Degree: Biochemistry, B.A. 22-23				
Requirement Area	**Course**	**Course Title**	**Prerequisites**	**Units**
First Semester (FALL)				
E	GS 101A	Foundations of Success I		1
A1		Oral Communications		3
B1/LD Major	CHEM 111	General Chemistry I		3
LD Major	CHEM 111L	General Chemistry Lab I		2
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
D1/CODE 1		Social Science/US Code		3
			Total:	16
Second Semester (SPRING)				
E	GS 101B	Foundations of Success II		1
A2		Written Communication		3
C1		Arts		3
LD Major	MATH 131	Calculus II	MATH 130 with grade C- or better.	3
LD Major	CHEM 112	General Chemistry II	CHEM 111 with grade C- or better.	5
			Total:	15
Third Semester (FALL)				
E				1
A3		Critical Thinking		3
UD Major	CHEM 331	Organic Chemistry I	CHEM 112 with grade C- or better	5
B2/LD Major	BIOL 140A	Principles of Cell and Molecular Biology		5
			Total:	14
Fourth Semester (SPRING)				
Writing II	ENGL 200 or PHYS 230			3
LD Major	BIOL 140B	Principles of Organismal Biology	BIOL 140A with grade C- or better.	5
LD Major	CHEM 220	Quantitative Analysis	CHEM 112 with grade C- or better.	4
UD Major	CHEM 332	Organic Chemistry II	CHEM 331 with grade C- or better.	5
			Total:	17
Fifth Semester (FALL)				
C2				3
Add'l C1 or C2				3
UD Major	CHEM 441	Biochemistry I	CHEM 332 with grade C- or better.	4
B3/LD Major	PHYS 125	Principles of Physics I		4
UD Major	CHEM 443	Biochemistry Laboratory I		3
			Total:	17
Sixth Semester (SPRING)				
D2				3
LD Major	PHYS 126	Principles of Physics II	PHYS 125	4
UD Major	CHEM 442	Biochemistry II	CHEM 441 with grade C- or better.	4
UD Major	CHEM 444	Biochemistry Lab II	CHEM 443 with grade C- or better.	3
			Total:	14
Seventh Semester (FALL)				
UD-B/Overlay			Completion of GE areas A1, A2, A3 and B4	3
Code 2				3
F		Ethnic Studies		3
UD Major	CHEM 350	Biophysical Chemistry	CHEM 112, MATH 131, and PHYS 126 or PHYS 136, all with grade C- or better.	3
UD Free Elective				2
			Total:	14
Eighth Semester (SPRING)				
UD-C/Overlay			Completion of GE areas A1, A2, A3 and B4	3
UD-D/Overlay			Completion of GE areas A1, A2, A3 and	3
UD Major		Biochemistry elective		3
UD Major	CHEM 470	Chemical Literature	CHEM 332 with grade C- or better.	1
UD Free Elective				3
			Total:	13
Total Units:				120

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
☐ 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)
Additional Courseswork
Students NOT taking the Chemistry concentration are required to complete a minimum of 6 units of coursework as outlined below.
The following 3 units of labwork is required:
CHEM 444 - Biochemistry Laboratory II Units: 3
Plus, choose a minimum of three (3) units from the following:
BIOL 310 - Genetic Analysis I Units: 4
CHEM 445 - Protein Structure Units: 3
CHEM 446 - Nucleic Acid Chemistry Units: 3
CHEM 447 - Major Organ Biochemistry Units: 3

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