

# Bachelor of Arts Degree in Geology

Credit hours in major = 50-54  
Credit hours in general education/college requirements = 43-45  
Elective hours = 21-27  
Total = 120  
Full time program duration = 4 years

## 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)

The student must achieve at least a C- in each 1000-, 2000-, and 3000-level course to fulfill the requirements.

## 3000-level Geology Courses (choose 3 courses; 9 credit hours):

The student must choose three 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 (3 courses; 9 credit hours):** The student is required to take at least one 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

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 Paleocology of the Canary Islands

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

### Capstone Requirement (minimum 3 credit hours):

The student may participate in a 3-6 credit hour field camp or one departmental upper-level field course (GEOL4023, GEOL4033C). 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/Biology/Physics requirement (9-10 credit hours). **Must achieve at least 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 (required)

*and*

CHEM1041, 1041L: General Chemistry II & lab *or*

BIOL1081, 1081L: Biology I & lab: Molecules, Cells, and the Foundation of Life *or*

PHYS1051, 1051L: General Physics I & lab (Algebra-based) *or*

PHYS2001, 2001L: College Physics I & lab (Calculus-based)

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

### Quantitative Reasoning requirement (6-8 credit hours). **Must achieve at least 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.

Term	1000-level (Foundations + 1 additional)	2000-level (all required)	3000-level (choose at least 3 courses)	4000-level (choose at least 3 courses*)
Fall	GEOL1001C <b>Geology and Paleontology</b>	GEOL2008C <b>Mineralogy</b> <i>Requires completion of the introductory requirement.</i>  GEOL2005C <b>Geomorphology</b> <i>Requires completion of the introductory requirement.</i>  GEOL2100 <b>Careers in the Geosciences</b>	GEOL3000C <b>Paleontology and Geobiology</b> <i>Requires 2004C</i>  GEOL3002 <b>Geochemistry</b> <i>Requires CHEM1040</i>  GEOL3005C <b>Hydrogeology</b> <i>Requires 2005C and MATH1044 or 1061</i>	Choose three 4000-level courses
Spring	GEOL1002C <b>Earth Surface Processes and Environmental Issues</b>  and  GEOL1003L <b>Physical Geology Laboratory</b>	GEOL2004C <b>Sedimentary Geology and Earth History</b> <i>Requires completion of the introductory requirement.</i>  GEOL2012 <b>The Earth System</b> <i>Requires completion of the introductory requirement.</i>  <b>*CHEM and MATH/STAT completed by the end of this semester*</b>	GEOL3003C <b>Petrology</b> <i>Requires 2008C and CHEM1040</i>  GEOL3004C <b>Structural Geology</b>  GEOL3006 <b>Climate Through Time</b> <i>Requires 2012</i>  <b>*PHYS/BIOL completed by the end of this semester*</b>	

\*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.**