### INTRODUCTORY REQUIREMENTS

**Calculus:**
- MATH 11A (FWS) _OR_ MATH 19A (FWS) ___
- MATH 11B (FWS) _OR_ MATH 19B (FWS) ___

**Advanced Mathematics:**
- EART 111 (F) _recommended_ _OR_ MATH 22 (W) ___ _OR_ MATH 23A (FWS) ___

**General Chemistry:**
- CHEM 1A (FWS) ___ + CHEM 1B/M (FWS) ___ + CHEM 1C/N (FWS) ___

**Geology:**
- ONE from the following...
  - EART 5/L California Geology Laboratory (F) ___
  - EART 10/L Geological Principles Laboratory (W) ___ _preferred_
  - EART 20/L Environmental Geology Laboratory (S) ___

**Astronomy:**
- ASTR 12 (F) ___ _OR_ ASTR 16 (S) ___ _OR_ ASTR 18 (W) ___

**Physics:**
- PHYS 6A/L (FWS) ___ _OR_ PHYS 6B/M (WS) ___
- OR PHYS 5A/L (F) ___ _OR_ PHYS 5B/M (W) _preferred_

### ADVANCED REQUIREMENTS

**EART 110A/L:**
- Evolution of the Earth (F) ___
- EART 110B/M Earth as a Chemical System (W) ___
- EART 110C/N The Dynamic Earth (S) ___
- EART 119 Introduction to Scientific Computing (W) ___
- EART 160 Planetary Science (F) ___
- EART 190 Earth Science Mentorship (F) ___ _One Credit; Optional_

**Topical Electives:**
- ONE from the following...
  - EART 162 Planetary Interiors (W) ___
  - EART 163 Planetary Surfaces (*) ___
  - EART 164 Planetary Atmospheres (*) ___

**Electives:** Complete three elective courses (5+ credits each) from upper-division Earth Sciences or Ocean Sciences offerings or from the recommended list below.

**Recommended Electives:**
- EART 107 Remote Sensing of the Environment (W) ___
- EART 109/L Elements of Field Geology/ Lab (FS) ___
- EART 116 Hydrology (S) ___
- EART 121 The Atmosphere (W) ___
- EART 125 Statistics and Data Analysis in the Geosciences (W) ___
- EART 128 Isotopes (W) ___
- EART 130/L Magmas and Volcanoes Laboratory (S) ___
- EART 140/L Geomorphology (W) ___
- EART 148 Glaciology (S) ___
- EART 150/L Structural Geology (F) ___
- EART 152 Tectonics (S) ___
- EART 162 Planetary Interiors(W) ___
- EART 163 Planetary Surfaces (S) ___
- EART 164 Planetary Atmospheres (*) ___
- EART 172 Geophysical Fluid Dynamics (S) ___
- EART 209 Solid Earth Geochemistry (*) ___
- EART 210 Stellar & Planetary Formation & Evolution (*) ___
- ASTR 112 Physics of Stars (W) ___
- ASTR 118 Physics of Planetary Systems (W) ___
- MATH 130 Celestial Mechanics (*) ___

**DC Requirement:**
- Two of the three required courses must be completed from courses that are part of the Earth Sciences Disciplinary Communication Curriculum:
- EART 100 Vertebrate Paleontology (W) ___
- EART 101 Invertebrate Paleobiology (F) ___
- EART 102 Marine Geology (*) ___
- EART 104 Geologic Hazards (F) ___
- EART 106 Elements of Field Geology (FS) ___
- EART 120 Sedimentology and Stratigraphy (S) ___
- EART 140 Geomorphology (W) ___
- EART 146 Ground Water (W) ___
- EART 148 Glaciology (S) ___
- EART 150 Structural Geology (F) ___
- EART 152 Tectonics (S) ___
- EART 188A Summer Field Internship (S) ___
- EART 191 Climate Change Science & Policy (W) ___
- EART 195 Senior Thesis (FWS) ___
- EART 210 Stellar & Planetary Formation & Evolution (*) ___
- ASTR 118 Physics of Planetary Systems (W) ___
- MATH 130 Celestial Mechanics (*) ___

**NOTE:** Courses may simultaneously satisfy both the upper-division elective and DC requirement.

### COMPREHENSIVE REQUIREMENT OPTIONS

**One** from the following list of Senior Capstone options:
- **Summer Senior Field:** EART 188A (S) ____ _OR_ 188B (S) ____ (EART 109/L is a prerequisite)
- **Senior Thesis:** enroll in EART 195 (FWS) ____ in the quarter that the thesis will be completed (required)
- **Graduate course or seminar:** Must achieve grade of B or better; course must be 5-units and include written report ___
- **EART 191 Climate Change Science & Policy (S) ____** (or other approved senior seminar course)
- **Internship:** Must complete written report, may enroll in EART 198 (FWS) ____ (required)

**NOTE:** none of the above may count toward fulfilling an upper-division elective if used as a capstone.