# Bachelor of Science in Earth Sciences: Geology Emphasis — GEOL Associate Degree for Transfer Roadmap

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. 26 units in the major (CHEM 115/CHEM 215/CHEM 216, ERTH 210, ERTH 500, ERTH 505, MATH 226, two 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.

### Course Title | Units
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First Semester  
ERTH 205 | Techniques in Earth Sciences | 2
ERTH 400 | Earth Systems I | 3
ERTH 420 | Mineralogy and Petrology I | 4
PHYS 111 & PHYS 112  
(2 PHYS 220 and PHYS 222) | General Physics I or General Physics with Calculus I and General Physics with Calculus I Laboratory | 4
GE Area A: Written English Communication II (A4) | 3
or University Elective if A4 met in transfer |  
Units | 16
Second Semester  
ERTH 600GW | Earth’s Climate History - GWAR | 3
PHYS 121 & PHYS 122  
(2 PHYS 240 and PHYS 242) | General Physics II or General Physics with Calculus III and General Physics with Calculus III Laboratory | 4
Geology Emphasis Elective | 3
Upper Division GE: UD-C or UD-D | 3
University Elective | 1
Units | 14
Third Semester  
ERTH 510 | Structural Geology | 4
ERTH 515 | Sedimentology and Stratigraphy | 4
ERTH 697 | Undergraduate Research | 0-2
Geology Emphasis Elective | 3
Upper Division GE: UD-C or UD-D | 3
University Elective |  
Units | 14
Fourth Semester  
ERTH 620 | Field Methods in Geology | 2
ERTH 690 | Earth Sciences Capstone Presentation | 1
Culminating Experience: Senior Honors Thesis or Senior Project or Field Geology | 2-4
ERTH 695 | Senior Project |  
ERTH 698 | Senior Thesis |  
Geology Emphasis elective |  
GE Area UD–B: Upper Division Physical and/or Life Sciences | 3
U.S. and California Government (bulletin.sfsu.edu/undergraduate-education/graduation-requirements/#usg) | 3
or University Elective if US/CA Government met before transfer |  
Units | 16

**Total Units**: 60

1. Take ERTH 697 Senior Honors Thesis or University Elective (1 unit) if opting for Senior Project or take zero units if opting for Field Geology.
2. Only if opting for Senior Project to satisfy Culminating Experience.
3. Consult with department advisor about selection of ERTH course.
4. Four unit Field Geology option typically takes place in summer following 4th semester.

**To Do at SF State:**

Enough total units to reach 120 minimum for graduation; 40 units minimum at the upper-division level; to include the following:

**University-wide requirements: 9-18 units**

- ENG 214 or equivalent A4 course (0-3 units) if not taken before transfer
- American Institutions (0-6 units): US History, US Government, California State and Local Government requirements if not taken before transfer
- Upper-division GE, areas B, C and D (9 units): check for courses that also satisfy Major and/or American Institutions.
- 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, ERTH 210, ERTH 500, ERTH 505, and two units of Geology emphasis electives, one unit of four unit Historical Geology, and one unit of four unit 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 four units of Historical Geology in the AS-T substitute for ERTH 500, and three
of the four units of Calculus II in the Geology AS-T substitute for ERTH 505.

- Geology Emphasis (14 units)
- Electives (5-9 units) one unit of four unit Historical Geology and one unit of Calculus II in the Geology AS-T satisfy two 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 advisor about appropriate course choices)
- Culminating Experience (4-5 units): Take ERTH 690 (1 unit) along with one of the following three options: Senior Honors Thesis (ERTH 697/ERTH 698 (2 units each); Senior Project (ERTH 695, 3 units); or Field Geology course (4 units) offered as a summer field camp, typically the summer following the 4th semester.

**University electives: One Unit or More**

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.

**Upper-Division GE: UD-C or UD-D (courses listed also satisfy US History)**

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>AIS 460</td>
<td>Power and Politics in American Indian History</td>
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<td>HIST 470</td>
<td>The U.S. Constitution to 1896</td>
<td>3</td>
</tr>
<tr>
<td>HIST 471</td>
<td>The U.S. Constitution since 1896</td>
<td>3</td>
</tr>
<tr>
<td>HIST 478</td>
<td>American Mass Culture II: Gilded Age to Digital Age</td>
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<td>HIST 484</td>
<td>Disability and Culture in the U.S.</td>
<td>3</td>
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<td>JS/HIST 449</td>
<td>American Jewish History</td>
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<tr>
<td>MUS 506</td>
<td>Survey of Jazz</td>
<td>3</td>
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<td>MUS 559</td>
<td>Women in Jazz</td>
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<td>RRS 600/</td>
<td>History of People of Color in the U.S.</td>
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