

Degree: Computer Engineering, B.S. 21-22				
Requirement Area	Course	Course Title	Prerequisites	Units
<b>First Semester (FALL)</b>				
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
			<b>Total:</b>	15
<b>Second Semester (SPRING)</b>				
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
			<b>Total:</b>	16
<b>Third Semester (FALL)</b>				
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
			<b>Total:</b>	16
<b>Fourth Semester (SPRING)</b>				
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 210.	3
LD Major	MATH 210	Linear Algebra with Differential Equations	MATH 130.	3
LD Major	ENGR 220	Statics	PHYS 135.	3
			<b>Total:</b>	15
<b>Fifth Semester (FALL)</b>				
C2		Humanities		3
LD Major	CS 301	Data Structures and Algorithms	CS 201 and CS 211.	3
UD Major	CMPE 321	Digital Logic and Computer Architecture	CS 211 and CS 221, both with grade C- or better.	3
UD Major	CMPE 322	Digital Design Laboratory		1
UD Major	CMPE 330	Electric Circuits II	ENGR 230.	3
UD Major	MATH 375	Differential Equations I	MATH 131 and MATH 210, both with grade C- or better.	3
			<b>Total:</b>	16
<b>Sixth Semester (SPRING)</b>				
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
			<b>Total:</b>	15
<b>Seventh Semester (FALL)</b>				
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
			<b>Total:</b>	15
<b>Eighth Semester (SPRING)</b>				
UD Major	CMPE 493	Senior Capstone: Senior Design II	CMPE 492.	3
UD Major	CMPE 480	VLSI Circuit Design/Layout		3
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
			<b>Total:</b>	18
<b>Total Units:</b>				126

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 three 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 three 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>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>Elective Courses</b>	
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	