

Degree: Computer Engineering, B.S. 25-26				
Requirement Area	Course	Course Title	Prerequisites	Units
First Semester (FALL)				
Area 2/LD Major	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
5A/5C/LD Major	PHYS 135	Physics for Scientists and Engineers I		4
LD Major	CS 101	Computer Science	Mathematics/QR Placement Category I or II, or successful completion of GE area B4	4
1C		Oral Communication		3
			Total:	15
Second Semester (SPRING)				
1A		Written Communication		3
LD Major	MATH 131	Calculus II	MATH 130 with grade C- or better.	3
LD Major	PHYS 136	Physics for Scientists and Engineers II	MATH 130 and PHYS 135.	4
3A		Arts		3
Area 6		Ethnic Studies		3
			Total:	16
Third Semester (FALL)				
1B/Second Comp		Critical Thinking and Composition		3
LD Major	CS 201	Computer Science II	CS 101 with grade C- or better.	4
LD Major	MATH 230	Calculus III	MATH 131 with grade C- or better.	3
LD Major/Second Comp	ENGR 200	Introduction to Engineering and Design		3
LD Major	CHEM 110	General Chemistry for Engineering		3
			Total:	16
Fourth Semester (SPRING)				
LD Major	CS 211	Discrete Structures	MATH 130 with grade C- or better.	3
LD Major	CMPE 221	Assembly Language and Logic Design	CS 100 or CS 101, both with grade C- or better.	3
LD Major	ENGR 230	Electric Circuits I	PHYS 136 and MATH 215.	3
LD Major	MATH 215	Introduction to Linear Algebra	MATH 130.	3
LD Major	ENGR 220	Statics	PHYS 135.	3
			Total:	15
Fifth Semester (FALL)				
3B		Humanities		3
LD Major	CS 301	Data Structures and Algorithms	CS 201 and CS 211.	3
UD Major	CMPE 323	Digital Logic and Computer Architecture	CS 211 and CS 221, both with grade C- or better.	4
UD Major				3
LD Major	MATH 285	Introduction to Differential Equations	MATH 131 with a grade C- or better.	3
			Total:	16
Sixth Semester (SPRING)				
UWR/UD-Area 3/Overlay		UD Arts or Humanities	Completion of GE Areas 1A, 1B, 1C and GE-2 with grade C- (CR) or better	3
UD Major	CMPE 344	Microprocessor Laboratory	CS 301.	3
UD Major	CMPE 330	Electric Circuits II	ENGR 230.	3
UD Major	INDE 330	Engineering Statistics and Probability	MATH 130.	3
5B		Life Science		3
			Total:	15
Seventh Semester (FALL)				
UD Major	CMPE 492	Senior Design I	All of: CMPE 344, CMPE 370.	3
UD Major	CMPE 370	Digital Signal Processing I	CMPE 330.	3
UD Major		Elective		3
Area 4/Code 1		Social Science/US Code		3
UD-B/Overlay		UD Science	Completion of GE Areas 1A, 1B, 1C and GE-2 with grade C- (CR) or better	3
			Total:	15
Eighth Semester (SPRING)				
UD Major	CMPE 493	Senior Capstone: Senior Design II	CMPE 492.	3
UD Major	CMPE 480	VLSI Circuit Design/Layout		4
UD Major	CMPE 421	Computer Architecture II	CS 321 and CMPE 322.	3
Area 4/Code 2		Social Science/US Code		3
UD-D/Overlay		UD Social Science	Completion of GE Areas 1A, 1B, 1C and GE-2 with grade C- (CR) or better	3
			Total:	16
Total Units:				124

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.

CSUEB General Breadth and Graduation Requirement Checklist	
Area 1 (9 units): English Communication	
<input type="checkbox"/> 1A - Lower Division English Composition	
<input type="checkbox"/> 1B - Lower Division Critical Thinking and Composition	
<input type="checkbox"/> 1C - Lower Division Oral Communication	
Area 2 (3 units) : Mathematical Concepts and Quantitative Reasoning	
<input type="checkbox"/> Area 2 - Mathematical Concepts and Quantitative Reasoning	
Area 3 (6 units): Arts & Humanities - Minimum of two different disciplines as designated by course prefix (e.g., ART, THEA, MUS)	
<input type="checkbox"/> 3A - Arts and Humanities (Arts)	
<input type="checkbox"/> 3B - Arts and Humanities (Humanities)	
Area 4 (6 units) : Social and Behavioral Sciences - Minimum of two different disciplines as designated by course prefix (e.g., ANTH, ECON, POSC)	
<input type="checkbox"/> Area 4 - Lower Division Social and Behavioral Sciences	
<input type="checkbox"/> Area 4 - Lower Division Social and Behavioral Sciences	
Area 5 (7 units): Physical and Biological Sciences	
<input type="checkbox"/> 5A - Lower Division Physical and Biological Sciences (Physical)	
<input type="checkbox"/> 5B - Lower Division Physical and Biological Sciences (Biological)	
<input type="checkbox"/> 5C - Lower Division Physical and Biological Sciences (Laboratory) -- May be embedded in 5A or 5B course, as long as 7 units met for lower-division Subject Area 5.	
Area 6 (3 units): Ethnic Studies	
<input type="checkbox"/> Area 6 - Ethnic Studies	
Second Composition : Second Composition (Required as part of 1B for 2025-26 or later catalog)	
<input type="checkbox"/> Second Composition	
University Writing Requirement (3-4 units)	
<input type="checkbox"/> UWR	
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 & Local Government).	
<input type="checkbox"/> Code 1	
<input type="checkbox"/> Code 2	
Upper Division GE Requirements (9 units): Should be taken after completion of 1A, 1B, 1C, and Area 2 with a C- (CR)	
<input type="checkbox"/> UD- Area 3 - Upper Division Arts or Humanities	
<input type="checkbox"/> UD- Area 4 - Upper Division Social and Behavioral Sciences	
<input type="checkbox"/> UD- Area 5 - Upper Division Science or Mathematical Concepts/Quantitative Reasoning	
Overlay Requirements (9 units): Courses may be upper or lower division, and GE or major	
<input type="checkbox"/> Diversity (Div)	
<input type="checkbox"/> Social Justice (SJ)	
<input type="checkbox"/> Sustainability (S)	
Elective Courses	
Students shall select a minimum of 6 units from the following:	
CS 401 - Software Engineering Units: 3	
CS 421 - Operating Systems Units: 3	
CS 441 - Computer Networks Units: 3	
CS 455 - Computer Graphics Units: 3	
ENGR 310 - CAD/CAM Graphics Units: 3	

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