Geology B.S. 26-27				
Requirement Area	**Course**	**Course Title**	**Prerequisites**	**Units**
First Semester (Fall)				
Area 1A English Composition (old A2)				3
Area 3B Arts and Humanities (Humanities) (old C2)				3
Area 5 Physical and Biological Sciences (Physical) (old B1) 5A 5C	EESC 210	Physical and Environmental Geology and Geography Units: 4 with lab Breadth Area: GE-5A, GE-5C		4
Major Required	PHYS 125	Principles of Physics I Units: 4 ; Breadth Area: GE-5A 5C	Satisfactory score of 78 or higher on Math Proficiency Assessment or MATH 120.	4
Free Elective				1
			Total	15
Second Semester (Spring)				
Area 1C Oral Communication (old A1)				3
Major Required and Area 2 Mathematical Concepts and Quantitative Reasoning (old B4)	MATH 130	Calculus I Units: 4 ; Breadth Area: GE-2	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).	3
Major Required	EESC 211	Historical Geology and Geography Units: 4 ; Breadth Area: GE-5A 5C		4
Major Required	PHYS 126	Principles of Physics II Units: 4 ; Breadth Area: GE-5A 5C		4
Major Required	EESC 297	Introductory Field Experience Units: 1		1
			Total	15
Third Semester (Fall)				
Area 1B Critical Thinking (old A3)				3
Area 3A Arts and Humanities (Arts) (old C1)				3
Major Required	CHEM 111	General Chemistry I Units: 3 ; Breadth Area: GE-5A		3
Major Required	CHEM 111L	General Chemistry I Laboratory Units: 1 ; Breadth Area: GE-5C		2
Area 4 Social and Behavioral Sciences (old D1-2)/Code 1				3
Free Elective/Code 1/Code 2				3
			Total	17
Fourth Semester (Spring)				
Ethnic Studies (old F)				3
Free elective				2
Major Required	CHEM 112	General Chemistry II Units: 3	CHEM 111 & CHEM 111L with a C- or higher	3
Major Required	CHEM 112L	General Chemistry II Laboatory Units: 2	CHEM 111 & CHEM 111L with a C- or higher	2
Area 4 Social and Behavioral Sciences (old D1-2)/Code 2				3
			Total	13
Fifth Semester (Fall)				
UD 5 or UWR				3
UD 3 and DIV				3
Major Required	EESC 360	Introduction to GIS in Earth, Environmental and Sustainability Sciences Units :3		3
Major Required	EESC 397	Advanced Field Experience Units: 2	EESC 297	2
Major Required	EESC 361	Mineralogy and Optical Crystallography Units: 4	CHEM 112 and EESC 210.	4
Free Elective				1
			Total	16
Sixth Semester (Spring)				
UD4 and SJ				3
UWR or Free Elective				3
Major Required	EESC 362	Igneous and Metamorphic Petrology Units: 4	EESC 361	4
DIV or Free Elective				3
			Total	13
Seventh Semester (Fall)				
Major Required and SUST	EESC 420	Global Climate Change Units: 3 GE SUST		3
Major Required	EESC 363	Sedimentary Geology and Stratigraphy Units: 4	EESC 362	4
Major Required	EESC 460	Advanced GIS in Earth, Environmental and Sustainability Sciences Units: 3	EESC 360	3
Major Required Elective	EESC 350 or EESC 432	Environmental Hydrology Units: 4 or Hydrogeology Units: 4	EESC 350 requires either CHEM 100 or CHEM 111, and either MATH 120, MATH 125, or MATH 130, and Highy recommended either PHYS 115, PHYS 125, or PHYS 135 and EESC 432 requires Either CHEM 100 or CHEM 111, and either MATH 120, MATH 125, or MATH 130, and either PHYS 115, PHYS 125, or PHYS 135.	4
Major Required	EESC 397	Advanced Field Experience Units: 2 (repeat for 4 units)	EESC 297	2
			Total	16
Eighth Semester (Spring)				
Major Required	EESC 499	Capstone Seminar in Earth, Environmental and Sustainability Sciences Units: 3		3
Major Required	EESC 363	Structural Geology Units: 5	EESC 361	5
Major Required	EESC 451	Hydroinformatics Units: 4		4
Major Required Elective / UD 5	EESC 343 or EESC 434	Atmospheric Science Units: 3 GE UD 5 or Biogeochemistry Units: 3	EESC 343 requires PHYS 125, PHYS 126, and CHEM 110 or CHEM 111. and EESC 434 requires CHEM 112 and CHEM 112L	3
			Total	15
			Degree Total	120

CSUEB General Breadth and Graduation Requirement Checklist	Semester
Area 1 (9 units): English Communication	
☐ 1A - Lower Division English Composition	1 F
☐ 1B - Lower Division Critical Thinking and Composition	2 F
☐ 1C - Lower Division Oral Communication	1 S
Area 2 (3 units) : Mathematical Concepts and Quantitative Reasoning	
☐ Area 2 - Mathematical Concepts and Quantitative Reasoning	1 S
Area 3 (6 units): Arts & Humanities - Minimum of two different disciplines as designated by course prefix (e.g., ART, THEA, MUS)	
☐ 3A - Arts and Humanities (Arts)	2 F
☐ 3B - Arts and Humanities (Humanities)	1 F
Area 4 (6 units) : Social and Behavioral Sciences - Minimum of two different disciplines as designated by course prefix (e.g., ANTH, ECON, POSC)	
☐ Area 4 - Lower Division Social and Behavioral Sciences	2 F
☐ Area 4 - Lower Division Social and Behavioral Sciences	2 S
Area 5 (7 units): Physical and Biological Sciences	
☐ 5A - Lower Division Physical and Biological Sciences (Physical)	1 F
☐ 5B - Lower Division Physical and Biological Sciences (Biological)	2 S
☐ 5C - Lower Division Physical and Biological Sciences (Laboratory) -- May be embedded in 5A or 5B course, as long as 7 units met for lower-division Subject Area 5.	1 F
Area 6 (3 units): Ethnic Studies	
☐ Area 6 - Ethnic Studies	2 S
Second Composition : Second Composition (Required as part of 1B for 2025-26 or later catalog)	
☐ Second Composition	2 F
University Writing Requirement (3-4 units)	
☐ UWR	3 F or 3 S
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	2 F
☐ Code 2	2 S
Upper Division GE Requirements (9 units): Should be taken after completion of 1A, 1B, 1C, and Area 2 with a C- (CR)	
☐UD- Area 3 - Upper Division Arts or Humanities	3 F
☐ UD- Area 4 - Upper Division Social and Behavioral Sciences	3 S
☐ UD- Area 5 - Upper Division Science or Mathematical Concepts/Quantitative Reasoning	3 F
Overlay Requirements (9 units): Courses may be upper or lower division, and GE or major	
☐ Diversity (Div)	3 F
☐ Social Justice (SJ)	3 S
☐ Sustainability (S)	4 F

EESC 210 Physical and Environmental Geology and Geography Units: 4 with lab Breadth Area: GE-5A, GE-5C	1 F
EESC 211 Historical Geology and Geography Units: 4 with lab Breadth Area: GE-5A, GE-5C	1 S
EESC 297 Introductory Field Experience Units: 1	1 S
CHEM 111 - General Chemistry I Units: 3 ; Breadth Area: GE-5A	2 F
CHEM 111L - General Chemistry Laboratory I Units: 2 ; Breadth Area: GE-5C	2 F
CHEM 112 - General Chemistry II Units: 3	2 S
CHEM 112L - General Chemistry II Laboratory Units: 2	2 S
MATH 130 - Calculus I Units: 4 ; Breadth Area: GE-2	1 S
PHYS 125 - Principles of Physics I Units: 4 ; Breadth Area: GE-5A 5C	1 F
PHYS 126 - Principles of Physics II Units: 4 ; Breadth Area: GE-5A 5C	1 S
EESC 360 Introduction to GIS in Earth, Environmental and Sustainability Sciences Units :3	3 F
EESC 361 - Mineralogy and Optical Crystallography Units: 4	3 F
EESC 362 - Igneous and Metamorphic Petrology Units: 4	3 S
EESC 363 - Sedimentary Geology and Stratigraphy Units: 4	4 F
EESC 364 - Structural Geology Units: 5	4 S
EESC 397 - Advanced Field Experience Units: 2	3 F
EESC 397 - Advanced Field Experience Units: 2 (must be taken twice)	4 F
EESC 451 Hydroinformatics Units: 4	4 S
EESC 460 - Advanced GIS in Earth, Environmental and Sustainability Sciences Units: 3	4 F
EESC 420 - Global Climate Change Units: 3 GE SUST	4 F
EESC 499 - Capstone Seminar in Earth, Environmental and Sustainability Sciences Units: 3	4 S
One from the following:	4 F
EESC 350 - Environmental Hydrology Units: 4	
EESC 432 Hydrogeology Units: 4	
One from the following:	4 S
EESC 343 - Atmospheric Science Units: 3 GE UD5	
EESC 434 - Biogeochemistry Units: 3	