

ENVIRONMENTAL GEOSCIENCES

Environmental Geosciences is an interdisciplinary curriculum integrating physical, chemical and biological aspects of the environment and environmental systems. There remains a huge demand for scientists with quantitative, interdisciplinary training in environmental geosciences to address, mitigate, and manage a multitude of complex environmental problems facing society.

About this Program

- **College:** Liberal Arts and Sciences (<http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS>)
- **Degree:** Bachelor of Arts (http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY_UFO/GPY_BA_UFO)
- **Specializations:** Environmental Geosciences (p. 1)
- **Credits for Degree:** 120
- **Contact:** 1.855.99GATOR | Email (liangmao@ufl.edu)
- **More Info**

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

Department Information

The Geography Department offers a range of topics in contemporary geography and geospatial science, rich and lively cultural and learning environments, B.A. and B.S. undergraduate degrees, M.A., M.S., and PhD degrees, as well as the largest Medical Geography program in the United States.

Website (<https://geog.ufl.edu>)

CONTACT

Email (liangmao@ufl.edu) | 352.392.0494 (tel) | 352.392.8855 (fax)

P.O. Box 117315
330 Newell Drive
3141 TURLINGTON HALL
GAINESVILLE FL 32611-7315
Map (<http://campusmap.ufl.edu/#/index/0267>)

Curriculum

- Combination Degrees
- Geographical Science and Sustainability | BA
- Geography
- Geography Minor
- Geography Minor UF Online
- Geography UF Online
- Geospatial Information Analysis Certificate
- Medical Geography Certificate
- Medical Geography in Global Health Minor
- Meteorology and Climatology Certificate

The Bachelor of Arts in environmental geosciences is a joint program between the Department of Geography and the Department of Geological Sciences and is intended for students interested in land and water aspects of the environment. The degree focuses on human impacts, water and mineral resource exploitation and management, disasters, environmental planning, earth science education, or environmental law.

Potential careers include natural resource management, environment protection, USGS, NGOs, etc.

Coursework

The Bachelor of Arts in environmental geosciences requires a minimum of 37 credits of coursework, including STA 2023 Students must earn a minimum grade of C in all coursework for the major.

Required Coursework

Code	Title	Credits
GEO 2200 & 2200L	Physical Geography and Physical Geography Laboratory	4
GIS 3043	Foundations of Geographic Information Systems	4
GLY 2010C or GLY 2030C	Physical Geology Environmental and Engineering Geology	3-4
GLY 2100C or GLY 3105C	Historical Geology Evolution of Earth and Life	4
GLY 3202C	Earth Materials	3
GEO 4930	Senior Seminar	1
Select three geography electives:		9-12
GEO 2242	Extreme Weather	
GEO 3250	Climatology	
GEO 3452	Introduction to Medical Geography	
GEO 4281	River Forms and Processes	
GEO 4911	Undergraduate Research in Geography	
GEO 4938	Selected Topics in Geography	
GEO 4905	Individual Work	
GEO 4944	Internship	
GEO 4970	Honors Thesis	
GIS 3001C	Spatial Maps and Graphs	
GIS 4021C	Aerial Photo Interpretation	
GIS 4037	Digital Image Processing	
GIS 4911	Undergraduate Research in Geospatial Trends	
MET 4560	Atmospheric Teleconnections	
Select two geology electives:		6-7
GLY 3163	Geology American National Parks	
GLY 3603C	Paleontology	
GLY 3882C	Hydrogeology and Human Affairs	
GLY 4155C	Geology of Florida	
GLY 4552C	Sedimentary Geology	
GLY 4700	Geomorphology	
GLY 4822	Groundwater Geology	
Total Credits		34-39

Up to 3 credits of geography electives can come from the group of GEO 4944, GEO 4970, and GEO 4905

The same course may not be used to satisfy requirements for more than one group.

Related Coursework

- STA 2023

Related Geography Programs

- Bachelor of Science or Bachelor of Arts in Geography (http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY_BA_BS)
- Geography minor (http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY_UMN)

- Geography minor, UF Online (http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY_UMN_UFO)
- Geospatial Information Analysis certificate (http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/LAS_UCT04)
- Medical Geography certificate (http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/LAS_UCT19)
- Meteorology and Climatology certificate (http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/LAS_UCT10)

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.

Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites (<http://www.flvc.org/cpp/displayRecord.jsp?cip=450701&track=01>) may be used for transfer students.

Semester 1

- 2.0 UF GPA required

Semester 2

- Complete 1 critical-tracking course with laboratory (GEO 2200/GEO 2200L or GLY 2010C) with a 2.5 critical-tracking GPA
- 2.0 UF GPA required

Semester 3

- Complete the other critical-tracking course with laboratory (GEO 2200/GEO 2200L or GLY 2010C) with a 2.5 critical-tracking GPA
- 2.0 UF GPA required

Semester 4

- Complete STA 2023 and maintain a 2.5 critical-tracking GPA
- 2.0 UF GPA required

Semester 5

- Complete 2 additional GLY or GEO courses with a 2.5 critical-tracking GPA. Recommended GLY courses include GLY 2100C or GLY 3105C. Recommended GEO courses include GEO 3250, GEO 3280, GEO 3315, GEO 3341, GEO 3352, GEO 3372, or MET 3503.
- 2.0 UF GPA required

Semester 6

- Complete 1 geography 3000/4000 elective course.
- 2.0 UF GPA required

Semester 7

- Complete 1 additional geography and 1 additional geology elective courses
- 2.0 UF GPA required

Semester 8

- Complete all remaining geography and geology 3000/4000 courses
- 2.0 UF GPA required

Model Semester Plan

Students are expected to complete the writing requirement while in the process of taking the courses below. Students are also expected to complete the general education international (GE-N) and diversity (GE-D) requirements concurrently with another general education requirement (typically, GE-C, H, or S).

3000 level or above Geology courses count towards the 3000 level or above 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
State Core Gen Ed Composition (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext); Writing Requirement		3
State Core Gen Ed Mathematics, pure math (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext)		3
Foreign language		4-5
Elective		3
	Credits	16-17
Semester Two		
Select one:		4
GEO 2200 & 2200L	Physical Geography and Physical Geography Laboratory (Critical Tracking ; Gen Ed Physical Sciences)	
GLY 2010C	Physical Geology (Critical Tracking ; Gen Ed Physical Sciences)	
State Core Gen Ed Biological Sciences (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext)		3
Foreign language		3-5
State Core Gen Ed Social and Behavioral Sciences (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext)		3
	Credits	13-15
Semester Three		
Select one (not taken in semester 2):		4
GEO 2200 & 2200L	Physical Geography and Physical Geography Laboratory (Critical Tracking ; Gen Ed Physical Sciences)	
GLY 2010C	Physical Geology (Critical Tracking ; Gen Ed Physical Sciences)	
Gen Ed Composition; Writing Requirement		3
Foreign language if 4-3-3 option		3
State Core Gen Ed Humanities (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext)		3

Gen Ed Social and Behavioral Sciences	3
Credits	16
Semester Four	
STA 2023 Introduction to Statistics 1 (Critical Tracking; Gen Ed Mathematics)	3
Quest 2 (Gen Ed Biological Sciences or Gen Ed Social and Behavioral Science)	3
Gen Ed Humanities	3
Gen Ed Social and Behavioral Sciences or Gen Ed Biological Science (Option not taken in Quest 2 above)	3
Elective	3
Credits	15
Semester Five	
GIS 3043 Foundations of Geographic Information Systems (Critical Tracking)	4
Select one:	4
GLY 2100C Historical Geology (Critical Tracking; Gen Ed Physical Sciences)	
GLY 3105C Evolution of Earth and Life (Critical Tracking; Gen Ed Physical Sciences)	
Electives (3000 level or above, not in major)	6
Credits	14
Semester Six	
GLY 3202C Earth Materials	3
Geography elective (Critical Tracking; from list)	3-4
Electives (3000 level or above, not in major)	9
Credits	15-16
Semester Seven	
Geography elective (Critical Tracking)	3-4
Geology elective (Critical Tracking)	3-4
Elective (3000 level or above, not in major)	3
Electives	6
Credits	15-17
Semester Eight	
GEO 4930 Senior Seminar (Critical Tracking)	1
Geography elective (Critical Tracking)	3-4
Geology elective (Critical Tracking)	3-4
Electives	9
Credits	16-18
Total Credits	120

Electives to reach the 120-credit minimum will vary depending on whether students select minimum or maximum credit course options.

Academic Learning Compact

The Bachelor of Arts in geology provides knowledge of the basic concepts related to earth materials and processes, and how to collect and organize geological data in the field. Through laboratory and field-based exercises, students will learn how to interpret geologic maps and cross sections, and to understand the application of the scientific method to solve these problems in teams and individually.

Before Graduating Students Must

- Pass GLY 4155C according to the department grading rubric.
- Complete requirements for the baccalaureate degree, as determined by faculty.

Students in the Major will Learn to Student Learning Outcomes (SLOs)

Content

1. Identify, describe and define the basic concepts related to earth materials and processes.
2. Collect data in the field.
3. Organize geologic, temporal and spatial data.

Critical Thinking

1. Interpret geologic maps and cross sections.
2. Interpret results using the scientific method.

Communication

1. Produce a clearly and effectively written synthesis of data collected in the field.
2. Work in teams to solve geologic problems and to present the results of such collaboration effectively.

Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

Courses	SLO 1	SLO 2	SLO 3	SLO 4	SLO 5	SLO 6	SLO 7
GLY 2010C	I	I	I	I	I	I	I
GLY 2100C	R	R	R	I			R
GLY 3202B	R				R		R
GLY 3603	R	R			R	R	
GLY 4155B	A	A	A	A	A	A	A
Capstone							

Assessment Types

- Lab assignments
- Projects
- Exams