Bachelor of Science Degree in Geology

1000-level Geology Courses (3 courses; 7 credit hours):
GEOL1001C: Geology and Paleontology (fall)
GEOL1002C: Earth Surface Process and Environmental Issues (spring)
GEOL1003L: Physical Geology Laboratory (spring)

*Other introductory courses may be used to fulfill this requirement upon approval.*

2000-level Geology Courses (5 courses; 13 credit hours):
GEOL2005C: Geomorphology (fall)
GEOL2008C: Mineralogy (fall)
GEOL2004C: Sedimentology, Stratigraphy & Earth History (spring)
GEOL2012: The Earth System (spring)
GEOL2100: Careers in the Geosciences (fall; online)

3000-level Geology Courses (choose 4 courses; 12 credit hours):
The student must choose four from the following:
GEOL3000C: Paleontology & Geobiology (fall)  GEOL3004C: Structural Geology (spring)
GEOL3002: Geochemistry (fall)  GEOL3005C: Fundamentals of Groundwater (fall)
GEOL3003C: Petrology (spring)  GEOL3006: Climate Change Through Time (spring)

*The student is expected to finish 2000-level courses before starting 3000-level courses, unless permission has been granted by the Academic Director to take 2000-level and 3000-level courses concurrently.*

4000-level Geology Courses (4 courses; 12 credit hours): The student is required to take at least two 4000-level lecture- or lecture/lab-based course. For the remaining two 4000-level courses, the student may choose lecture, lecture/lab, seminar, discussion, or field-based courses. The student may also take one 3000-level course toward this requirement.

Examples of 4000-level courses offered:
GEOL4001C: Paleontology I, Invertebrate
GEOL4004: Glacial Geology
GEOL4007: Marine Paleoenvironments & Paleoecology
GEOL4012C: Modeling Landscapes
GEOL4018C: Stratigraphy and Facies Models
GEOL4019: Quaternary Seminar
GEOL4023: Ocean Margins/Bahamas Field Trip
GEOL4024: Groundwater Modeling
GEOL4028: Stable Isotope Biogeochemistry
GEOL4029: Stable Isotope Ecology
GEOL4033C: Earth History Field Trip
GEOL4036: Holocene Environmental & Cultural History
GEOL4037: Earth's Early Biosphere

Credit hours in major = 66-67
Credit hours in general education/college requirements = 43-45
Elective hours = 8-11
Total = 120
Full time program duration = 4 years
GEOL4038: Analytical methods & Scripting R  
GEOL4040: Taphonomy  
GEOL4044: Basin Dynamics  
GEOL4048C: Zooarchaeology  
GEOL4049C: Raman Spectroscopy for the Geosciences  
GEOL4050C: Teaching Geosciences  
GEOL4051C: Applied Geophysics  
GEOL4053C-GEOL4054C: Optical Mineralogy – Thin Section Petrography (presented as two half-semester courses)  
GEOL4056C: Ecology and Paleoenecology of the Canary Islands

View the full course listings at https://www.artsci.uc.edu/departments/geology/courses.html

Capstone Requirement (minimum 4 credit hours):  
The student is required to participate in a 4-6 credit hour field camp. A field camp must be approved by the Undergraduate Director. A student may substitute an internship, faculty-advised research project, or other field or lab experience for partial or full Capstone fulfillment upon approval by the Undergraduate Director.

Chemistry requirement (10 credit hours). Must achieve a minimum of a C- in each course. This requirement is to be completed by the end of the second year in the major, or by the time 18 hours of geology courses have been acquired:  
CHEM1040, 1040L: General Chemistry I & lab  
CHEM1041, 1041L: General Chemistry II & lab

These chemistry courses have specific math course or placement test prerequisites.

Biology and/or Physics requirement (8-10 credit hours). Must achieve at least a C- in each course. This requirement is to be completed by the end of the third year in the major, or by the time 30 hours of geology courses have been acquired. The student is required to take two courses with laboratories of either BIOL or PHYS (e.g. BIOL1081, 1081L and BIOL1082, 1082L) or the first two courses with laboratories in a sequence of BIOL and PHYS (e.g. PHYS1051, 1051L and BIOL1081, 1081L). The student may choose from the following:  
BIOL1081, 1081L: Biology I & lab: Molecules, Cells, and the Foundation of Life  
BIOL1082, 1082L: Biology II & lab: Evolution, Physiology, and Ecology  
PHYS1051, 1051L: General Physics I & lab (Algebra-based)  
PHYS1052, 1052L: General Physics II & lab (Algebra-based)  
PHYS2001, 2001L: College Physics I & lab (Calculus-based)  
PHYS2002, 2002L: College Physics II & lab (Calculus-based)

These physics courses have specific math course or placement test prerequisites.

Quantitative Reasoning requirement (6-8 credit hours). Must achieve a minimum of a C- in each course. This requirement is to be completed by the end of the second year in the major, or by the time 18 hours of geology courses have been acquired:  
MATH1044: Applied Calculus I or MATH1061: Calculus I  
and  
MATH1045: Applied Calculus II or MATH1062: Calculus II or STAT1034: Elementary Statistics I

The MATH courses have specific math course or placement test prerequisites.
Basic curricular progression showing the order for taking courses and their required prerequisites.

<table>
<thead>
<tr>
<th>Term</th>
<th>1000-level (refer to details above)</th>
<th>2000-level (all required)</th>
<th>3000-level (choose at least 4 courses)</th>
<th>4000-level (choose at least 4 courses*)</th>
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</table>
| Fall | GEOL1001C **Geology and Paleontology** | GEOL2008C **Mineralogy**
                   Requires completion of the introductory requirement. | GEOL3000C **Paleontology and Geobiology**
                   Requires 2004C | 4XXX |
|      |                                   | GEOL2005C **Geomorphology**
                   Requires completion of the introductory requirement. | GEOL3002 **Geochemistry**
                   Requires CHEM1040 | 4XXX |
|      |                                   | GEOL2100 **Careers in the Geosciences** | GEOL3005C **Hydrogeology**
                   Requires 2005C and MATH1044 or 1061 | |
| Spring | GEOL1002C **Earth Surface Processes and Environmental Issues** and GEOL1003L **Physical Geology Laboratory** | GEOL2004C **Sedimentary Geology and Earth History**
                   Requires completion of the introductory requirement. | GEOL3003C **Petrology**
                   Requires 2008C and CHEM1040 | 4XXX |
|      |                                   | GEOL2012 **The Earth System**
                   Requires completion of the introductory requirement. | GEOL3004C **Structural Geology** | 4XXX |
|      |                                   | *CHEM and MATH/STAT completed by the end of this semester* | GEOL3006 **Climate Through Time**
                   Requires 2012 | *PHYS/Biol completed by the end of this semester* |

*Some 4000-level courses may have 3000-level courses as prerequisites.

Be sure to check with your College advisor to discuss College-specific degree requirements.