

Bachelor of Science Degree in Geology

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

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 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 & Paleocology
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 Paleoecology 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.

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

*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.