

Degree: Computer Science, B.S. 24-25				
Requirement Area	Course	Course Title	Prerequisites	Units
<b>First Semester (FALL)</b>				
E	SCI 130	Connecting to STEM Majors		2
A1	COMM 100	Communication		3
B2				3
B4	MATH 130	Calculus I	One from the following: Satisfactory score of 78 or higher on Mathematics Placement Exam, MATH 120 or MATH 125 (either course with grade C- or better).	4
Code 1				3
Elective				1
			<b>Total:</b>	16
<b>Second Semester (SPRING)</b>				
A2	ENGL 102			3
C1				3
LD Major	CS 101	Computer Science I	Mathematics/QR Placement Category I or II, or successful completion of GE area B4.	4
LD Major	MATH 131	Calculus II	MATH 130 with grade C- or better.	3
Elective				1
			<b>Total:</b>	14
<b>Third Semester (FALL)</b>				
E				1
B1/B3	PHYS 135	Physics for Engineers I	MATH 130 with grade C- or better.	4
LD Major	CS 211	Discrete Structures	MATH 130 with grade C- or better.	3
LD Major	CS 201	Computer Science II	CS 101 with grade C- or better.	4
A3	PHIL 100	Workshop in Critical Thinking		3
			<b>Total:</b>	15
<b>Fourth Semester (SPRING)</b>				
D1/LD Major	CS 230	Computing and Social Responsibility		3
Second Composition D2/Code 2	ENGL 200 or PHYS 230			3
LD Major	CS 221	Assembly Language and Computer Architecture	CS 100 or CS 101, both with grade C- or better.	3
LD Major	MATH 225	Numerical Algorithms and Linear Algebra	CS 101 and MATH 130.	3
			<b>Total:</b>	15
<b>Fifth Semester (FALL)</b>				
UD-B/Overlay				3
F		Ethnic Studies		3
UD Major	STAT 316	Statistics for Science and Engineering	MATH 131	3
UD Major	CS 301	Data Structures	CS 201 and CS 211	3
UD Major	CS 321	Computer Architecture	CS 211 and CS 221, both with grade C- or better.	3
			<b>Total:</b>	15
<b>Sixth Semester (SPRING)</b>				
C2				3
UWR				3
UD Major	CS 311	Programming Language Concepts	CS 201 and CS 221.	3
UD Major	CS 441	Computer Networks	CS 301	3
UD Major	CS 413	Analysis of Algorithms	CS/MATH 211 and CS 301	3
			<b>Total:</b>	15
<b>Seventh Semester (FALL)</b>				
UD-D/Overlay				3
UD Major	CS 401	Software Engineering	CS 301 with grade C- or better.	3
UD Major	CS 421	Operating Systems	CS 301 with grade C- or better.	3
UD Major	CS 411	Automata and Complexity	CS 211 and MATH 225, both with grade C- or better.	3
UD Major	CS Breadth			3
			<b>Total:</b>	15
<b>Eighth Semester (SPRING)</b>				
Add'l C1 or C2*				3
UD-C/Overlay				3
UD Major	CS Breadth			3
UD Major	CS Elective			3
UD Major	CS Elective			3
			<b>Total:</b>	15
<b>Total Units:</b>				120

CSUEB General Breadth and Graduation Requirement Checklist
<b>Area A (9 units): Communication in the English Language &amp; Critical Thinking (Must earn passing grade of C-/CR or better)</b>
<input type="checkbox"/> A1. COMM 100 or 104, MLL 111
<input type="checkbox"/> A2. ENGL 101, 102, or 104
<input type="checkbox"/> A3. PHIL 100
<b>Area B (9 units) : Scientific Inquiry &amp; Quantitative Reasoning</b>
<input type="checkbox"/> B1. Physical Science
<input type="checkbox"/> B2. Life Science
<input type="checkbox"/> B3. Laboratory Activity
<input type="checkbox"/> B4. Quantitative Reasoning (Must earn passing grade of C-/CR or better.)
<b>Area C (9 units): Arts &amp; Humanities - Minimum of two different disciplines as designated by course prefix (e.g., ART, THEA, MUS)</b>
<input type="checkbox"/> C1. Arts
<input type="checkbox"/> C2. Humanities
<input type="checkbox"/> *Additional Lower-division Area C Course in Arts (C1) or Humanities (C2)
<b>Area D (6 units) : Social Sciences - Minimum of two different disciplines as designated by course prefix (e.g., ANTH, ECON, POSC)</b>
<input type="checkbox"/> D1.
<input type="checkbox"/> D2.
<b>Area E (3 units) : Lifelong Learning and Self-Development</b>
<input type="checkbox"/> E.
<b>Area F (3 units): Ethnic Studies</b>
<input type="checkbox"/> F.
<b>Second Composition : Requires completion of GE A2 with a C-/CR or better. Must be completed before attaining junior standing.</b>
<input type="checkbox"/> Second Composition
<b>University Writing Requirement</b>
<input type="checkbox"/> UWR
<b>U.S. Code (American Institutions Requirement) - Two courses (6 units) covering three U.S. Code Requirements of US-1 (U.S. History), US-2 (U.S. Constitution), and US-3 (California State &amp; Local Government).</b>
<input type="checkbox"/> Code 1.
<input type="checkbox"/> Code 2.
<b>Upper Division GE Requirements (9 units): Should be taken after completion of A1, A2, A3, and B4 with a C- (CR)</b>
<input type="checkbox"/> UD-B. Upper-division Science Inquiry and Quantitative Reasoning
<input type="checkbox"/> UD-C. Upper-division Arts OR Humanities
<input type="checkbox"/> UD-D. Upper-division Social Sciences
<b>Overlay Requirements (9 units): Courses may be upper or lower division, and GE or major</b>
<input type="checkbox"/> Diversity (Div)
<input type="checkbox"/> Social Justice (SJ)
<input type="checkbox"/> Sustainability (S)
<b>Computer Science Breadth Coursework</b>
Students must complete two (2) courses of the following for 6 units:
CS 351 - Website Development Units: 3
CS 431 - Database Architecture Units: 3
CS 453 - Mobile Programming Units: 3
CS 455 - Computer Graphics Units: 3
CS 461 - Artificial Intelligence Units: 3
CS 471 - Security and Information Assurance Units: 3
<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 Cooperative Education and/or 1-3 units of CS 490 Independent Study may be used to fulfill the Electives category.

\*Students are required to take a minimum of 40 semester units as upper division (includes 9 units upper division GE)

Note: No changes to, or from, the credit/no credit pattern are permitted after the Grade Type Change period. There are no exceptions to this rule. Courses in a student's major department, regardless of course prefix, may not be taken "CR/NC," unless that is the only grading pattern in the course.