

Department of Earth and Environment
Bachelor of Science in Geosciences- Atmospheric 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

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	Prerequisites: MAC1147 or MAC1140 and MAC1114 or appropriate Math placement	f, s, ss	4
MAC 2312	Calculus II	MAC2311	f, s, ss	4
MAC 2313	Multivariable Calculus	MAC1147 or MAC1140 and MAC1114 or appropriate Math placement	f, s, ss	4
MAP 2302	Differential Equations	MAC 2312	f, s, ss	3

Complete the following

Course	Description	Pre-requisites	Term offered	Units
PHY 2048 & PHY 2048L	Physics with Calc I & General Physics Lab I	Prerequisite or Corequisite: MAC2311	f, s, ss	4,1
PHY 2049 & PHY 2049L	Physics with Calc II & General Physics Lab II	Prerequisites: PHY2048, Prerequisite or Corequisite: MAC2312	f, s, ss	4,1

PHY2048/2049: Physics with Calculus sequence strongly recommended for students in the Atmospheric Sciences Major instead of PHY 2053/2054

Upper Division Program (38 credits minimum)

Geosciences Essentials (12 credits)

Course	Description	Pre-requisites	Term offered	Units
GLY 3112	Earth Through Time	N/A	s	3
GLY 4822	Intro to Hydrogeology	Prerequisites: (PHY2048 or PHY2053), CHM1045, MAC2311	s	3
MET 3003	General Meteorology	Prerequisites: PHY2048 or PHY2053	f	3
OCP 3002	Physical Oceanography	Prerequisites: CHM1045 and (PHY2048 or PHY2053)	s@ BBC f@MMC	3
ISC 4935	Senior Seminar in Earth and Env Sci	In final year, permission of advisor	f, s	1

Atmospheric Major Specific Courses (25 credits)

- Complete all courses (with labs as necessary) from List 1 (16 credits)
- Choose one course from List 2 (3 credits)
- Choose one course from List 3 (2 or 3 credits)
- Choose one or more additional classes from Lists 2-4 to meet the total credits required.

List 1: Major Specific Courses (16 credits)

Course	Description	Pre-requisites	Term offered	Units
MET 3502 & L	Synoptic Meteorology and Lab	MET 3003	s	4
MET 4102	Physical Climatology	PHY 2054 or PHY 2049	f	3
MET 4420	Physical Meteorology	PHY 2048, PHY 2049, MET 3003	s	3
MET 4301	Dynamic Meteorology	PHY 2048	f	3
MET 4302	Dynamic Meteorology	PHY 2048, PHY 2049, MET 4301	s	3

List 2: Remote Sensing and Instrumentation Courses (3 credits)

Course	Description	Pre-requisites	Term offered	Units
MET 4400	Instruments & Observations	PHY 2048 & MET 3003	s-o	3
MET 4410	Remote Sens in Meteorology	PHY 2048 & PHY 2049	f-o	3

List 3: Additional Weather Forecasting Courses (2-3 credits)

Course	Description	Pre-requisites	Term offered	Units
MET 4300	Severe Weather	MET 3003	f-e	3
MET 4521	Advanced Forecasting	MET 3502 & MET 3502L	s	2
MET 4520L * MET 4520L must be taken twice to fulfill this requirement	Practical Forecasting	MET 3502 or permission of the instructor	s with special request	1

List 4: Geo-Elective Courses. Choose one or more additional classes from Lists 2-4 to meet the total credits required.

Course	Description	Pre-requisites	Term offered	Units
GIS 3043	Introduction to GIS	None	f,s,ss	4
GIS 4119	Building Geodatabases	GIS 3043 or equiv	f, even years	3
GIS 4303	Geospatial Measurement Techniques	none	S, even years	3
GIS 4390	Advanced Spatial Analysis	GIS 3043 or equiv	S, even years	3
GLY 3034	Natural Disasters	None	f, s	3
GLY 3202&L	Earth Materials and Lab	ESC1000 or GLY1010 or GLY3039 and CHM 1045	f	4
GLY 3754	Remote Sensing in the Earth Sciences	ESC 1000 or GLY 1010 or GLY 3039	s	3
GLY 3782	Geology Field Excursion	ESC1000 or GLY1010 or GLY3039	s, even years	3
GLY 3881	Environmental Geology Field Methods	ESC1000 or GLY1010 or GLY3039	s, odd years	3
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	4
GLY 4511&L	Stratigraphy and Lab	GLY 3202	s	4
GLY 4450	Environmental and Exp Geophysics	MAC 2312 and PHY 2049 or PHY 2054	S, odd years	3
GLY 4734	Changing Coastlines GL	N/A	S	3
GLY 4881	Coastal Hazards GL	N/A	f	3
ISC 4940	Undergrad Research Internship in E&E	Permission of Instructor	f,s,ss	0-6
MET 4304	Intro to Boundary Layer Meteorology	PHY 2048 & PHY 2049	See advisor	3
MET 4532	Hurricanes	Permission of Instructor	f	3
MET 4750	Technique in Earth System Modeling	MET 3003, MAC 2311, MAC 2312	S, even years	3
MET 4941	Internship in Meteorology	Permission of Instructor	f,s,ss	0-3

Any other unused course listed in the upper division requirements of the Geological Sciences or Geoinformatics majors may also be used for Geo electives List 4. 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)
- University Global Learning Requirement (2 courses. See goglobal.fiu.edu and Academic Advisor for options on how to complete this requirement)
- 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