

# BACHELOR OF SCIENCE

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/)) | Bachelor of Science (p. 1)
- **Specializations:** Environmental Geosciences (BA) ([http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY\\_BA\\_BS/GPY\\_BA01/](http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY_BA_BS/GPY_BA01/)) | Geographical Science and Sustainability (BA) ([http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY\\_BA\\_BS/GPY\\_BS03/](http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY_BA_BS/GPY_BS03/)) | Medical Geography in Global Health (BA) ([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/)) | Medical Geography in Global Health (BS) ([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))

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, BA and BS undergraduate degrees, MA, 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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### Curriculum

- Combination Degrees
- GeoAI and Geographic Analysis Minor
- Geographic Artificial Intelligence and Big Data Certificate
- 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
- Meteorology Minor

The Bachelor of Science in Geography is 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.

## Coursework for the Major

The Bachelor of Science in geography requires 36-41 credits of geography coursework and 16-17 credits of related coursework in physics, chemistry, meteorology, and statistics. Students must earn a minimum grade of C in all coursework for the major.

### Required Coursework

Code	Title	Credits
GEO 2200 & 2200L	Dynamic Planet Earth and Dynamic Planet Earth Laboratory	4
GEO 3162C	Introduction to Quantitative Analysis for Geographers	4

GEO 4170	Communicating Science in the Geosciences	3
GEO 4930	Senior Seminar	1
Select one:		3
GEO 2006	Natural Hazards Geography	
GEO 2410	Social Geography	
GEO 2420	People, Place, and Culture	
GEO 2500	Global and Regional Economies	
Select one GeoAI course:		3
GIS 2002	The Digital Earth	
GIS 2114	The World & Big Data	
Select two Technique courses:		7-9
GEO 4167C	Intermediate Quantitative Analysis for Geographers	
GIS 3001C	Geovisualization and Map Design	
GIS 3043	Foundations of Geographic Information Systems	
GIS 4021C	Aerial Photo Interpretation	
GIS 4037	Digital Image Processing	
GIS 4113	Introduction to Spatial Networks	
GIS 4115C	Spatial Surface Modeling and Geostatistics	
Select one Regional Geography course:		3
GEA 2270	Geography of Florida	
GEA 2601	Geography of Africa	
GEA 3405	Geography of Latin America	
GEA 3500	Geography of Europe	
GEA 4465	Amazonia	
Select three: <sup>1</sup>		9-12
GEO 3250	Climatology	
GEO 3280	Principles of Geographic Hydrology	
GEO 2315	Hungry Planet: Global Geographies of Food	
GEO 3341	Extreme Floods	
GEO 3352	The Human Footprint on Landscape	
GEO 3372	Conservation of Resources	
GEO 3452	Introduction to Medical Geography	
GEO 4167C	Intermediate Quantitative Analysis for Geographers	
GEO 4034	Weather, Climate, and Society	
GEO 4281	River Forms and Processes	
GEO 4285	Water, Risk, and Extreme Events	
GEO 4938	Selected Topics in Geography	
GEO 4970	Honors Thesis	
GIS 3043	Foundations of Geographic Information Systems	
GIS 3420C	GIS Models for Public Health	
GIS 4021C	Aerial Photo Interpretation	
GIS 4037	Digital Image Processing	
GIS 4113	Introduction to Spatial Networks	
GIS 4115C	Spatial Surface Modeling and Geostatistics	
GIS 4324	GIS Analysis of Hazard Vulnerability	
GLY 4734	Coastal Morphology and Processes	
MET 3503	Weather and Forecasting	
MET 4224C	Machine Learning in Meteorology	
MET 4532	Hurricanes	
MET 4560	Atmospheric Teleconnections	
MET 4750	Spatial Analysis of Atmospheric Data using GIS	
Quest 3/Experiential Learning Academic Requirement		0-3
<b>Total Credits</b>		<b>37-45</b>

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

<sup>1</sup> Other geography courses may be counted at the discretion of the undergraduate coordinator.

Transfer coursework is considered on a case-by-case basis. Upper division transfer courses with no UF equivalent will be substituted as GEO 4938.

## Related Coursework

Code	Title	Credits
CHM 1025 or CHM 1030	Introduction to Chemistry Basic Chemistry Concepts and Applications 1	2-3
MET 1010	Introduction to Weather and Climate	3
PHY 2004 & 2004L	Applied Physics 1 and Laboratory for Physics 2004	4
PHY 2005 & 2005L	Applied Physics 2 and Applied Physics 2 Lab	4
STA 2023	Introduction to Statistics 1	3
<b>Total Credits</b>		<b>16-17</b>

## Quest 3/Experiential Learning Academic Requirement

To fulfill the Quest 3/UF Experiential Learning Academic Requirement (Q3/ELAR), students will pursue experiential learning in the form of internships or co-ops, global engagement/study abroad, community/public service, undergraduate research, or design competitions. Students should consult with department faculty to learn more about opportunities available to Geography students.

### 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 (<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 1 geography course (GEA 1000 not acceptable)
- 2.0 UF GPA required

## Semester 4

- Complete 1 additional geography course (1 of the 2 must be GEO 2200; GEA 1000 not acceptable) or complete STA 2023 with a 2.5 critical-tracking GPA
- 2.0 UF GPA required

## Semester 5

- Complete all critical-tracking courses (STA 2023 and 2 geography courses, 1 of which must be GEO 2200; GEA 1000 not acceptable) with a 2.5 critical-tracking GPA
- 2.0 UF GPA required

## Semester 6

- Complete a GIS 3000/4000 technique course.
- 2.0 UF GPA required

## Semester 7

- Complete 1 geography (GEO, GIS, or MET) 3000/4000 systematic course
- 2.0 UF GPA required

## Semester 8

- Complete all remaining geography (GEO or GIS) 3000/4000 courses
- 2.0 UF GPA required

### 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>)

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>		
GEO 2200	Dynamic Planet Earth ( <b>Critical Tracking</b> ; Gen Ed Physical Sciences)	3
GEO 2200L	Dynamic Planet Earth Laboratory (Gen Ed Physical Sciences)	1
MET 1010	Introduction to Weather and Climate (Gen Ed Physical Sciences)	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
CLAS Foreign Language Proficiency Requirement <sup>1</sup>		4-5
<b>Credits</b>		<b>14-15</b>
<b>Semester Two</b>		
Quest 1 (Gen Ed Humanities)		3
Select one:		2-3
CHM 1025	Introduction to Chemistry (Gen Ed Physical Sciences)	
CHM 1030	Basic Chemistry Concepts and Applications 1 (Gen Ed Physical Sciences)	
Select one:		3
GEO 2006	Natural Hazards Geography	
GEO 2410	Social Geography ( <b>Critical Tracking</b> )	
GEO 2420	People, Place, and Culture ( <b>Critical Tracking</b> )	
GEO 2500	Global and Regional Economies ( <b>Critical Tracking</b> ; Gen Ed Social and Behavioral Sciences)	
CLAS Foreign Language Proficiency Requirement <sup>1</sup>		3-5
Elective		1
<b>Credits</b>		<b>12-15</b>
<b>Semester Three</b>		
PHY 2004 & 2004L	Applied Physics 1 and Laboratory for Physics 2004 (Gen Ed Physical Sciences)	4
STA 2023	Introduction to Statistics 1 ( <b>Critical Tracking</b> ; State Core Gen Ed Mathematics)	3
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
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
<b>Credits</b>		<b>16</b>
<b>Semester Four</b>		
Quest 2 (Gen Ed Social and Behavioral Sciences)		3
Systematic GEO/MET course ( <b>Critical Tracking</b> ; 3000/4000 level)		3
PHY 2005 & 2005L	Applied Physics 2 and Applied Physics 2 Lab (Gen Ed Physical Sciences)	4
Gen Ed Biological Sciences		3
Gen Ed Mathematics with a prefix of MAC, MAP, MAS, MGF, or MHF (pure math)		3
<b>Credits</b>		<b>16</b>

**Semester Five**

Regional GEA course ( <b>Critical Tracking</b> ; 2000 - 4000 level)	3
GEO 3162C Introduction to Quantitative Analysis for Geographers ( <b>Critical Tracking</b> )	4
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
Gen Ed Composition; Writing Requirement	3
Select one GeoAI Fundamental course ( <b>Critical Tracking</b> ; ):	3
GIS 2002 The Digital Earth	
GIS 2114 The World & Big Data	
<b>Credits</b>	<b>16</b>

**Semester Six**

Quest 3/Experiential Learning Academic Requirement	3
Systematic GEO/GIS/MET course ( <b>Critical Tracking</b> ; 3000/4000 level)	3-4
Select one:	4
GIS 3001C Geovisualization and Map Design ( <b>Critical Tracking</b> )	
GIS 3043 Foundations of Geographic Information Systems (technique; <b>Critical Tracking</b> )	
Gen Ed Humanities	3
Elective (3000 level or above, not in major)	3
<b>Credits</b>	<b>16-17</b>

**Semester Seven**

GEO 4170 Communicating Science in the Geosciences ( <b>Critical Tracking</b> )	3
GEO 4930 Senior Seminar ( <b>Critical Tracking</b> )	1
Systematic GEO/GIS/MET course ( <b>Critical Tracking</b> ; 3000/4000 level)	3
Electives (3000 level or above, not in major)	6
<b>Credits</b>	<b>13</b>

**Semester Eight**

Technique GEO/GIS course ( <b>Critical Tracking</b> ; 3000 level or above)	3-4
Gen Ed Humanities	3
Electives (3000 level or above, not in major)	6
Elective	2
<b>Credits</b>	<b>14-15</b>
<b>Total Credits</b>	<b>120</b>

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

*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>BA Only</b> Plus 15 additional credits in the department	R	R	R
<b>BS 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
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