

Degree: Biochemistry, B.A. 24-25				
Requirement Area	Course	Course Title	Prerequisites	Units
<b>First Semester (FALL)</b>				
E	SCI 130	Connecting to STEM Majors		2
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
			<b>Total:</b>	17
<b>Second Semester (SPRING)</b>				
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.	3
LD Major	CHEM 112L	General Chemistry II Lab		2
			<b>Total:</b>	14
<b>Third Semester (FALL)</b>				
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
			<b>Total:</b>	14
<b>Fourth Semester (SPRING)</b>				
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
			<b>Total:</b>	17
<b>Fifth Semester (FALL)</b>				
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
			<b>Total:</b>	17
<b>Sixth Semester (SPRING)</b>				
UWR				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
			<b>Total:</b>	14
<b>Seventh Semester (FALL)</b>				
UD-B/Overlay			Completion of GE areas A1, A2, A3 and B4	3
D2Code 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
			<b>Total:</b>	14
<b>Eighth Semester (SPRING)</b>				
UD-C/Overlay			Completion of GE areas A1, A2, A3 and B4	3
UD-D/Overlay			Completion of GE areas A1, A2, A3 and B4	3
UD Major		Biochemistry elective		3
UD Major	CHEM 470	Chemical Literature	CHEM 332 with grade C- or better.	1
UD Free Elective				3
			<b>Total:</b>	13
<b>Total Units:</b>				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.

Updated: 4/1/2024

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>Additional Courseswork</b>	
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)