

Degree: Chemistry, B.A.: Chemistry Education Concentration 24-25				
Requirement Area	Course	Course Title	Prerequisites	Units
<b>First Semester (FALL)</b>				
E	SCI 130	Connecting to STEM Majors		2
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
			<b>Total:</b>	<b>17</b>
<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>	<b>15</b>
<b>Third Semester (FALL)</b>				
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
			<b>Total:</b>	<b>15</b>
<b>Fourth Semester (SPRING)</b>				
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/Overlay				3
			<b>Total:</b>	<b>15</b>
<b>Fifth Semester (FALL)</b>				
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	Survey of Biochemistry	CHEM 230 or CHEM 332, both with grade C- or better.	3
LD Major	GEOL 100	Earth Systems Science		4
			<b>Total:</b>	<b>14</b>
<b>Sixth Semester (SPRING)</b>				
UD Major	CHEM 320	Bioanalytical and Forensic Laboratory	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
UWR				3
			<b>Total:</b>	<b>16</b>
<b>Seventh Semester (FALL)</b>				
D2/Code 2				3
elective				3
UD Major	TED 301	Exploring Education		3
UD Major	CHEM 350	Biophysical Chemistry		3
elective				3
			<b>Total:</b>	<b>14</b>
<b>Eighth Semester (SPRING)</b>				
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
			<b>Total:</b>	<b>15</b>
<b>Total Units:</b>				<b>121</b>

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>Chemistry Education Concentration</b>	
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)