

Bachelor of Science in Earth Science

The purpose of the Degree Roadmap is to serve as a guide for planning one's academic coursework required to complete a specific major semester by semester. Before enrolling, you can use the Degree Roadmap to get a feel for the courses you'll take in this major. After enrolling, refer to the University Catalog, Class Schedule and consult with your academic advisor each semester for advisement to specify which courses you will take to fulfill each graduation

requirement and are progressing toward graduation in a timely manner as possible. **The Degree Roadmap is subject to change and is NOT to be considered a replacement for advisement with an academic advisor.** See *University Catalog* for information on the Graduate Writing Assessment Requirement (GWAR). *See reverse side for General Education (GE) course requirements. **A minimum of 120 units are required for completion of degree.

Entry Level Skills Tests

English

EPT Waiver:	SAT I 500, ACT 22, AP 3 or EAP Exempted
Course Placement	120-140 ENG 88
Total Scores:	141-146 ENG 99
	143-146 ENG 195: satisfies ENG 99 & ENG 110
	147 ENG 110

Math

ELM Waiver:	SAT I & II 550, ACT 23, AP 3 or EAP
Course Placement	00-40 MAT 3
Total Scores:	42-48 MAT 9
	50 G.E. Math

First Semester			Second Semester		
Course		Units	Course		Units
Select	CHE 110 General Chemistry I or PHY 120 Elements of Physics I or BIO 120 Principles of Biology I	4-5	Select	CHE 112 General Chemistry I or PHY 122 Elements of Physics II or BIO 122 Principles of Biology II	5
GE A1*	Freshman Composition I	3	Select	EAR 100 Physical Geology (meets GE B1*) or GEO 200 Physical Geography	3
GE A3*	Oral Communication area	3	EAR 101	Physical Geology Lab (meets GE B3*)	1
GE D4*	Perspectives on U.S. and California Government area	3	GE A1*	Freshman Composition II	3
			GE B2*	Life Science area	3
Third Semester			Fourth Semester		
Course		Units	Course		Units
Select	MAT 131 Elementary Statistics or MAT 191 Calculus I	3-5	Select	MAT 171 Survey of Calculus or MAT 193 Calculus II	4-5
GE A2*	Logic/Critical Reasoning area	3	GE B4*	Quantitative Reasoning area	3-5
GE C1*	Humanities area	3	GE C3*	Humanities - Letters Courses area	3
GE C2*	Humanities - Art Courses area	3	GE D1*	Perspectives on Individuals, Groups, & Society area	3
GE D3*	Perspectives on U.S. History area	3	GE E*	The Whole Person area	3
Fifth Semester			Sixth Semester		
Course		Units	Course		Units
EAR 460	Global Change	3	EAR 410	Environmental Geology	3
EAR 376	Field Mapping	3	GEO 370	Numerical Methods in Geography	3
GEO 415	Geographic Information Systems	3	Elective	Select one elective course: GEO 416, GEO 420, or GEO 408	3
Elective	EAR 476 Groundwater	3	GE F2*	Studies in Natural Sciences area	3
GE F1*	Studies in the Humanities area	3			
GWAR	ENG 350 or GWE	0-3	Eighth Semester		
Seventh Semester			Course		Units
Course		Units	EAR 200	Earth's History and Evolution	3
EAR 370	The World Ocean	3	EAR 201	Earth's History Evolution (lab)	1
GE F3/G*	Studies in Social Sciences area/Cultural Pluralism area	3	EAR 490	Senior Seminar in Earth Science	1
Elective	Select ONE elective course: GEO 315, GEO 357, or GEO 433	3	EAR 450	Plate Tectonics and Rock Cycle	4
			GEO 412	Rivers and Streams	3
			Elective	Select ONE elective course: GEO 310 or GEO 380	3

Total Units: 120-125**

NOTE: Degree Roadmap details entry during Fall of Even Year. Upper division Earth Science courses are typically offered every other year. Contact academic advisor for further information. EAR 490 Senior Seminar in Earth Science must be taken the Spring Semester of the student's senior year. This is a single field major. No minor is required.

Bachelor of Science in Earth Science

Learn More

- To learn more about the B.S. in Geography at CSUDH, call the Department of Earth Sciences & Geography at (310) 243-3377, visit NSM B-202, or visit <http://www4.csudh.edu/earth/>.
- For more information on applying to CSUDH, visit CSUDH.EDU/FutureStudents.
- Apply online at CSUMENTOR.EDU.
- Career information, visit CSUDH.EDU/CareerCenter.

Faculty

Ashish Sinha, Chair Associate Professor of Earth Sciences Ph.D., University of Southern California	Ralph H. Saunders, Associate Professor of Geography Ph.D., University of Arizona
Brendan McNulty, Professor of Earth Sciences Ph.D., University of California, Santa Cruz	
John Keyantash, Associate Professor of Geography Ph.D., University of California, Los Angeles	

Career Options

The Earth Science major prepares students for a wide range of employment opportunities within government, industry and non-profit organizations. Specific fields include environmental protection and consulting; natural resource management; air and water quality monitoring; geologic hazards and geotechnical investigations; water and power generation utilities; and meteorology, hydrology, and oceanography. The Earth Science degree also provides excellent training for graduate programs.

*General Education (GE) Requirements

A. **Basic Skills:**

Courses must be passed with a grade of "C" or higher.
 GE A1: ENG 110, ENG 111 (both required)
 GE A2: PHI 120 or PSY 110
 GE A3: THE 120
 GE A4: CSC 101 or LIB 150 (optional category)

B. **Area of the Natural Sciences and Quantitative Reasoning:**

Select one course from each category below. Category 4 courses must be passed with a grade of "C" or higher.
 GE B1: CHE 102, EAR 100, GEO 200, PHY 100
 GE B2: ANT 101, BIO 102
 GE B3: BIO 103, EAR 101, CHE 103
 GE B4: MAT 105, 131, 153, 171, 191, 193

C. **Area of the Humanities:**

Select one course from each category below.
 In categories 2 and 3, select courses from different departments.
 GE C1: HUM 200
 GE C2: ART 100, ART 101, CHS 125, COM 130, DAN 130, MUS 101, MUS 110, THE 100, THE 160
 GE C3: AFS 200, AFS 231, APP 101, CHS 100, CHS 205, ENG 230, FRE 220, HUM 212, PHI 101, PHI 102, SPA 151, SPA 221

D. **Area of the Social Sciences:**

Select one course from each category below.
 In categories 1 and 2, select courses from different departments.
 GE D1: AFS 212, AFS 220, ANT 100, APP 212, CHS 212, PSY 101, SOC 101, SOC 102, WMS 250

GE D2: AFS 201, ANT 102, CHS 200, GEO 100, HIS 120, HIS 121, POL 100
 GE D3: HIS 101
 GE D4: POL 101

E. **Objectives for Lifelong Learning and Self-Development:**

Select one course from the following.
 GE E: HEA 100, HSC 201, KIN 235, REC 100, UNV 101

F. **Upper Division Integrative Studies:**

Select one course from each category. Courses in this category are to be taken after 60 semester units and ALL lower division General Education courses have been completed.
 GE F1: HUM 310, 312, 314
 GE F2: SMT 310, 312, 314, 416
 GE F3: SBS 318¹

G. **Cultural Pluralism Requirement:**

Within their General Education selections or within other requirements, all students must take one course which addresses cultural pluralism (i.e. the impact of the integration of cultures).
 GE G: ANT 312, 336, 337, 338, 339, 340, 342, 389, CHS 300, HIS 305, MUS 401, PHI 383, SBS 318, SOC 322, SOC 331, SOC 383

¹ SBS 318 satisfies both F3 and G areas. Students will receive only three units credit, but will have met both requirements.