

Department of Earth and Environment
Bachelor of Science in Geosciences- Geological Sciences Major- Fall 2022

Lower Division Requirements (38 credits)

Course	Description	Pre-requisites	Term offered	Units
ISC 1056	First Yr Sem in Earth and Env.	N/A	f,s	1

Choose one of the following

Course	Description	Pre-requisites	Term offered	Units
ESC 1000 & Lab	Intro to Earth Science & Lab	N/A	f, s, ss	3,1
*GLY 1010 & Lab	Physical Geology & Lab	N/A	f, s, ss	3,1
GLY 3039 & Lab	Environmental Geology & Lab	N/A	f,s	3,1

**GLY 1010: Physical Geology is strongly recommended for the Geological Sciences Major*

Complete the following courses

Course	Description	Pre-requisites	Term offered	Units
CHM 1045 & Lab	General Chem I & Lab	MAC1105 or MAC1114 or MAC1140 or MAC1147 or CHM1025 or an appropriate Math placement	f, s, ss	3,1
CHM 1046 & Lab	General Chem II & Lab	CHM1045+L	f, s, ss	3,1
MAC 2311	Calculus I	MAC1147 or MAC1140 and MAC1114 or appropriate Math placement	f, s, ss	4
MAC 2312	Calculus II	MAC2311	f, s, ss	4

Choose one of the following lecture and lab combinations

Course	Description	Pre-requisites	Term offered	Units
PHY 2048 & PHY 2048L	Physics with Calc I & General Physics Lab I	MAC2311	f, s, ss	4,1
PHY 2053 & PHY 2048L	Physics without Calc I & General Physics Lab I	N/A	f, s, ss	4,1

Choose one of the following lecture and lab combinations

Course	Description	Pre-requisites	Term offered	Units
PHY 2049 & PHY 2049L	Physics with Calc II & General Physics Lab II	PHY2048 and MAC2312	f, s, ss	4,1
PHY 2054 & PHY 2049L	Physics without Calc II & General Physics Lab II	Prerequisites: PHY2053 or PHY2048	f, s, ss	4,1

**PHY 2048L and PHY 2049L no longer require the lecture as a pre/corequisite; however, PHY 2048L remains a prerequisite for PHY 2049L.*

Choose one of the following lecture and lab combinations

Course	Description	Pre-requisites	Term offered	Units
BSC 2011 &L	General Biology II and Lab	N/A	f, s, ss	3,1
GLY 1101 &L	History of Life & Lab	N/A	f, s, ss	3,1

Upper Division Program (38 credits minimum)

Geosciences Essentials (13 credits)

Course	Description	Pre-requisites	Term offered	Units
GLY 3112	Earth Through Time	N/A	s	3
GLY 4822	Intro to Hydrogeology	(PHY2048 or PHY2053), CHM1045, MAC2311	s	3
MET 3003	General Meteorology	PHY2048 or PHY2053	f	3
OCP 3002	Physical Oceanography	CHM1045 and (PHY2048 or PHY2053)	f,@ MMC s@ BBC	3
ISC 4935	Senior Seminar in Earth and Environmental Science	Must be in final year of study Permission of Instructor Required	f, s	1

Geological Sciences Major (25 credits)

1. Complete all courses (with labs as necessary) from List 1 (16 credits)
2. Choose one field experience course from List 2 (3 credits minimum and may be substituted with a 3 or more-credit course from another institution)
3. Choose an additional 6 credits or more from Lists 2 or 3

List 1: Major Specific Courses (16 credits)

Course	Description	Pre-requisites	Term offered	Units
GLY 3202&L	Earth Materials and Lab	ESC1000 or GLY 1010 and CHM 1045	f	4
GLY 4300&L	Petrology and Lab	GLY 3202	s	4
GLY 4400&L	Structural Geology and Lab	ESC 1000 or GLY 1010 or GLY 3039 and MAC 1114 or MAC 1147	f-e	4
GLY 4511&L	Stratigraphy and Lab	GLY 3202	f	4

List 2: Field Experience Courses (3 credits minimum)

Course	Description	Pre-requisites	Term offered	Units
GLY 3782	Geology Field Excursion	ESC 1000 or GLY 1010 or GLY 3039	s-even years	3
GLY 3881	Environmental Geology Field Methods	ESC1000 or GLY 1010 or GLY 3039	s-odd years	3
GLY 4791	Field Geology and Geologic Mapping	GLY 4511&L and GLY 4400&L	Not offered	3

List 3: Geo-elective Courses. Choose an additional 6 credits or more from Lists 2 or 3

Course	Description	Pre-requisites	Term offered	Units
EVR 4592	Soils and Ecosystems	BSC 2010 and CHM 1045 or permission	s	3
GIS 3043	Introduction to GIS	None	f,s,ss	4
GIS 4119	Building Geodatabases	GIS 3043 or equiv	f, even yrs	3
GIS 4303	Geospatial Measurement Techniques	none	S, even yrs	3
GIS 4390	Advanced Spatial Analysis	GIS 3043 or equiv	S, even yrs	3
GLY 3034	Natural Disasters	N/A	f, s	3
GLY 3754	Remote Sensing in the Earth Sciences	ESC 1000 or GLY 1010 or GLY 3039	s	3
GLY 4450	Environmental and Exp Geophysics	MAC 2312 and PHY 2049 or PHY 2054	S, odd years	3
GLY 4660	Paleoecology	N/A	f	3
GLY 4730	Marine Geology	Intro	See advisor	
GLY 4734	Changing Coastlines (GL)	N/A	s	3
GLY 4812	Introduction to Ore Deposits	Pre-requisites: GLY 1010 & L or GLY 3039 & L	See advisor	3
GLY 4881	Coastal Hazards (GL)	N/A	f	3
GLY 4947	Internship in Geoscience	Permission from instructor	f,s,ss	1-6
ISC 4940	Undergraduate Research Internship in Earth and Environment	Permission of instructor	f,s,ss	1-6
MET 3103	Planetary Climate Change	N/A	s	3
MET 3502&L	Synoptic Meteorology and Lab	MET 3003	s	4
MET 4102	Physical Climatology	PHY 2054 or PHY 2049	f	3
MET 4304	Introduction to Boundary Layer Meteorology	Pre-requisites: PHY 2048 and PHY 2049	See advisor	3
MET 4352	Hurricanes	Prerequisite: Permission of the instructor is required	f	3
MET 4420	Physical Meteorology	PHY 2048, PHY 2049, MET 3003	s	3
MET 4301	Dynamic Meteorology	PHY 2048	f	3
MET 4750	Technique in Earth System Modeling	MET 3003, MAC 2311, MAC 2312	S, even years	3

Any other unused course listed in the upper division requirements of the Atmosphere Sciences or Geoinformatics majors may also be used for Geo-electives List 3. Other courses approved by the Program Director may also be used in this list.

f: Fall term; s: Spring term; ss: Summer term; -e or -o: Taught in alternate even or odd years.

Note: scheduled semesters are subject to change.

Other Requirements for graduation:

- Minimum 120 credits, FIU GPA 2.0 or higher
- Maximum of 60 lower division credits may be transferred from another institution. 30 Maximum number of upper-division credits applied toward the bachelor's degree.
- UCC requirements (See PDA and Academic Advisor for more information on how to complete requirements)
- Civics Literacy Requirement: The Civic Literacy requirement is a statewide mandate that applies to undergraduate students initially entering a Florida State University System (SUS) and/or Florida College System (FCS) institution in the 2018-19 academic year and thereafter.
- University Foreign Language Requirement (FLENT/FLEX): State-mandated foreign language requirement
- Summer Enrollment: Students transferring to FIU with less than 60 credits are required to earn at least 9 credits during one or more summer terms at FIU or any other university in the State University System of Florida. Courses may be completed in person or online.
- College of Arts, Sciences & Education minimum 45 upper division credits requirement

Academic Advising: You should meet with your advisor at least once a semester. To make an appointment with your advisor, log into MyFIU and navigate to the "Academic Advising" tile, then select "Success Network."

Success Markers: The Earth & Environment Department has identified important courses in the major that indicate you are on track for successful degree completion. In cases where students are not making good progress, a change of major may be required.

30 credits-

- Complete ISC 1056 with a C or better
- Complete 1 course from this list with a C or better: MAC 1114, MAC 1140, MAC 1147, MAC 2311, MAC 2281
- Complete 2 courses from this list with a C or better: ESC 1000, ESC 1000L, GLY 1010, GLY 1010L, GLY 3039, GLY 3039L

45 credits-

- Complete MAC 2311 or MAC 2281 with a C or better
- Complete CHM 1045 and CHM 1045L with a C or better
- Complete 2 courses from this list with a C or better: GLY 1101, GLY 1101L, BSC 2011, BSC 2011L

60 credits-

- Complete MAC 2312 or MAC 2281 with a C or better by 60 credits
- Complete CHM 1046 and CHM 1046L with a C or better by 60 credits
- Complete 2 courses from this list with a C or better by 60 credits: PHY 2048, PHY 2053, PHY 2048L