

# BA | ENVIRONMENTAL GEOSCIENCES

Geography is the science of place, space, and environment. Each place on earth is distinguished by a unique mix of natural resources, cultural practices, and socioeconomic and political systems. Geographers study what makes each place unique, as well as the connections and interactions between places.

## 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/GPY\\_BA\\_BS/GPY\\_BA/](http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY_BA_BS/GPY_BA/)) | B.A.: Environmental Geosciences (p. 1) | Bachelor of Science ([http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY\\_BA\\_BS/GPY\\_BS/](http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY_BA_BS/GPY_BS/)) | B.A.: Medical Geography in Global Health ([http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY\\_BA\\_BS/GPY\\_BA02/](http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY_BA_BS/GPY_BA02/)) | B.S.: Medical Geography in Global Health ([http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY\\_BA\\_BS/GPY\\_BS01/](http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY_BA_BS/GPY_BS01/))
- **Credits for Degree:** 120
- **Contact:** Email ([liangmao@ufl.edu](mailto: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

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Map (<http://campusmap.ufl.edu/#/index/0267>)

## Curriculum

- Combination Degrees
- 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

Geography offers exciting undergraduate degrees at UF. Students learn from world-renowned faculty and award-winning mentors, and contribute to groundbreaking research, all while studying topics that have great

environmental and social significance. Geography is an integrated and highly interdisciplinary field of study spanning the physical world and society. It is also a hands-on discipline, with a strong emphasis on computer-based tools and field studies.

Geographers can choose to study an enormous range of subjects, essentially anything that has a spatial component. Students who major in geography use the lens of space to examine issues as diverse as climate variability and change on the African continent, malaria outbreaks in Africa and South America, deforestation and land conflict in the Amazon, and the origin and spread of blues music in the Southeastern United States. Across the globe, geographers study tropical cyclones, river restoration, disease outbreaks, the role of parks and other protected areas, changes in land cover, forest management and fragmentation, community conservation, emerging infectious diseases, environmental influences on the elderly, and economic development.

Geography explores the relationship between human and biophysical systems and deals with some of the most critical issues of our time such as environmental hazards, climate change, sustainability of resource management systems, international development, and community and urban planning. Understanding the concept of place, including how and why places differ from each other, is a central concern. Students who have social and economic interests can enter into careers in international development, urban and regional planning, geographic information systems, and environmental consultancy. Students who combine the study of socioeconomic factors and the biophysical world can work in resource management, conservation, environmental assessment, and watershed and coastal planning.

## Coursework for the Major

The geography major has five different programs: the Bachelor of Arts, the Bachelor of Science, the Bachelor of Arts in environmental geosciences (a joint program with the Department of Geological Sciences), the Bachelor of Arts in medical geography in global health, and the Bachelor of Science in medical geography in global health. Coursework for the major will depend upon the program, which are all flexible. Students must earn a minimum grade of C in all coursework for the major.

Students who are uncertain of a program should contact the Department of Geography's undergraduate coordinator for information and curriculum planning.

## Required Coursework

All majors take some techniques courses, including GEO 3162C and a minimum of two additional courses that involve working with data and computers. All majors take a regional course, focusing on the countries, cultures and landscapes of one region in the world. The systematic courses include specialized courses in human or environmental/physical geography, but majors can also take additional techniques courses as part of this requirement. Students can concentrate coursework in economic geography and planning, environmental/physical geography, geospatial technologies, medical geography, or natural resource management.

Coursework for the major will depend upon the degree program. Courses for each program are listed below under Critical Tracking and Model Semester Plan.

### Bachelor of Arts in Geography

Best suited for students interested in careers in urban and regional planning, business geography, medical geography, and geographic education, or for students who want a broad overview of the discipline with a focus on human geography.

### Bachelor of Arts in Environmental Geosciences

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.

### Bachelor of Science in Geography

Best suited for someone who wishes to pursue a career in environmental consulting or graduate work in physical geography or related natural sciences, including atmospheric science, geosciences, hydrologic sciences, or meteorology.

### Bachelor of Arts in Medical Geography in Global Health

Intended for students interested in social and cultural aspects of medical geography and global health and disease issues. The degree focuses on human impacts, cultural and social aspects of health and disease, and public health planning and management.

### Bachelor of Science in Medical Geography in Global Health

Best suited for someone who wishes to pursue a career in public or animal health or disease management or graduate work in medical geography, public health or related natural sciences, including ecology, biology, or epidemiology/public health. This specialization offers the flexibility for students to prepare for admission to health professions programs.

## Bachelor of Arts: Environmental Geosciences

The Bachelor of Arts in environmental geosciences requires a minimum of 35 credits of coursework, plus 3 credits of Statistics. 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
GEO 4930	Senior Seminar	1
GIS 3043	Foundations of Geographic Information Systems	4
GLY 2010C	Physical Geology	4
GLY 2100C or GLY 3105C	Historical Geology Evolution of Earth and Life	4
GLY 3202C	Earth Materials	3
Select three geography electives:		9-12
GEO 3162C	Introduction to Quantitative Analysis for Geographers	
GEO 3250	Climatology	
GEO 3280	Principles of Geographic Hydrology	
GEO 3341	Extreme Floods	
GEO 3352	The Human Footprint on Landscape	
GEO 3372	Conservation of Resources	
GEO 4167C	Intermediate Quantitative Analysis for Geographers	

GEO 4281	River Forms and Processes	
GEO 4285	Models in Geographic Hydrology	
GEO 4300	Environmental Biogeography	
GIS 4021C	Aerial Photo Interpretation	
GIS 4037	Digital Image Processing	
GIS 4102C	GIS Programming	
GIS 4113	Introduction to Spatial Networks	
GIS 4115	Applied Geostats	
MET 3503	Weather and Forecasting	
MET 4532	Hurricanes	
MET 4560	Atmospheric Teleconnections	
MET 4750	Spatial Analysis of Atmospheric Data using GIS	
Select two geology electives:		6-8
GLY 3074	Oceans and Global Climate Change	
GLY 3163	Geology American National Parks	
GLY 3603C	Paleontology	
GLY 3882C	Hydrogeology and Human Affairs	
GLY 4155C	Geology of Florida	
GLY 4310C	Igneous and Metamorphic Petrology	
GLY 4400C	Structural Geology and Tectonics	
GLY 4552C	Sedimentary Geology	
GLY 4734	Coastal Morphology and Processes	
Total Credits		35-40

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

### Related Coursework

- STA 2023

### 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
<b>Semester One</b>		
Quest 1	(Gen Ed Humanities)	3
State Core Gen Ed Composition	( <a href="http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext">http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext</a> ); Writing Requirement	3
State Core Gen Ed Mathematics, pure math	( <a href="http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext">http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext</a> )	3
Foreign language		4-5
Elective		3
Credits		16-17
<b>Semester Two</b>		
Select one:		4

GEO 2200 & 2200L	Physical Geography and Physical Geography Laboratory ( <b>Critical Tracking</b> ; Gen Ed Physical Sciences)	
GLY 2010C	Physical Geology ( <b>Critical Tracking</b> ; Gen Ed Physical Sciences)	
State Core Gen Ed Biological Sciences	( <a href="http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext">http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext</a> )	3
Foreign language		3-5
State Core Gen Ed Social and Behavioral Sciences	( <a href="http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext">http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext</a> )	3
Credits		13-15

<b>Semester Three</b>		
Select one:		4
GEO 2200 & 2200L	Physical Geography and Physical Geography Laboratory ( <b>Critical Tracking</b> ; Gen Ed Physical Sciences)	
GLY 2010C	Physical Geology ( <b>Critical Tracking</b> ; Gen Ed Physical Sciences)	
Gen Ed Composition; Writing Requirement		3
Foreign language if 4-3-3 option		3
State Core Gen Ed Humanities	( <a href="http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext">http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext</a> )	3
Gen Ed Social and Behavioral Sciences		3
Credits		16

<b>Semester Four</b>		
STA 2023	Introduction to Statistics 1 ( <b>Critical Tracking</b> ; Gen Ed Mathematics)	3
Gen Ed Biological Sciences		3
Elective		3
Gen Ed Humanities		3
Gen Ed Social and Behavioral Sciences		3
Credits		15

<b>Semester Five</b>		
GIS 3043	Foundations of Geographic Information Systems ( <b>Critical Tracking</b> )	4
Select one:		4
GLY 2100C	Historical Geology ( <b>Critical Tracking</b> ; Gen Ed Physical Sciences)	
GLY 3105C	Evolution of Earth and Life ( <b>Critical Tracking</b> ; Gen Ed Physical Sciences)	
Electives (3000 level or above, not in major)		6
Credits		14

<b>Semester Six</b>		
GLY 3202C	Earth Materials	3
Geography elective ( <b>Critical Tracking</b> ; from list)		3-4
Electives (3000 level or above, not in major)		9
Credits		15-16

<b>Semester Seven</b>		
Geography elective ( <b>Critical Tracking</b> )		3-4
Geology elective ( <b>Critical Tracking</b> )		3-4
Elective (3000 level or above, not in major)		3
Electives		6
Credits		15-17

<b>Semester Eight</b>		
GEO 4930	Senior Seminar ( <b>Critical Tracking</b> )	1
Geography elective ( <b>Critical Tracking</b> )		3-4
Geology elective ( <b>Critical Tracking</b> )		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

A major in geography enables students to know the earth’s physical environment, to learn social, cultural and economic concepts from spatial and regional perspectives, and to understand the relationship between environment and society. Students will learn how geographic techniques, skills and concepts are applied in the subfields of geography. Computer-based lab assignments teach students how to analyze geographic information and to apply an interpretation of data toward problem solving or modeling. They will be able to interpret and to effectively communicate information spatially, graphically and/or with statistics.

The Bachelor of Arts in geography enables students to learn how geographic techniques, skills and concepts are applied in various subfields of geography. The Bachelor of Science enables students to learn basic concepts in sciences related to the earth and its atmosphere.

## Before Graduating Students Must

- Complete a capstone exam in GEO 4930, as developed by geography faculty.
- Complete a capstone portfolio in GEO 4930, evaluated by geography faculty.
- Complete requirements for the baccalaureate degree, as determined by faculty.

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

### Content

1. Identify and describe the physical and human characteristics of Earth and its regions, the essentials of human#environment interactions, and the techniques of geographic science.

### Critical Thinking

2. Analyze geographic information and apply interpretation of data toward problem solving or modeling.

### Communication

3. Interpret and effectively communicate information spatially, graphically and/or with statistics.

## Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

Courses	SLO 1	SLO 2	SLO 3
GEA 2000-4000 level Regional Geography	R		
GEO 2000 level Human Geography	I		
GEO 2200	I		
GEO 2200L	R		
GEO 3162C	I	I	R

GEO 4930	R, A	A	A
GIS 3043 and GIS 4001C	R	R	R
STA 2023			I
<b>B.A. Only</b> Plus 15 additional credits in the department	R	R	R
<b>B.S. Only</b> Plus 12 additional credits in the department and 22 credits outside the department with CHM, GLY, MET, PHY, SWS prefixes	R	R	R

## Assessment Types

- Capstone exam
- Portfolio