Degree: Computer Engineering, B.S. 22-23				
Requirement Area	**Course**	**Course Title**	**Prerequisites**	**Units**
First Semester (FALL)				
B4/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
B1/B3/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
A1		Oral Communication		3
			Total:	15
Second Semester (SPRING)				
A2		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
C1		Arts		3
F		Ethnic Studies		3
			Total:	16
Third Semester (FALL)				
A3	PHIL 100	Workshop in Critical Thinking		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
Writing II	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)				
C2		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	CMPE 330	Electric Circuits II	ENGR 230.	3
LD Major	MATH 285	Introduction to Differential Equations	MATH 131 with a grade C- or better.	3
			Total:	16
Sixth Semester (SPRING)				
D1/Code 1		Social Science/US Code		3
UD Major	CMPE 344	Microprocessor Laboratory	CS 301.	3
UD Major	CMPE 370	Digital Signal Processing I	CMPE 330.	3
UD Major	INDE 330	Engineering Statistics and Probability	MATH 130.	3
B2		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 421	Computer Architecture II	CS 321 and CMPE 322.	3
UD Major		Elective		3
D2/Code 2		Social Science/US Code		3
Add'l C1 or C2*		Arts or Humanities		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		Elective		3
UD-B/Overlay		UD Science	Completion of GE areas A1, A2, A3 and B4.	3
UD-C/Overlay		UD Arts or Humanities	Completion of GE areas A1, A2, A3 and B4.	3
UD-D/Overlay		UD Social Science	Completion of GE areas A1, A2, A3 and B4.	3
			Total:	19
Total Units:				127

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 A (9 units): Communication in the English Language & Critical Thinking (Must earn passing grade of C-/CR or better)
☐ A1. COMM 100 or 104, MLL 111
☐ A2. ENGL 101, 102, or 104
☐ A3. PHIL 100
Area B (9 units) : Scientific Inquiry & Quantitative Reasoning
☐ B1. Physical Science
☐ B2. Life Science
☐ B3. Laboratory Activity
☐ B4. Quantitative Reasoning (Must earn passing grade of C-/CR or better.)
Area C (9 units): Arts & Humanities - Minimum of three different disciplines as designated by course prefix (e.g., ART, THEA, MUS)
☐ C1. Arts
☐ C2. Humanities
☐ *Additional Lower-division Area C Course in Arts (C1) or Humanities (C2)
Area D (6 units) : Social Sciences - Minimum of three different disciplines as designated by course prefix (e.g., ANTH, ECON, POSC)
☐ D1.
☐ D2.
Area E (3 units) : Lifelong Learning and Self-Development
☐ E.
Area F (3 units): Ethnic Studies
☐ F.
Second Composition : Requires completion of GE A2 with a C-/CR or better. Must be completed before attaining junior standing.
☐ Second Composition
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).
☐ Code 1.
☐ Code 2.
Upper Division GE Requirements (9 units): Should be taken after completion of A1, A2, A3, and B4 with a C- (CR)
☐ UD-B. Upper-division Science Inquiry and Quantitative Reasoning
☐ UD-C.Upper-division Arts OR Humanities
☐ UD-D. Upper-division Social Sciences
Overlay Requirements (9 units): Courses may be upper or lower division, and GE or major
☐ Diversity (Div)
☐ Social Justice (SJ)
☐ Sustainability (S)
Elective Courses
Students shall select a minimum of 6 units from the following:
CMPE 430 - Analog Design Units: 3
CMPE 470 - Digital Signal Processing II Units: 4
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)**