# Bachelor of Arts in Earth Sciences – 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. Sixteen units in the major (CHEM 115, MATH 226, ERTH 210, and three additional lower-division units in chemistry or calculus) and all lower-division GE requirements 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/).

## Course Title Units

### First Semester
- ERTH 205 Techniques in Earth Sciences (Earth Sciences Foundation) 2
- ERTH 400 Earth Systems I (Earth Sciences Foundation) 3
- MATH 227 Calculus II (if selecting PHYS 220/PHYS 222) 4
- or University Elective 1

Select One Set of Courses (Major Science and Math Foundation):
- PHYS 111 & PHYS 112 General Physics I and General Physics I Laboratory (B1, B3) 4
- PHYS 220 & PHYS 222 General Physics with Calculus I and General Physics with Calculus I Laboratory (B1, B3) 1
- US History (http://bulletin.sfsu.edu/undergraduate-education/graduation-requirements/#USHaGR) 3
- or University Elective if US History met before transfer

### Units
16

### Second Semester
- ERTH 500 Earth Systems II (Earth Sciences Foundation) 3
- ERTH 600GW Earth’s Climate History - GWAR (Earth Sciences Foundation) 3
- Earth Sciences Elective (15 units) - Take One 2 3
- GE Area UD-C: Upper-Division Arts and/or Humanities 3
- U.S. and California Government (http://bulletin.sfsu.edu/undergraduate-education/graduation-requirements/#usg) 3
- or University Elective if US/CA Government met before transfer

### Units
15

### Third Semester
- Earth Sciences Elective (15 units) - Take Three 2 9
- GE Area UD-B: Upper-Division Physical and/or Life Sciences 3
- University Elective 3

### Units
15

### Fourth Semester
- Select One (Major Culminating Experience):
  - ERTH 652 Geoscience Partners in K-12 Education 4
  - ERTH 690 & ERTH 695 Earth Sciences Capstone Presentation and Senior Project 3
- Earth Sciences Elective (19 units) - Take One 2 3
- GE Area UD-D: Upper-Division Social Sciences 3
MATH 227 is a corequisite for PHYS 220/PHYS 222. Students do not need to take this course if they select PHYS 111/PHYS 112.

1 Earth Sciences Electives (15 Units)
   • Select at least 15 units of Earth & Climate Sciences (ERTH) or closely related coursework, with a coherent theme approved by a Department of Earth & Climate Sciences advisor.
   • At least 15 elective units must come from upper-division coursework. At least 11 elective units must come from ERTH courses.
   • No more than 4 of the 15 elective units can come from courses designed primarily to satisfy General Education requirements (such as 100 and 300 level ERTH courses).

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, Areas B, C, and D (9 units): Courses required for the major may double-count if approved for UD GE.
   • Students entering this major with the AS-T in Geology are not required to fulfill SF State Studies requirements.
   • B.A. Earth Sciences students satisfy the Complementary Studies requirement by completion of the Basic Science and Math Foundation.

Earth Sciences Major: 34 Units
   • Basic Science and Math Foundation (4 units): PHYS 111/PHYS 112 or PHYS 220/PHYS 222. If PHYS completed before transfer, consult with a major advisor about appropriate course choices. (Units from the ADT applied for CHEM 115 and MATH 226, plus three additional units in CHEM or CALC.)
   • Earth Sciences Foundation (11 units)
   • Earth Sciences Electives (15 units): Must be upper-division courses organized around a coherent theme approved by an advisor. (Four units for ERTH 210 from ADT applied here.)
   • Culminating experience (4 units): Students may choose from ERTH 652 OR ERTH 690 and ERTH 695

University Electives: 14 or More Units

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