GLY 5156 Geologic Evolution of North America 3 Credits
Grading Scheme: Letter Grade
Key geological features of North American plate and important aspects of their geological evolution through time. Current and past plate tectonic setting, major geological and geomorphologic provinces, geophysical aspects of North American lithosphere, and natural resources.
Prerequisite: GLY 2010 or 2026; 4400C recommended.

GLY 5245 Hydrogeochemistry 3 Credits
Grading Scheme: Letter Grade
Geological controls on chemical and isotopic composition of natural waters, including meteoric ground water, brines, and sea water; emphasizing thermodynamic and kinetic aspects of fluid-solid reactions.
Prerequisite: inorganic chemistry, calculus, or consent of instructor.

GLY 5246 Geochemistry 3 Credits
Grading Scheme: Letter Grade
The abundance and distribution of the elements and their behavior during various geological processes.
Prerequisite: CHM 2046, GLY 2010C.

GLY 5247 Surface and Ground Water Interactions 3 Credits
Grading Scheme: Letter Grade
Classic and new literature that deals with interactions between surface and ground water. Emphasizes submarine ground water discharge in estuary and coastal zones, hyporheic zones of streams, and karst aquifers.
Prerequisite: geology/hydroecology and undergraduate chemistry and physics.

GLY 5255 Organic Geochemistry and Geobiology 3 Credits
Grading Scheme: Letter Grade
Theory, practice, and methods of organic geochemistry, organic biogeochemistry, and geomicrobiology.
Prerequisite: one year introductory chemistry, one year introductory geology.

GLY 5328 Advanced Igneous Petrology 3 Credits
Grading Scheme: Letter Grade
Compositional variability, phase relations, and petrogenetic history of igneous rocks, volcanic regions, and mantle. Theories of petrotectonic associations and magmagenesis.
Prerequisite: GLY 4310C or equivalent.

GLY 5455 Introduction to Geophysics and Tectonics 3 Credits
Grading Scheme: Letter Grade
Physics of the Earth. Study of gravity and magnetic fields, seismic waves, thermal history, orogenic belts, and plate tectonic theory.
Prerequisite: GLY 2010C, 2026C, or 4400C and 1 year of college physics or consent of instructor.

GLY 5466 Seismology and Earth Structure 3 Credits
Grading Scheme: Letter Grade
Introduces basic theory of elastic wave propagation in the Earth. Applies seismology as a tool for determining Earth structure and explains relationships between earthquakes and plate tectonics.
Prerequisite: MAP 2302 or GLY 5455 or PHY 2048 or PHY 2060 or consent of instructor.

GLY 5468 Terrestrial Gravity and Magnetism 3 Credits
Grading Scheme: Letter Grade
Survey of potential field theory with applications to gravity and magnetism of the Earth.
Prerequisite: MAP 2302 or PHY 2060, and GLY 5455, or by consent of instructor.

GLY 5558C Sedimentology 3 Credits
Grading Scheme: Letter Grade
Lecture and discussion of major sedimentary processes active in coastal and continental margin settings, focus on relating processes with sedimentary facies. Class work augmented with frequent field trips.
Prerequisite: GLY 2010 or 2026; 4552.

GLY 5576 Continental Margin Stratigraphy 3 Credits
Grading Scheme: Letter Grade
Basic concepts of sequence stratigraphy and to illustrate their application in the study of tectonics, sediment supply, and sea-level change. Emphasizes exploration tools, such as advanced well logging techniques and seismic stratigraphy, used to relate lithology with stratigraphy.
Prerequisite: GLY4552 or equivalent

GLY 5705 Geomorphology 3 Credits
Grading Scheme: Letter Grade
Application of principles of geomorphology to origin and evolution of landscapes.
Prerequisite: GLY 4400C.

GLY 5736 Marine Geology 3 Credits
Grading Scheme: Letter Grade
Detailed introduction to the origin and evolution of ocean basins, ocean margins, and oceanic sediments and microfossils, including a paleoceanographic history of the marine realm.
Prerequisite: GLY 2010C, or 2026C, or OCE 1001.

GLY 5786L Topics in Field Geology 2 Credits
Grading Scheme: Letter Grade
Visits to selected sites and regions of outstanding geologic value and interest.
Prerequisite: graduate standing and consent of instructor.

GLY 5827 Ground Water Geology 3 Credits
Grading Scheme: Letter Grade
Principles of ground water geology, with special reference to the Coastal Plain and Florida.
Prerequisite: GLY 2010C, or 2026C.

GLY 6075 Global Climate Change: Past, Present, and Future 3 Credits
Grading Scheme: Letter Grade
Evolution of the Earth’s climate through geologic time, including discussion of modern climatology and methods of paleoclimate interpretations.
Prerequisite: GLY 4552C.
GLY 6256 Chemical Biomarkers in Aquatic Ecosystems 3 Credits
Grading Scheme: Letter Grade
Examines the origins, fates, and distribution of organic compounds in contemporary aquatic waters as well as in recent and ancient sediments.
Prerequisite: Introduction to Oceanography for undergraduates.

GLY 6297 Topics in Geochemistry 3 Credits, Max 6 Credits
Grading Scheme: Letter Grade
Applications of geochemical (elemental and isotopic) methods and data to tectonics and petrology.
Prerequisite: GLY 5246.

GLY 6425 Tectonics 3 Credits
Grading Scheme: Letter Grade
Evolution and formation of mid-ocean ridges, seamounts, hot spots, island arcs, back-arc basins, passive margins, and mountain chains.
Prerequisite: GLY 4400C.

GLY 6519 Stratigraphy and Timescales 3 Credits
Grading Scheme: Letter Grade
Methods in stratigraphy including biostratigraphy, chemostratigraphy, manetostratigraphy, and cyclostratigraphy and how these tools are integrated to generate geologic timescales in absolute time.
Prerequisite: consent of instructor, or undergraduate degree in geology.

GLY 6738 Estuarine Systems 3 Credits
Grading Scheme: Letter Grade
Examines estuarine ecosystems around the world, with particular emphasis on the impact of global change on these highly productive systems.

GLY 6826 Hydrogeologic Modeling 3 Credits
Grading Scheme: Letter Grade
Application of computer modeling to hydrogeologic problems through use of analytical and numerical solutions.

GLY 6862 Quantitative Methods in Earth Sciences 3 Credits
Grading Scheme: Letter Grade
Providing graduate students with a solid introduction to the quantitative methods that are increasingly utilized in the Earth sciences.
Prerequisite: College level Calculus and Physics, or permission of instructor.

GLY 6905 Individual Work 1-4 Credits, Max 12 Credits
Grading Scheme: Letter Grade
For work beyond that offered in regular courses.

GLY 6931 Seminar 1 Credit, Max 2 Credits
Grading Scheme: Letter Grade
Reading in special topics.

GLY 6932 Special Topics in Geology 1-3 Credits, Max 9 Credits
Grading Scheme: Letter Grade
Lectures, conferences, or laboratory sessions covering selected topics of current interest in modern geology.

GLY 6971 Research for Master's Thesis 1-15 Credits
Grading Scheme: S/U
Research for Master's Thesis

GLY 7979 Advanced Research 1-12 Credits
Grading Scheme: S/U
Research for doctoral students before admission to candidacy. Designed for students with a master's degree in the field of study or for students who have been accepted for a doctoral program. Not appropriate for students who have been admitted to candidacy.

GLY 7980 Research for Doctoral Dissertation 1-15 Credits
Grading Scheme: S/U
Research for Doctoral Dissertation

PCB 5307C Limnology 4 Credits
Grading Scheme: Letter Grade
Biological, chemical, and physical dynamics of inland waters.
Prerequisite: PCB 4044C, CHM 2046.