

# BACHELOR OF SCIENCE IN EARTH SCIENCES: GEOLOGY EMPHASIS – GEOL ASSOCIATE DEGREE FOR TRANSFER (ADT) ROADMAP

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This is a sample pathway for students who transfer to San Francisco State University in the current Bulletin year with an AS-T in Geology. Twenty-six units in the major (CHEM 115, CHEM 215, CHEM 216, EARTH 210, EARTH 500, EARTH 505, MATH 226, and 2 elective units) and all lower-division GE requirements have been satisfied. Additional units in the major may have been satisfied. Check with a major advisor about the most appropriate course sequence. **Degree completion guaranteed in 60 units; see the Associate Degree for Transfer (ADT) section for more information (<http://bulletin.sfsu.edu/undergraduate-admissions/transfer-students/>).**

## To Do at SF State:

Enough total units to reach 120 minimum for graduation; 30 units minimum at the upper-division level; to include the following:

### University-Wide Requirements: 9-15 units

- American Institutions (0-6 units): US History, US Government, California State and Local Government requirements if not taken before transfer.
- Upper-Division GE (9 units): Courses required for the major may double-count if approved for UD GE.
- Students transferring with the AS-T in Geology are not required to fulfill SF State Studies or Complementary Studies requirements.

### Earth Sciences Major (Emphasis in Geology): 39-44 units

CHEM 115, CHEM 215, CHEM 216, MATH 226, EARTH 210, EARTH 500, EARTH 505, and 2 units of Geology emphasis electives, 1 unit of 4 units of Historical Geology, and 1 unit of 4 units of Calculus II in the Geology AS-T met in transfer.

- Basic Science & Math Foundation (8 units in PHYS): If some or all PHYS completed before transfer, consult with a major advisor about appropriate course choices.
- Earth Sciences Core/GWAR (8 units): Three of the 4 units of Historical Geology in the AS-T substitute for EARTH 500, and 3 of the 4 units of Calculus II in the Geology AS-T substitute for EARTH 505.
- Geology Emphasis (14 units)
- Electives (5-9 units): One unit of 4 units of Historical Geology and 1 unit of Calculus II in the Geology AS-T satisfy 2 units of the 11 unit elective requirement; if taken before transfer, Mineralogy satisfies 4 units of the elective requirement. If Mineralogy completed before transfer, consult with major a advisor about appropriate course choices).
- Culminating Experience (4-5 units): Take EARTH 690 (1 unit) along with one of the following three options: Senior Honors Thesis (EARTH 697/EARTH 698 (2 units each); Senior Project (EARTH 695, 3 units); or Field Geology course (4 units) offered as a summer field camp, typically the summer following the 4<sup>th</sup> semester.

### University Electives: 4 or more units

Depends on course choices made at the community college, how transferred units are applied to the requirements above, Culminating Experience option selected, and course choices at SF State - some courses may meet more than one requirement, e.g., both in UD GE and in the major.

Course	Title	Units
<b>First Semester</b>		
ERTH 400	Earth Systems I (Major Core)	3
ERTH 420	Mineralogy and Petrology I (Major Emphasis)	4
Select One Set of Courses (Science and Math Foundation): <sup>1</sup>		4
PHYS 111 & PHYS 112	General Physics I and General Physics I Laboratory (B1, B3)	
PHYS 220 & PHYS 222	General Physics with Calculus I and General Physics with Calculus I Laboratory (B1, B3)	

University Elective		4
	<b>Units</b>	<b>15</b>
<b>Second Semester</b>		
ERTH 205	Techniques in Earth Sciences (Major Core)	2
ERTH 600GW	Earth's Climate History - GEAR (Major Core)	3
Select One Set of Courses (Science and Math Foundation): <sup>1</sup>		4
PHYS 121 & PHYS 122	General Physics II and General Physics II Laboratory	
PHYS 240 & PHYS 242	General Physics with Calculus III and General Physics with Calculus III Laboratory	
Geology Emphasis Elective (9-10 units) - Take One <sup>2</sup>		3
GE Area UD-C: Upper-Division Arts and/or Humanities		3
	<b>Units</b>	<b>15</b>
<b>Third Semester</b>		
ERTH 510	Structural Geology (Major Emphasis)	4
ERTH 515	Sedimentology and Stratigraphy (Major Emphasis)	4
ERTH 697 or University Elective	Undergraduate Research <sup>3</sup>	2
Geology Emphasis Elective (9-10 units) - Take One <sup>2</sup>		3
GE Area UD-D: Upper-Division Social Sciences		3
	<b>Units</b>	<b>16</b>
<b>Fourth Semester</b>		
ERTH 620	Field Methods in Geology (Major Emphasis)	2
ERTH 690	Earth Sciences Capstone Presentation (Major Culminating Experience)	1
Major Culminating Experience - Select One: <sup>3</sup>		2-4
ERTH 695	Senior Project	
ERTH 698 Field Geology <sup>4</sup>	Senior Thesis	
Geology Emphasis Elective (9-10 units) - Take One <sup>2</sup>		3
GE Area UD-B: Upper Division Physical and/or Life Sciences <sup>5</sup>		3
U.S. and California Government or University Elective if US/CA Government met before transfer		3
	<b>Units</b>	<b>14-16</b>
	<b>Total Units</b>	<b>60-62</b>

<sup>1</sup> PHYS 111/PHYS 112 are prerequisites for PHYS 121/PHYS 122. PHYS 220/PHYS 222 are prerequisites for PHYS 240/PHYS 242.

<sup>2</sup> **Geology Emphasis Electives (9-10 units)**

Select (upon advisement) additional Geology emphasis electives needed to reach 34 units.

<sup>3</sup> Take EARTH 697 if selecting Honors Thesis as the Major Culminating Experience. Take University Elective if selecting *either* EARTH 695 - Senior Project *or* Field Geology as the Major Culminating Experience.

<sup>4</sup> Four unit Field Geology option typically takes place during the summer following the 4<sup>th</sup> semester.

<sup>5</sup> Consult with a department advisor about selection of EARTH course for UD-B.