### GEOL 3050  Geological Oceanography
### GEOL 3080  Geomorphology
### GEOL 3339  Dinosaurs: Paleocology, Evolution and Extinction
### GEOL 4010  Hydrogeology
### GEOL 4020  Environmental Geochemistry
### GEOL 4030  Lithospheric Geodynamics
### GEOL 4050  GIS for Natural Sciences
### GEOL 4060  Fundamentals of Petroleum Exploration and Production
### GEOL 4070  Sequence Stratigraphy
### GEOL 4080  Physical Volcanology
### GEOL 4090  Field Course in Geology
### GEOL 4110  Clay Mineralogy
### GEOL 4150  Applied GIS
### GEOL 4170  Well Log Analysis

#### Cognates
- CHEM 1000  Foundations of Chemistry 3
  - or  CHEM 1010  Preparation for College Chemistry 3
- MATH 1060  Precalculus II 4
  - or  PHYS 2110  College Physics I 4
  - or  PHYS 2210  Physics for Scientists and Engineers I 4

#### Additional Units Needed Towards Graduation

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Units</td>
<td>120</td>
</tr>
</tbody>
</table>

1. The minimum acceptable GPA for these 65 units is 2.0
2. GEOL 3310 Integrated Science: Earth Science, GEOL 3318 California Geology and Society, and GEOL 3328 Water and the West are General Education courses intended for non-majors and do not count toward degree requirements; at least 8 units must be GEOL 4000 or above. Graduate level classes may be substituted with advisor approval.
3. Or equivalent
4. Area B1 satisfied in major and cognates, B4 satisfied in cognates, and Capstone satisfied in major.
5. The SELF requirement is met by completing a LD C or D course with a SELF component. The GWAR may be satisfied by exam.
6. Some General Education requirements are included in major.

**Note:** One semester unit normally represents 50 minutes of lecture or 150 minutes of laboratory study. For every unit, students are expected to devote 2-3 hours of outside study per week.