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/](http://catalog.ufl.edu/UGRD/colleges-schools/UGLAS/)
- **Degrees:** Bachelor of Arts
- **Credits for Degree:** 120
- **Additional Information**
  - **Contact:** Email (liangmao@ufl.edu?subject=UF Online Geography Major) | 1.855.99GATOR
- **Related Geography Programs**

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

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**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>GEO 2200</td>
<td>Physical Geography</td>
<td>4</td>
</tr>
<tr>
<td>&amp; 2200L</td>
<td>and Physical Geography Laboratory</td>
<td></td>
</tr>
<tr>
<td>GIS 3043</td>
<td>Foundations of Geographic Information Systems</td>
<td>4</td>
</tr>
<tr>
<td>GLY 2010C</td>
<td>Physical Geology</td>
<td>3-4</td>
</tr>
<tr>
<td>or GLY 2030C</td>
<td>Environmental and Engineering Geology</td>
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</tr>
<tr>
<td>GLY 2100C</td>
<td>Historical Geology</td>
<td>4</td>
</tr>
<tr>
<td>or GLY 3105C</td>
<td>Evolution of Earth and Life</td>
<td></td>
</tr>
<tr>
<td>GLY 3202C</td>
<td>Earth Materials</td>
<td>3</td>
</tr>
<tr>
<td>GEO 4930</td>
<td>Senior Seminar</td>
<td>1</td>
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<tr>
<td>Select three geography electives:</td>
<td>9-12</td>
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<tr>
<td>GEO 2242</td>
<td>Extreme Weather</td>
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<tr>
<td>GEO 3250</td>
<td>Climatology</td>
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<tr>
<td>GEO 3452</td>
<td>Introduction to Medical Geography</td>
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<tr>
<td>GEO 4281</td>
<td>River Forms and Processes</td>
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<tr>
<td>GEO 4911</td>
<td>Undergraduate Research in Geography</td>
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<tr>
<td>GEO 4938</td>
<td>Selected Topics in Geography</td>
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<tr>
<td>GEO 4905</td>
<td>Individual Work</td>
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<tr>
<td>GEO 4944</td>
<td>Internship</td>
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<td>GEO 4970</td>
<td>Honors Thesis</td>
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<td>GIS 3001C</td>
<td>Spatial Maps and Graphs</td>
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<tr>
<td>GIS 4021C</td>
<td>Aerial Photo Interpretation</td>
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<tr>
<td>GIS 4037</td>
<td>Digital Image Processing</td>
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<td>GIS 4911</td>
<td>Undergraduate Research in Geospatial Trends</td>
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<tr>
<td>MET 4560</td>
<td>Atmospheric Teleconnections</td>
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</table>

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
- Bachelor of Arts in Geography, UF Online
- Geography minor
- Geography minor, UF Online
- Geospatial Information Analysis certificate
- Geospatial Information Analysis certificate
- Meteorology and Climatology certificate

Critical Tracking

Critical Tracking records each student’s progress in courses that are required for entry to 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 one critical-tracking course with laboratory (GEO 2200/GE 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/GE 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 4281, and GIS 4037.
• 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 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**
IDS 1161 | What is the Good Life (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 (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext) | 3
Foreign language | 4-5
Elective | 3
**Credits** | **16-17**

**Semester Two**
Select one:

GLY 2010C | Physical Geology (Critical Tracking; Gen Ed Physical Sciences; or equivalent) | 4

| Course | Title | Credits
--- | --- | ---
GEO 2200 & 2200L | Physical Geography and Physical Geography Laboratory (Critical Tracking; Gen Ed Physical Sciences) | 3
State Core Gen Ed Biological Sciences (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext) | 3
State Core Gen Ed Social and Behavioral Sciences (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext) | 3
Foreign language | 4-5
**Credits** | **14-15**

**Semester Three**
Select one:
GLY 2010C | Physical Geology (Critical Tracking; Gen Ed Physical Sciences; or equivalent) | 4

| Course | Title | Credits
--- | --- | ---
GEO 2200 & 2200L | Physical Geography and Physical Geography Laboratory (Critical Tracking; Gen Ed Physical Sciences) | 3
State Core Gen Ed Humanities (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext) | 3
Gen Ed Social and Behavioral Sciences | 3
Gen Ed Composition; Writing Requirement | 3
Elective or foreign language if 4-3-3 option | 3
**Credits** | **16**

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

**Semester Five**
GLY 3105C | Evolution of Earth and Life (Critical Tracking; Gen Ed Physical Sciences) | 4
GLY 3202C | Earth Materials (Critical Tracking) | 3
Electives (3000 level or above, not in major) | 6
**Credits** | **13**

**Semester Six**
GIS 3043 | Foundations of Geographic Information Systems (Critical Tracking) | 4
Geography elective | 3
Electives (3000 level or above, not in major) | 9
**Credits** | **16**

**Semester Seven**
Geography elective | 3
Geology elective | 3
Elective (3000 level or above, not in major) | 3
Electives | 6
**Credits** | **15**

**Semester Eight**
GLY 4930 | Special Topics in Geology | 1
Geography elective | 3
Geology elective | 3
Electives | 8
**Credits** | **15**

**Total Credits** | **120**

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

<table>
<thead>
<tr>
<th>Courses</th>
<th>SLO 1</th>
<th>SLO 2</th>
<th>SLO 3</th>
<th>SLO 4</th>
<th>SLO 5</th>
<th>SLO 6</th>
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Capstone

Assessment Types

• Lab assignments
• Projects
• Exams