ENVIRONMENTAL GEOSCIENCES | BS

A Geology degree provides an understanding of issues associated with the physical earth and skills which are in demand in today's job market. The Geology graduate will have a detailed understanding of climate change, sustainability of the Earth's resources, and the close interplay between human activity and the environment.

About this Program

- **College:** Liberal Arts and Sciences (http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/)
- **Degrees:** Bachelor of Arts (http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GLY_BA_BS/GLY_BA/) | Bachelor of Science (http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GLY_BA_BS/GLY_BS/)
- **Specializations:** Environmental Geosciences (BA) (http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GLY_BA_BS/GLY_BA01/) | Environmental Geosciences (BS) (p. 1) | Geophysics (BS) (http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GLY_BA_BS/GLY_BS01/)
- **Credits for Degree:** 120
- **More Info**

To graduate with this major, students must complete all university, college, and major requirements.

Department Information

The Department of Geological Sciences aims to provide a comprehensive understanding of Earth and Planetary sciences along with their formative and evolutionary processes. Geological Sciences trains students to excel in the geoscience workforce and create sustainable solutions to societal needs.
Website (http://geology.ufl.edu/)

CONTACT

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P.O. Box 112120
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GAINESVILLE FL 32611-2120
Map (http://campusmap.ufl.edu/#/index/0100)

Curriculum

- Combination Degrees
- Geological Sciences Certificate
- Geology
- Geology Minor
- Geology UF Online

Techniques such as environmental assessment, geological hazard assessment, field-based techniques, and geographic information systems (GIS) are used to evaluate the impact of humans on the physical earth and hydrologic environment. The practical and flexible curriculum, small class sizes, computer-based learning, strong faculty, and coursework in several areas of General Education make this major appealing to students who want skills linked to employment or preparation for entry to professional schools (e.g., law, medicine, business).

Geology majors learn about the Earth's physical environment including climate, non-renewable geological resources, renewable geological resources, geological hazards and remediation as well as basic skills required by geologists. These skills and the geological perspective open doors to employment in government agencies and private firms that deal with water management, mining and petroleum exploration, climate change, the environment, and education.

Note that some required courses include a field component, but alternatives to off-campus field work are available and special needs or concerns may be accommodated by speaking with a Geology advisor.

Coursework for the Major

The Geology major has five different options: the Bachelor of Arts, the Bachelor of Arts in Environmental Geosciences (a joint program with the Department of Geography), the Bachelor of Science in Geology, the Bachelor of Science in Geophysics, and the Bachelor of Science in Environmental Sciences. Students who are uncertain which program best suits them should consult the Department of Geology's undergraduate coordinator for information and guidance on curriculum planning.

Degrees and Specializations

Bachelor of Arts

The most flexible degree, and best suited for students interested in careers in education or environmental policy making. The degree also allows students flexibility to pursue advanced degrees in environmental law or environmental medicine.

Bachelor of Arts | Environmental Geosciences

Co-offered by the Department of Geography, this specialization is for students interested in land and water aspects of the environment. It can be tailored to focus on water and mineral exploration and management, geological hazards, environmental planning, resource sustainability, or earth science education.

Bachelor of Science | Geology

This degree is designed for students planning to take the professional geology (PG) licensure exam or to continue to graduate study in Geology. It emphasizes a core understanding of petrology, structural geology, field methodology and paleontology, and it requires significant introductory coursework in calculus, general chemistry, and physics.

Bachelor of Science | Geophysics

This specialization is designed for students planning to take the professional geology (PG) licensure exam or to continue to graduate study in Geophysics or related fields. It emphasizes a core understanding of earth materials, structural geology, field methodology, quantitative and computational methods, and it requires significant coursework in mathematics, computational methods, general chemistry, and physics.

Bachelor of Science | Environmental Geosciences

This specialization is designed for students planning to take the professional geology (PG) licensure exam or to continue to graduate study in Environmental Geology/Hydrogeology. It emphasizes a core understanding of earth materials, structural geology, field methodology, geobiology. geochemistry, and it requires significant introductory coursework in calculus, general chemistry, and biology.

Relevant Minors and Certificates

UFTeach Program

There is a severe shortage of qualified secondary science teachers in Florida and nationwide. Students interested in becoming part of this high-demand profession should see the undergraduate coordinator about the UFTeach program. UFTeach students can complete the UFTeach minor in science teaching along with their BA or BS in Geology and have the coursework and preparation for professional teacher certification in Florida when they graduate.
More Info (http://education.ufl.edu/uf-teach/)

Research

Students in geology who wish to graduate with high or highest honors will be required to conduct an independent research project under the direction of a faculty member. Students are also afforded the opportunity to conduct research within the department's laboratories regardless of their honors status.

The professional degree is for students who want to pursue graduate school and careers in environmental geosciences.

The major requires 38-40 credits of geology coursework. Students must earn minimum grades of C for coursework to count toward the major.

The Environmental Geosciences concentration requires a total of 59-63 hours.

Required Coursework

Code	Title	Credits
Introductory Coursework		
Select one General introductory course:		*3-4*
GLY 2010C	Physical Geology	
GLY 2030C	Environmental and Engineering Geology	
Any 1000-2000 level GLY, OCE or ESC course		
Select one Historical geology course:		*4*
GLY 2100C	Historical Geology	
GLY 3105C	Evolution of Earth and Life	
Geology BS Core Coursework		
GLY 3202C	Earth Materials	3
GLY 4552C	Sedimentary Geology	4
GLY 4400C	Structural Geology and Tectonics	4
GLY 4750L	Geological Field Methods	2

GLY 3000+ Directed Electives [1,2,3]		14
Geology BS Capstone Coursework		
GLY 4790	Geology Summer Field Camp [4]	4
Total Credits		**38-39**

1 Excluding GLY 3105C
2 Choose from advisor-approved environmental geology courses
3 Internships may be used to fulfill this requirement
4 Approved alternative field course can be substituted

Related Coursework

At least 21-24 credits of related coursework

Code	Title	Credits
Chemistry Requirements		
CHM 2045	General Chemistry 1	4
& 2045L	and General Chemistry Laboratory	
Mathematics Requirements		
MAC 2311	Analytic Geometry and Calculus 1	4
Select one semester of physics and laboratory:		*4*
GIS 3043	Foundations of Geographic Information Systems	
MAC 2312	Analytic Geometry and Calculus 2	
STA 2023	Introduction to Statistics 1	
PHY 2004	Applied Physics 1	
& 2004L	and Laboratory for Physics 2004	
PHY 2048	Physics with Calculus 1	
& 2048L	and Laboratory for PHY 2048	
PHY 2053	Physics 1	
& 2053L	and Laboratory for PHY 2053	
Select one additional course: [1]		*3-4*
GIS 3043	Foundations of Geographic Information Systems	
MAC 2312	Analytic Geometry and Calculus 2	
STA 2023	Introduction to Statistics 1	
Select two additional courses in Chemistry or Biology		*6-8*
Total Credits		**21-24**

1 Or advisor approved course.

Critical Tracking

Critical Tracking records each student's progress in courses that are required for progress toward each major. Please note the critical-tracking requirements below on a per-semester basis.

For degree requirements outside of the major, refer to CLAS Degree Requirements: Structure of a CLAS Degree (http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/#degreerequirementstext).

Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites (https://cpm.flvc.org/advance-search/) may be used for transfer students.

Semester 1

- 2.0 UF GPA required

Semester 2

- 2.0 UF GPA required

Semester 3

- Complete one general introductory course (GLY 2010C, GLY 2030C, or any 1000-2000 level GLY, OCE, or ESC course). GLY 2010C is recommended, as it is a prerequisite for many upper-level courses.
- 2.0 UF GPA required

Semester 4

- Complete historical geology course (GLY 2100C or GLY 3105C) or GLY 3000-level geology course.
- Complete one related coursework requirement (CHM 2045/CHM 2045L, MAC 2311, or PHY 2004/PHY 2048/PHY 2053 and associated lab)
- 2.5 Critical Tracking GPA
- 2.0 UF GPA required

Semester 5

- Complete GLY 3202C
- Complete one additional related coursework requirement (CHM 2045/CHM 2045L, MAC 2311, or PHY 2004/PHY 2048/PHY 2053 and associated lab)
- 2.5 Critical Tracking GPA
- 2.0 UF GPA required

Semester 6

- Complete GLY 4400C
- 2.0 UF GPA required

Semester 7

- Complete GLY 4750L and GLY 4552C
- 2.0 UF GPA required

Semester 8

- Complete any remaining GLY required courses and electives required for GLY 4790 (Capstone)

Model Semester Plan

Students are expected to complete the Writing, Civic Literacy, summer enrollment, and Quest requirements while in the process of taking the courses below. Students are also expected to complete the general education international (GE-N) requirements concurrently with another general education requirement (typically, GE-C, H, or S) as part of the CLAS Basic Distribution requirements. One of the two general education mathematics courses must be a pure math course.

College of Liberal Arts and Sciences allows students additional flexibility in its Distribution Requirements. Students may count a maximum of 6 credits TOTAL from the CLAS Distribution course lists towards Humanities, Social and Behavioral Sciences, or Biological and Physical Sciences, with no more than 3 credits of Humanities, 3 credits of Social and Behavioral Sciences, or 6 credits of Biological or Physical Sciences.

The full list of major-specific requirements for this major can be found on the Overview tab. College of Liberal Arts and Sciences degree requirements can be found on the College's degree requirements page (https://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/#degreerequirementstext).

3000 level or above Geography courses may count towards 3000 level electives outside of the major.

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold. These courses must be completed by the terms as listed above in the Critical Tracking criteria.

This semester plan represents an example progression through the major. Actual courses and course order may be different depending on the student's academic record and scheduling availability of courses. Prerequisites still apply.

Course	Title	Credits
Semester One		
Quest 1 (Gen Ed Humanities)		3
MAC 2311	Analytic Geometry and Calculus 1 (**Critical Tracking**; State Core Gen Ed Mathematics)	4
State Core Gen Ed Composition (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext); Writing Requirement		3
CLAS Foreign Language Proficiency Requirement [1]		4-5
	Credits	**14-15**
Semester Two		
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry Laboratory	4
Select one:		4
PHY 2048 & 2048L	Physics with Calculus 1 and Laboratory for PHY 2048	

PHY 2053	Physics 1	
& 2053L	and Laboratory for PHY 2053	
PHY 2004	Applied Physics 1	
& 2004L	and Laboratory for Physics 2004	
State Core Gen Ed Social and Behavioral Sciences (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext)		3
CLAS Foreign Language Proficiency Requirement [1]		3-5
	Credits	**14-16**
Semester Three		
Quest 2		3
BSC 2010	Integrated Principles of Biology 1	4
& 2010L	and Integrated Principles of Biology Laboratory	
GLY 2010C	Physical Geology (**Critical Tracking**; Gen Ed Physical Sciences)	4
STA 2023	Introduction to Statistics 1	3
	Credits	**14**
Semester Four		
Select one:		4
GLY 2100C	Historical Geology (**Critical Tracking**)	
GLY 3105C	Evolution of Earth and Life (**Critical Tracking**)	
State Core Gen Ed Humanities (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext)		3
Gen Ed Biological Sciences		3
Gen Ed Composition		3
Gen Ed Social and Behavioral Sciences		3
	Credits	**16**
Semester Five		
GIS 3043	Foundations of Geographic Information Systems	4
GLY 3202	Earth Materials **Critical Tracking**	3
GLY 4750L	Geological Field Methods (**Critical Tracking**)	2
Electives 3000 level or above, not in major		6
	Credits	**15**
Semester Six		
GLY 4400C	Structural Geology and Tectonics (**Critical Tracking**)	4
GLY 3000+ Electives Directed		6
Electives 3000 level or above, not in major		6
	Credits	**16**
Summer After Semester Six		
GLY 4790	Geology Summer Field Camp (**Critical Tracking**)	4
	Credits	**4**
Semester Seven		
GLY 4552	Sedimentary Geology	4
GLY 3000+ Directed Elective		3
Electives 3000 level or above, not in major		6
	Credits	**13**
Semester Eight		
GLY 4905	Individual Work	3
GLY 3000+	Directed Electives	5
Electives		6
	Credits	**14**
	Total Credits	**120**

[1] CLAS Foreign Language Proficiency Requirement (https://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/#degreerequirementstext)