		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	1417 (111 130	Social Science/US Code		3
DI/CODE 1		Social Science, 03 code		3
		Constant Constant (CDDING)	Total:	16
г	CC 404D	Second Semester (SPRING)		1
E	GS 101B	Foundations of Success II		1
4.2		Maitte a Communication		2
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
7.0		Circled Timining		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	CHEW 112 With grade C of better	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
		L		
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
D2		Sixth Semester (SPRING)		_
D2	DI IV.C 4.2.C	Bright Color Color	DUNG 425	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
	1	Seventh Semester (FALL)		
UD 0/0 :			Completion of GE areas A1, A2, A3 and	
UD-B/Overlay			B4	3
Code 2				3
F		Ethnic Studies	CHEM 112, MATH 131, and PHYS 126	3
			or PHYS 136, all with grade C- or	
UD Major	CHEM 350	Biophysical Chemistry	better.	3
UD Free Elective			-	2
			Total:	14
		Eighth Semester (SPRING)	1.0.0	14
			Completion of GE areas A1, A2, A3 and	
UD-C/Overlay			B4	3
UD-D/Overlay			Completion of GE areas A1, A2, A3 and I	3
UD Major		Biochemistry elective	completion of GL areas A1, A2, A5 allu l	3
UD Major UD Major	CHEM 470	Chemical Literature	CHEM 332 with grade C- or better.	1
UD Free Elective	CITEIVI 4/U	Chemical Literature	CITEIN 332 WITH GLAUC C- OF DELLET.	3
OD THEE LIEULINE		1	Total:	13
Total Units:			i otai.	120
iotai Oilits.				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 Requirem	ent Checklist
•	
Area A (9 units): Communication in the English Langua	~
Thinking (Must earn passing grade of C-/CR or k	petter)
☐ A1. COMM 100 or 104, MLL 111	
\square A2. ENGL 101, 102, or 104	
☐ A3. PHIL 100	
Area B (9 units) : Scientific Inquiry & Quantitative F	Reasoning
☐ B2. Life Science	
☐ B3. Laboratory Activity	
☐ B4. Quantitative Reasoning (Must earn passing grade of	of C-/CR or bette
= 5 ii Quantitative neasoniii.8 (iiiast earn passiii8 8 iaac t	
Area C (9 units): Arts & Humanities - Minimum of thr	ee different
disciplines as designated by course prefix (e.g., ART,	
□ C1. Arts	111LA, 19103)
☐ C2. Humanities	
☐ *Additional Lower-division Area C Course in Arts (C1) (or Humanities
	or numanicles
(C2)	
A D (C tal.) Co. tal. C. tal.	. 1266
Area D (6 units): Social Sciences - Minimum of thre	
disciplines as designated by course prefix (e.g., ANTH,	ECON, POSC)
□ D1. =	
□ D2.	
Area E (3 units): Lifelong Learning and Self-Deve	lopment
□ E.	
Area F (3 units): Ethnic Studies	
Area F (3 units): Ethnic Studies F.	
	ith a C-/CR or
□ F.	
☐ F. Second Composition : Requires completion of GE A2 w	
☐ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior	standing.
☐ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior ☐ Second Composition	standing.
□ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior □ Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1	courses (6 (U.S. History),
□ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior □ Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 (US-2 (U.S. Constitution), and US-3 (California State	courses (6 (U.S. History),
□ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior □ Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 (US-2 (U.S. Constitution), and US-3 (California State Government).	courses (6 (U.S. History),
□ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior □ Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 (US-2 (U.S. Constitution), and US-3 (California State Government). □ Code 1.	courses (6 (U.S. History),
□ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior □ Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 US-2 (U.S. Constitution), and US-3 (California State Government). □ Code 1. □ Code 2.	o courses (6 (U.S. History), e & Local
□ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior □ Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 (US-2 (U.S. Constitution), and US-3 (California State Government). □ Code 1. □ Code 2. Upper Division GE Requirements (9 units): Should be	courses (6 (U.S. History), e & Local
□ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior □ Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 (US-2 (U.S. Constitution), and US-3 (California State Government). □ Code 1. □ Code 2. Upper Division GE Requirements (9 units): Should be completion of A1, A2, A3, and B4 with a C- (6)	o courses (6 (U.S. History), e & Local taken after
□ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior □ Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 (US-2 (U.S. Constitution), and US-3 (California State Government). □ Code 1. □ Code 2. Upper Division GE Requirements (9 units): Should be completion of A1, A2, A3, and B4 with a C- (4) □ UD-B. Upper-division Science Inquiry and Quantitative	o courses (6 (U.S. History), e & Local taken after
□ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior □ Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 (US-2 (U.S. Constitution), and US-3 (California State Government). □ Code 1. □ Code 2. Upper Division GE Requirements (9 units): Should be completion of A1, A2, A3, and B4 with a C- (□ UD-B. Upper-division Science Inquiry and Quantitative □ UD-C.Upper-division Arts OR Humanities	o courses (6 (U.S. History), e & Local taken after
□ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior □ Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 (US-2 (U.S. Constitution), and US-3 (California State Government). □ Code 1. □ Code 2. Upper Division GE Requirements (9 units): Should be completion of A1, A2, A3, and B4 with a C- (□ UD-B. Upper-division Science Inquiry and Quantitative □ UD-C.Upper-division Arts OR Humanities □ UD-D. Upper-division Social Sciences	courses (6 (U.S. History), e & Local taken after CR)
Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 (US-2 (U.S. Constitution), and US-3 (California State Government). Code 1. Code 2. Upper Division GE Requirements (9 units): Should be completion of A1, A2, A3, and B4 with a C- (UD-B. Upper-division Science Inquiry and Quantitative UD-C.Upper-division Arts OR Humanities UD-D. Upper-division Social Sciences Overlay Requirements (9 units): Courses may be upp	courses (6 (U.S. History), e & Local taken after CR)
Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 (US-2 (U.S. Constitution), and US-3 (California State Government). Code 1. Code 2. Upper Division GE Requirements (9 units): Should be completion of A1, A2, A3, and B4 with a C- (UD-B. Upper-division Science Inquiry and Quantitative UD-C.Upper-division Arts OR Humanities UD-D. Upper-division Social Sciences Overlay Requirements (9 units): Courses may be uppedivision, and GE or major	courses (6 (U.S. History), e & Local taken after CR)
□ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior □ Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 (US-2 (U.S. Constitution), and US-3 (California State Government). □ Code 1. □ Code 2. Upper Division GE Requirements (9 units): Should be completion of A1, A2, A3, and B4 with a C- (□ UD-B. Upper-division Science Inquiry and Quantitative □ UD-C.Upper-division Arts OR Humanities □ UD-D. Upper-division Social Sciences Overlay Requirements (9 units): Courses may be upp division, and GE or major □ Diversity (Div)	courses (6 (U.S. History), e & Local taken after CR)
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□ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior □ Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 (US-2 (U.S. Constitution), and US-3 (California State Government). □ Code 1. □ Code 2. Upper Division GE Requirements (9 units): Should be completion of A1, A2, A3, and B4 with a C- (□ UD-B. Upper-division Science Inquiry and Quantitative UD-C.Upper-division Arts OR Humanities □ UD-D. Upper-division Social Sciences Overlay Requirements (9 units): Courses may be upp division, and GE or major □ Diversity (Div) □ Social Justice (SJ) □ Sustainability (S) Additional Courseswork Students NOT taking the Chemistry concentration are complete a minimum of 6 units of coursework as outl	courses (6 (U.S. History), e & Local e taken after CR) e Reasoning eer or lower
□ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior □ Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 (US-2 (U.S. Constitution), and US-3 (California State Government). □ Code 1. □ Code 2. Upper Division GE Requirements (9 units): Should be completion of A1, A2, A3, and B4 with a C- (UD-B. Upper-division Science Inquiry and Quantitative UD-C.Upper-division Arts OR Humanities □ UD-D. Upper-division Social Sciences Overlay Requirements (9 units): Courses may be upper division, and GE or major □ Diversity (Div) □ Social Justice (SJ) □ Sustainability (S) Additional Courseswork Students NOT taking the Chemistry concentration are complete a minimum of 6 units of coursework as out! The following 3 units of labwork is required: CHEM 444 - Biochemistry Laboratory II Units: 3	courses (6 (U.S. History), e & Local taken after CR) Reasoning er or lower required to ined below.
□ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior □ Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 (US-2 (U.S. Constitution), and US-3 (California State Government). □ Code 1. □ Code 2. □ Upper Division GE Requirements (9 units): Should be completion of A1, A2, A3, and B4 with a C- (10 UD-B. Upper-division Science Inquiry and Quantitative UD-C.Upper-division Arts OR Humanities □ UD-D. Upper-division Social Sciences ○ Overlay Requirements (9 units): Courses may be upper division, and GE or major □ Diversity (Div) □ Social Justice (SJ) □ Sustainability (S) Additional Courseswork Students NOT taking the Chemistry concentration are complete a minimum of 6 units of coursework as out! 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 followed.	courses (6 (U.S. History), e & Local taken after CR) Reasoning er or lower required to ined below.
□ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior □ Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 (US-2 (U.S. Constitution), and US-3 (California State Government). □ Code 1. □ Code 2. Upper Division GE Requirements (9 units): Should be completion of A1, A2, A3, and B4 with a C- (□ UD-B. Upper-division Science Inquiry and Quantitative □ UD-C. Upper-division Arts OR Humanities □ UD-D. Upper-division Social Sciences Overlay Requirements (9 units): Courses may be upp division, and GE or major □ Diversity (Div) □ Social Justice (SJ) □ Sustainability (S) Additional Courseswork Students NOT taking the Chemistry concentration are complete a minimum of 6 units of coursework as out! 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 follow BIOL 310 - Genetic Analysis I Units: 4	courses (6 (U.S. History), e & Local taken after CR) Reasoning er or lower required to ined below.
□ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior □ Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 (US-2 (U.S. Constitution), and US-3 (California State Government). □ Code 1. □ Code 2. Upper Division GE Requirements (9 units): Should be completion of A1, A2, A3, and B4 with a C- (□ UD-B. Upper-division Science Inquiry and Quantitative UD-C. Upper-division Arts OR Humanities □ UD-D. Upper-division Social Sciences Overlay Requirements (9 units): Courses may be upper division, and GE or major □ Diversity (Div) □ Social Justice (SJ) □ Sustainability (S) Additional Courseswork Students NOT taking the Chemistry concentration are complete a minimum of 6 units of coursework as out! 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 follow BIOL 310 - Genetic Analysis I Units: 4 CHEM 445 - Protein Structure Units: 3	courses (6 (U.S. History), e & Local taken after CR) Reasoning er or lower required to ined below.
□ F. Second Composition: Requires completion of GE A2 w better. Must be completed before attaining junior □ Second Composition U.S. Code (American Institutions Requirement) - Two units) covering three U.S. Code Requirements of US-1 (US-2 (U.S. Constitution), and US-3 (California State Government). □ Code 1. □ Code 2. Upper Division GE Requirements (9 units): Should be completion of A1, A2, A3, and B4 with a C- (□ UD-B. Upper-division Science Inquiry and Quantitative □ UD-C. Upper-division Arts OR Humanities □ UD-D. Upper-division Social Sciences Overlay Requirements (9 units): Courses may be upp division, and GE or major □ Diversity (Div) □ Social Justice (SJ) □ Sustainability (S) Additional Courseswork Students NOT taking the Chemistry concentration are complete a minimum of 6 units of coursework as out! 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 follow BIOL 310 - Genetic Analysis I Units: 4	courses (6 (U.S. History), e & Local taken after CR) Reasoning er or lower required to ined below.

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