 UNITS</b>		<b>GE/Overlay</b>	<b>Units</b>
These courses may be additional major courses or prerequisites taken at the Community College.			
Free Elective Elective			6
		<b>Total Units</b>	<b>6</b>
		<b>Grand Total:</b>	<b>60</b>

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<b>FIRST SEMESTER (FALL)</b>			
UD Major	CS 301	Data Structures and Algorithms	3
UD Major	CS 311	Programming Language Concepts	3
UD Major	CS 321	Computer Architecture	3
UD Major	Stat 316	Statistics for Science & Engineering	3
	UWR		3
		Total:	15
<b>SECOND SEMESTER (SPRING)</b>			
UD Major	UD-Elective/Breadth	UD-Elective or UD-Breadth	3
UD Major	CS 411	Automata and Computation	3
UD Major	CS 401	Software Engineering	3
UD Major	CS 230	Computing and Social Responsibility	3
UD-C/Overlay			3
		Total :	15
<b>THIRD SEMESTER (FALL)</b>			
UD Major	CS 413	Analysis of Algorithms	3
UD Major	CS 421	Operating Systems	3
UD Major	UD-Elective/Breadth	UD-Elective or UD-Breadth	3
UD-B/Overlay			3
Free Elective			3
		Total:	15
<b>FOURTH SEMESTER (SPRING)</b>			
UD Major	UD-Elective/Breadth	UD-Elective or UD-Breadth	3
UD Major	UD-Elective/Breadth	UD-Elective or UD-Breadth	3
UD Major	CS 441	Computer Networks	3
UD-D/Overlay			3
Free Elective			3
		Total:	15
		Grand Total:	60