

# GEOLOGY

## Program Information

The Department of Geological Sciences offers programs leading to the Master of Science (thesis), the Master of Science in Teaching (non-thesis), and the Doctor of Philosophy degrees in geology. Minimum requirements for these degrees are described in the Graduate Degrees (<https://gradcatalog.ufl.edu/graduate/degrees/>) section of this catalog.

For admission to graduate status in the Department of Geological Sciences, a student must have a baccalaureate degree with a major in geology or a related field or its equivalent. Deficiencies in undergraduate preparation can be corrected by completing the undergraduate courses without credit while enrolled as a graduate student.

Applicants should take the GRE general test. The scores of this examination must be reported to the Department of Geological Sciences. Three letters of recommendation are also required for admission to the doctoral program and for financial aid applications at any level.

A minimum of 32 semester hours of graduate level courses are required for the Master of Science in geology. At least 24 hours must be in organized graduate-level geology courses (excluding research, teaching, special projects, etc.). Six hours of thesis research credit are required. All master's degrees are terminal; a separate and new application for admission to the doctoral program is required.

For the Master of Science in Teaching degree, a minimum of 36 semester hours are required; including at least 24 hours in organized graduate-level geology courses, 2 in Seminar (6931) and 6 hours of Internship in College Teaching (6943). Master's Research (6971) can not be used toward the degree. At least one course in each of the following: Social Foundations of Education, Psychological Foundations of Education, and Community College curriculum are required. These courses may be used to comprise a minor in Education (6 hours will count toward the total of 24 geology courses). The remaining hours must be in approved electives. Passage of a final oral examination that covers the field of Geology and the students minor is required of all candidates. No thesis is required.

90 semester hours of graduate-level class work are required for the Ph.D., including organized course work, individual work, supervised research and teaching, advanced research, dissertation, special projects, or courses in a related field.

The Department offers a combination bachelor's/master's degree program. Contact the graduate coordinator for information.

For more information, please see the program page below and our department website: <http://geology.ufl.edu>.

### Degrees Offered

## Degrees Offered with a Major in Geology

- Doctor of Philosophy
  - without a concentration
  - concentration in Climate Science
  - concentration in Hydrologic Sciences
    - *optional second concentration in Climate Science*
  - concentration in Tropical Conservation and Development
    - *optional second concentration in Climate Science*

- concentration in Wetland Sciences
  - *optional second concentration in Climate Science*
- Master of Science
  - without a concentration
  - concentration in Climate Science
  - concentration in Hydrologic Sciences
    - *optional second concentration in Climate Science*
  - concentration in Tropical Conservation and Development
    - *optional second concentration in Climate Science*
  - concentration in Wetland Sciences
    - *optional second concentration in Climate Science*
- Master of Science in Teaching
  - without a concentration
  - concentration in Climate Science
  - concentration in Tropical Conservation and Development
    - *optional second concentration in Climate Science*
  - concentration in Wetland Sciences
    - *optional second concentration in Climate Science*

Requirements for these degrees are given in the Graduate Degrees (<http://gradcatalog.ufl.edu/graduate/degrees/>) section of this catalog.

### Courses

## Geology Program Courses

Code	Title	Credits
BOT 5305	Paleobotany	3
GLY 5156	Geologic Evolution of North America	3
GLY 5246	Geochemistry	3
GLY 5245	Hydrogeochemistry	3
GLY 5247	Surface and Ground Water Interactions	3
GLY 5255	Organic Geochemistry and Geobiology	3
GLY 5328	Advanced Igneous Petrology	3
GLY 5455	Introduction to Geophysics and Tectonics	3
GLY 5466	Seismology and Earth Structure	3
GLY 5468	Terrestrial Gravity and Magnetism	3
GLY 5558C	Sedimentology	3
GLY 5576	Continental Margin Stratigraphy	3
GLY 5705	Geomorphology	3
GLY 5736	Marine Geology	3
GLY 5786L	Topics in Field Geology	2
GLY 5827	Ground Water Geology	3
GLY 6075	Global Climate Change: Past, Present, and Future	3
GLY 6297	Topics in Geochemistry	3
GLY 6425	Tectonics	3
GLY 6519	Stratigraphy and Timescales	3
GLY 6826	Hydrogeologic Modeling	3
GLY 6862	Quantitative Methods in Earth Sciences	3
GLY 6905	Individual Work	1-4
GLY 6931	Seminar	1
GLY 6932	Special Topics in Geology	1-3
GLY 6971	Research for Master's Thesis	1-15
GLY 7979	Advanced Research	1-12
GLY 7980	Research for Doctoral Dissertation	1-15

## Geological Sciences Departmental Courses

Code	Title	Credits
BOT 5305	Paleobotany	3
GLY 5044	Cosmochemistry	3
GLY 5156	Geologic Evolution of North America	3
GLY 5245	Hydrogeochemistry	3
GLY 5246	Geochemistry	3
GLY 5247	Surface and Ground Water Interactions	3
GLY 5255	Organic Geochemistry and Geobiology	3
GLY 5328	Advanced Igneous Petrology	3
GLY 5455	Introduction to Geophysics and Tectonics	3
GLY 5466	Seismology and Earth Structure	3
GLY 5468	Terrestrial Gravity and Magnetism	3
GLY 5558C	Sedimentology	3
GLY 5576	Continental Margin Stratigraphy	3
GLY 5705	Geomorphology	3
GLY 5736	Marine Geology	3
GLY 5786L	Topics in Field Geology	2
GLY 5827	Ground Water Geology	3
GLY 6075	Global Climate Change: Past, Present, and Future	3
GLY 6095	Survival Skills for Academic Careers in Earth and Planetary Sciences	3
GLY 6256	Chemical Biomarkers in Aquatic Ecosystems	3
GLY 6297	Topics in Geochemistry	3
GLY 6425	Tectonics	3
GLY 6519	Stratigraphy and Timescales	3
GLY 6738	Estuarine Systems	3
GLY 6826	Hydrogeologic Modeling	3
GLY 6862	Quantitative Methods in Earth Sciences	3
GLY 6905	Individual Work	1-4
GLY 6931	Seminar	1
GLY 6932	Special Topics in Geology	1-3
GLY 6971	Research for Master's Thesis	1-15
GLY 7979	Advanced Research	1-12
GLY 7980	Research for Doctoral Dissertation	1-15
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### Student Learning Outcomes

#### Geology (PHD)

##### SLO 1 Knowledge

Students will articulate orally and in writing the results and applications of their research and scholarship, using the basic concepts, theories, and observational findings related to Earth materials and processes, as they pertain to the student's research

##### SLO 2 Skills

Students will analyze data in the published literature; synthesize analog and digital datasets to produce original geologic maps and/or datasets; apply the scientific method to analysis of published and self-generated data

##### SLO 3 Professional Behavior

Students will conduct research in an ethical and responsible manner

#### Geology (MS)

##### SLO 1 Knowledge

Students will articulate orally and in writing the results and applications of their research and scholarship, using the basic concepts, theories, and observational findings related to Earth materials and processes, as they pertain to the student's research.

##### SLO 2 Skills

Students will analyze data in the published literature; synthesize analog and digital datasets to produce original geologic maps and/or datasets; apply the scientific method to analysis of published and self-generated data.

##### SLO 3 Professional Behavior

Students will conduct research in an ethical and responsible manner.

#### Geology (MST)

##### SLO 1 Knowledge

Students articulate orally and in writing the results and applications of their scholarship, demonstrating a proficiency in the basic concepts, theories, and observational findings related to Earth materials and processes, as they pertain to educational standards established at the state or national level.

##### SLO 2 Skills

Students will create, select and implement: (1) specific learning goals, (2) appropriate pedagogy and instructional materials and (3) evaluation strategies aligned with goals, using knowledge of subject matter, learners and classroom management.

##### SLO 3 Professional Behavior

Students will conduct research and teach in an ethical and responsible manner