

# MEDICAL GEOGRAPHY IN GLOBAL HEALTH | BS

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 (<https://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/>)
- **Degrees:** Bachelor of Arts ([https://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY\\_BA\\_BS/GPY\\_BA/](https://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY_BA_BS/GPY_BA/)) | Bachelor of Science ([https://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY\\_BA\\_BS/GPY\\_BS/](https://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY_BA_BS/GPY_BS/))
- **Specializations:** Environmental Geosciences (BA) ([https://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY\\_BA\\_BS/GPY\\_BA01/](https://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY_BA_BS/GPY_BA01/)) | Geographical Science and Sustainability (BA) ([https://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY\\_BA\\_BS/GPY\\_BS03/](https://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY_BA_BS/GPY_BS03/)) | Medical Geography in Global Health (BA) ([https://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY\\_BA\\_BS/GPY\\_BA02/](https://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/GPY_BA_BS/GPY_BA02/)) | Medical Geography in Global Health (BS) (p. 1)
- **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 Medical Geography in Global Health is 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.

## Requirements for the major

The Bachelor of Science in Medical Geography in Global Health (MGGH) requires a minimum of 39 credits of geography coursework and 19 credits of related coursework in biology, chemistry, and statistics. Students must earn a minimum grade of C in all coursework for the major.

## Required Coursework

Code	Title	Credits
<b>Geography BS MGGH Core Courses</b>		<b>34-35</b>
GEO 2200 & 2200L	Dynamic Planet Earth and Dynamic Planet Earth Laboratory	
GEO 3162C	Introduction to Quantitative Analysis for Geographers	
GEO 4170	Communicating Science in the Geosciences	
GEO 4930	Senior Seminar	
<i>Select one:</i>		
GEO 2006	Natural Hazards Geography	
GEO 2410	Social Geography	
GEO 2420	People, Place, and Culture	
GEO 2500	Global and Regional Economies	
<i>Select one GeoAI Fundamental course:</i>		
GIS 2002	The Digital Earth	
GIS 2114	The World & Big Data	
<i>Two Geography Techniques courses:</i>		
GIS 3043	Foundations of Geographic Information Systems (required)	
<i>Select one:</i>		
GEO 4167C	Intermediate Quantitative Analysis for Geographers	
GIS 3001C	Geovisualization and Map Design	
GIS 4021C	Aerial Photo Interpretation	
GIS 4037	Digital Image Processing	
GIS 4113	Introduction to Spatial Networks	
GIS 4115C	Spatial Surface Modeling and Geostatistics	
<i>Select one regional geography course:</i>		
GEA 2270	Geography of Florida	
GEA 3405	Geography of Latin America	
GEA 3500	Geography of Europe	
GEA 4465	Amazonia	
<i>Select two medical geography core courses:</i>		
GEO 3452	Introduction to Medical Geography	
GEO 3454	Peoples and Plagues	
GEO 3427	Plants, Health and Spirituality	
GEO 4612	Shelter and Care Options for US Elderly	
<b>Geography BS MGGH Elective Courses</b>		<b>6</b>
<i>Select two geography elective courses:<sup>1</sup></i>		
GEO 2242	Extreme Weather	
GEO 2315	Hungry Planet: Global Geographies of Food	
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 3427	Plants, Health and Spirituality	
GEO 3430	Population Geography	
GEO 3452	Introduction to Medical Geography	
GEO 3454	Peoples and Plagues	
GEO 3502	Economic Geography	
GEO 3602	Urban and Business Geography	
GEO 3611	Housing, People, and Places in a Spatially Diverse America	
GEO 3803	Geography of Alcohol	
GEO 3930	Special Topics in Geography	
GEO 4167C	Intermediate Quantitative Analysis for Geographers	
GEO 4281	River Forms and Processes	
GEO 4285	Water, Risk, and Extreme Events	
GEO 4300	Environmental Biogeography	
GEO 4306C	Geography of Vector-borne Diseases	
GEO 4554	Regional Development	
GEO 4612	Shelter and Care Options for US Elderly	
GEO 4700	Transportation and Urban Accessibility	

GEO 4938	Selected Topics in Geography	
GEO 4970	Honors Thesis	
GIS 2002	The Digital Earth	
GIS 3420C	GIS Models for Public Health	
GIS 4021C	Aerial Photo Interpretation	
GIS 4037	Digital Image Processing	
GIS 4102C	GIS Programming	
GIS 4113	Introduction to Spatial Networks	
GIS 4115C	Spatial Surface Modeling and Geostatistics	
MET 3503	Weather and Forecasting	
MET 4532	Hurricanes	
MET 4560	Atmospheric Teleconnections	
MET 4750	Spatial Analysis of Atmospheric Data using GIS	
<b>Quest 3/Experiential Learning Academic Requirement<sup>2</sup></b>		<b>0-3</b>
<b>Total Credits</b>		<b>40-44</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.

<sup>2</sup> To fulfill the Quest 3/UF Experiential Learning Academic Requirement (Q3/ELAR), students should enroll in an experience for 3 credit hours (or opt for 0-2 credit hours if needed, although the student effort during the semester will remain the equivalent of 3 credit hours) through existing courses that are designated to fulfill the Quest 3 requirement. Students who complete the Quest 3/ELAR requirement for 0-2 credits may need to take additional Geography electives in order to reach 120 total credits.

## Related Coursework

Code	Title	Credits
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry Laboratory	4
CHM 2046 & 2046L	General Chemistry 2 and General Chemistry 2 Laboratory	4
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory	4
BSC 2011 & 2011L	Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2	4
STA 2023	Introduction to Statistics 1	3
<b>Total Credits</b>		<b>19</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 (<https://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 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 1 medical geography core course and 1 geography technique course.
- 2.0 UF GPA required

## Semester 7

- Complete 1 additional geography technique course and 1 geography elective course
- 2.0 UF GPA required

## Semester 8

- Complete all remaining geography (GEO, GIS, or MET) 3000/4000 required courses and Quest 3/Experiential Learning Academic Requirement
- 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>		
Quest 1 (Gen Ed Humanities, if needed)		3
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry Laboratory (State Core Gen Ed Physical Sciences ( <a href="https://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext">https://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext</a> ))	4
Gen Ed Mathematics; with math prefix		3-4
MAC 2311	Analytic Geometry and Calculus 1	
State Core Gen Ed Composition ( <a href="https://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext">https://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext</a> ); Writing Requirement		3
	<b>Credits</b>	<b>13-14</b>
<b>Semester Two</b>		
CHM 2046 & 2046L	General Chemistry 2 and General Chemistry 2 Laboratory (Gen Ed Physical Sciences)	4

GEO 2200	Dynamic Planet Earth ( <b>Critical Tracking</b> )	3
GEO 2200L	Dynamic Planet Earth Laboratory	1
STA 2023	Introduction to Statistics 1 ( <b>Critical Tracking</b> ; State Core Gen Ed Mathematics)	3
State Core Gen Ed Social and Behavioral Sciences ( <a href="https://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext">https://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext</a> ) <sup>1</sup>		3
<b>Credits</b>		<b>14</b>
<b>Semester Three</b>		
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory (Gen Ed Biological Sciences)	4
Select one:		3
GEO 2006	Natural Hazards Geography ( <b>Critical Tracking</b> ; Gen Ed Social and Behavioral Science; Gen Ed International)	
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)	
State Core Gen Ed Humanities ( <a href="https://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext">https://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext</a> )		3
Gen Ed Composition		3
Gen Ed Humanities		3
<b>Credits</b>		<b>16</b>
<b>Semester Four</b>		
Quest 2 (Gen Ed Social and Behavioral Sciences, if needed)		3
BSC 2011 & 2011L	Integrated Principles of Biology 2 and Integrated Principles of Biology Laboratory 2 (Gen Ed Biological Sciences)	4
GeoAI Fundamental course ( <b>Critical Tracking</b> ; select one:)		3
GIS 2002	The Digital Earth	
GIS 2114	The World & Big Data	
Regional geography course ( <b>Critical Tracking</b> )		3
Elective		3
<b>Credits</b>		<b>16</b>
<b>Semester Five</b>		
GEO 3162C	Introduction to Quantitative Analysis for Geographers ( <b>Critical Tracking</b> )	4
GIS 3043	Foundations of Geographic Information Systems ( <b>Critical Tracking</b> )	4
Medical geography core course ( <b>Critical Tracking</b> ) <sup>3</sup>		3
CLAS Foreign Language Proficiency Requirement <sup>2</sup>		5
<b>Credits</b>		<b>16</b>
<b>Semester Six</b>		
Quest 3/Experiential Learning Academic Requirement <sup>4</sup>		3
Medical geography core course ( <b>Critical Tracking</b> ) <sup>3</sup>		3
Geography BS MGGH elective ( <b>Critical Tracking</b> )		3
CLAS Foreign Language Proficiency Requirement <sup>2</sup>		5
<b>Credits</b>		<b>14</b>
<b>Semester Seven</b>		
GEO 4170	Communicating Science in the Geosciences ( <b>Critical Tracking</b> )	3
Geography Techniques course ( <b>Critical Tracking</b> )		3-4
Geography BS MGGH elective ( <b>Critical Tracking</b> )		3-4
Electives (3000 level or above, not in major)		6
<b>Credits</b>		<b>15-17</b>
<b>Semester Eight</b>		
GEO 4930	Senior Seminar ( <b>Critical Tracking</b> )	1
Gen Ed Social and Behavioral Sciences		3
Electives (3000 level or above, not in major)		12
<b>Credits</b>		<b>16</b>
<b>Total Credits</b>		<b>120</b>

<sup>1</sup> PSY 2012 recommended.

<sup>2</sup> CLAS Foreign Language Proficiency Requirement (<https://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/#degreerequirementstext>)

<sup>3</sup> GEO 3452 or GEO 3454 recommended.

<sup>4</sup> To fulfill the Quest 3/UF Experiential Learning Academic Requirement (Q3/ELAR), students should enroll in an experience for 3 credit hours (or opt for 0-2 credit hours if needed, although the student effort during the semester will remain the equivalent of 3 credit hours) through existing

courses that are designated to fulfill the Quest 3 requirement. Students who complete the Quest 3/ELAR requirement for 0-2 credits may need to take additional Geography electives in order to reach 120 total credits.

*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

