Degree: Chemistry, B.A.: Chemistry Education Concentration 22-23				
Requirement Area	**Course**	**Course Title**	**Prerequisites**	**Units**
First Semester (FALL)				
E	GS 101A	Foundations of Success I		1
A1		Oral Communication		3
B1/LD Major	CHEM 111	General Chemistry I		3
B3/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		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		Lifelong Learning and Self-Development		1
A3		Critical Thinking		3
B2		Life Science		3
C2		Humanities		3
UD Major	CHEM 331	Organic Chemistry I	CHEM 112 with grade C- or better.	5
			Total:	15
Fourth Semester (SPRING)				
Second Composition				3
UD Major	CHEM 332	Organic Chemistry II	CHEM 331 with grade C- or better.	5
LD Major	CHEM 220	Quantitative Analysis	CHEM 112 with grade C- or better.	4
elective/Overylay				3
			Total:	15
Fifth Semester (FALL)				
B1/B3	PHYS 125	Principles of Physics I	Satisfactory score of 78 or higher on Math Proficiency Assessment or MATH 120	4
F		Ethnic Studies		3
UD Major	CHEM 340	Survery of Biochemistry	CHEM 230 or CHEM 332, both with grade C- or better.	3
LD Major	GEOL 100	Earth Systems Science		4
			Total:	14
Sixth Semester (SPRING)				
UD Major	CHEM 320	Bioanalytical and Forensic Laborator	CHEM 230 or CHEM 332, both with grade C- or better.	3
UD Major	PHYS 126	Principles of Physics II	PHYS 125.	4
UD-B/Overlay			Completion of GE areas A1, A2, A3, B1 and B4.	3
*Add'l C1 or C2				3
elective				2
			Total:	15
Seventh Semester (FALL)				
Code 2				3
D2				3
UD Major	TED 301	Exploring Education		3
UD Major	CHEM 350	Biophysical Chemistry		3
elective				3
			Total:	15
Eighth Semester (SPRING)				
UD Major	CHEM 470	Chemical Literature	CHEM 332 with grade C- or better.	1
UD Major	CHEM 425	Environmental Chemistry		3
UD-D/Overlay			Completion of GE areas A1, A2, A3, B1 and B4.	3
UD-C/UD Major	PHIL 335	Philosophy of Science	Completion of GE areas A1, A2, A3, B1 and B4.	3
elective				3
elective				2
			Total:	15
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
☐ 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)
Chemistry Education Concentration
The Bachelor of Arts degree, major in Chemistry with a 14-unit concentration in Chemistry Education, is designed for students interested in a career teaching chemistry at the high school level, but also prepares students to work in the chemical industry. This program prepares graduates to enter a single subject credential program.
BIOL 100 - Biology in the Real World Units: 4 ; G.E./G.R. Area: B2, B3
GEOL 100 - Earth Systems Science Units: 4 ; G.E./G.R. Area: B1, B3; Sustainability
PHIL 335 - Philosophy of Science Units: 3 ; G.E./G.R. Area: UD-C
TED 301 - Introduction to Education Units: 3

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