FLORIDA ATLANTIC UNIVERSITY

NEW/CHANGE PROGRAM REQUEST
Undergraduate Programs

UUPC Approval 2/24/25
UFS Approval _____
Banner _____
Catalog _____

Department GEOSCIENCES

College SCIENCE

Program Name	☐ **New Program***	**Effective Date** *(TERM & YEAR)*
BS Geosciences Climate Change Concentration	☑ **Change Program***	FALL 2025

Please explain the requested change(s) and offer rationale below or on an attachment.

1. Remove GLY 2010C "Physical Geology/Evolution of the Earth" as an option from the Science Core (leaving students the option of ESC 2000 of GEO 2200C)
2. Add PHY 2048 General Physics I and PHY 2048L General Physics I Lab to the Science Core
3. Remove EVR 1110 Climate Change: The Human Dimensions from the Concentration Core (partially offsetting the additonal physics credits).
4. Add GIS 4102C Programming in GIS as an elective (this is necessary to accommodate its addition as a prerequisite for MET 4142 Climate Data Applications).
5. Remove GIS 4115C Spatial Data Analysis as an elective (to avoid making the concentration too GIS heavy, and therefore redundant with the Geography concentration).
6. Amend the name of MET 2010 to "Weather and Climate"
7. Replace the existing explanatory language with the following: "In addition to the Geosciences core courses noted above (11 credits), students selecting the Climate Change Concentration are required to complete a Science core (14-15 credits), the Climate Change Concentration core (27 credits), and Geosciences and Interdisciplinary electives (21 credits) as noted below. The stipulated limit of 6 credits of GEO 4905/4915 DIS/DIR may be waived with the approval of a Geosciences Department advisor. The B.S. in Geosciences with a Climate Change Concentration requires a total of 73-74 credits."

The amendments listed above will enhance the BS Geosciences Climate Change Concentration, by adding additional rigor to the degree. It also provides reasonable limits on how much of the degree can be substituted with DIS/DIR credits without specific approval of the department.

*All new programs and changes to existing programs must be accompanied by a catalog entry showing the new or proposed changes.

Faculty Contact/Email/Phone	**Consult and list departments that may be affected by the change(s) and attach documentation**
James Gammack-Clark, jgammack@fau.edu, 561-297-0314	Department of Physics

Approved by	***Date***
Department Chair	11/22/24
College Curriculum Chair	02/13/25
College Dean	02/13/25
UUPC Chair Korey Sorge	2/24/25
Undergraduate Studies Dean Dan Meeroff	2/24/25
UFS President	
Provost	

Email this form and attachments to mjenning@fau.edu seven business days before the UUPC meeting.

FLORIDA ATLANTIC UNIVERSITY

NEW/CHANGE PROGRAM REQUEST
Undergraduate Programs

Department GEOSCIENCES

College SCIENCE

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Program Name
BS Geosciences Geography Concentration

☐ **New Program***

☑ **Change Program***

Effective Date
(TERM & YEAR)
FALL 2025

Please explain the requested change(s) and offer rationale below or on an attachment.

1. Remove ESC 2000 "The Blue Planet" as an elective
2. Remove GLY 2010C "Physical Geology/Evolution of the Earth" as an elective
3. Remove GLY 2100 "History of Earth and Life" as an elective
4. Add GEO 4905/4915 DIS/DIR (1-6 credits) to the the listed electives
5. Amend the name of MET 2010 to "Weather and Climate"
6. Replace the existing explanatory language with the following: "In addition to the Geosciences core courses noted above, students selecting the Geography Concentration are required to complete a Science core (7 credits), the Geography Concentration core (24 credits), and Geosciences electives (30 credits) as noted below. The stipulated limit of 6 credits of GEO 4905/4915 DIS/DIR may be waived with the approval of a Geosciences Department advisor. The B.S. in Geosciences with a Geography Concentration requires a total of 72 credits."

The amendments listed above will enhance the BS Geosciences Geography Concentration, by redirecting students towards upper division courses in their chosen discipline. It also provides reasonable limits on how much of the degree can be substituted with DIS/DIR credits without specific approval of the department.

*All new programs and changes to existing programs must be accompanied by a catalog entry showing the new or proposed changes.

Faculty Contact/Email/Phone
James Gammack-Clark, jgammack@fau.edu, 561-297-0314

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Department GEOSCIENCES

College SCIENCE

Program Name
BS Geosciences Geology Concentration

☐ **New Program***

☑ **Change Program***

Effective Date
(TERM & YEAR)
FALL 2025

Please explain the requested change(s) and offer rationale below or on an attachment.

1. Add GLY 4351C Ancient Carbonate Platforms as an elective
2. Add GLY 4905/4915 DIS/DIR (3 credits) to the the listed electives
3. Replace the existing explanatory language with the following: "In addition to the Geosciences core courses noted above (11 credits), students selecting the Geology Concentration are required to complete a Science core (17 credits), the Geology Concentration core (34 credits), and Geosciences electives (12-13 credits) as noted below. The stipulated limit of 3 credits of GLY 4905/4915 DIS/DIR may be waived with the approval of a Geosciences Department advisor. The B.S. in Geosciences with a Geology Concentration requires a total of 74-75 credits."

The amendments listed above will enhance the BS Geosciences Geology Concentration, by providing students with additional options among their Geology electives.

*All new programs and changes to existing programs must be accompanied by a catalog entry showing the new or proposed changes.

Faculty Contact/Email/Phone
James Gammack-Clark, jgammack@fau.edu, 561-297-0314

Consult and list departments that may be affected by the change(s) and attach documentation

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Department Chair	11/22/24
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GEOSCIENCES
BACHELOR OF SCIENCE (B.S.)

Climate Change Concentration
Geography Concentration
Geology Concentration

(Minimum of 120 credits required)

The Geosciences core courses below (11 credits) are required of all students for the B.S. in Geosciences. Students then choose one of three concentrations: Climate Change, Geography or Geology. The Geography concentration is available in person or fully online. The other concentrations are available in person only.

Prerequisite Coursework for Transfer Students
Students transferring to Florida Atlantic University must complete both lower-division requirements (including the requirements of the General Education Program) and requirements for the college and major. Lower-division requirements may be completed through the A.A. degree from any Florida public college, university or community college or through equivalent coursework at another regionally accredited institution. Before transferring and to ensure timely progress toward the baccalaureate degree, students must also complete the prerequisite courses for their major as outlined in the *Transition Guides* .

All courses not approved by the Florida Statewide Course Numbering System that will be used to satisfy requirements will be evaluated individually on the basis of content and will require a catalog course description and a copy of the syllabus for assessment.

Geosciences Core Courses (required of all students)		
Introductory Statistics	STA 2023	3
General Chemistry 1 and Lab	CHM 2045, 2045L	4

Introduction to Mapping and GIS	GIS 3015C	3
Geosciences Honors Colloquium	GEO 4920	1
Core Total		**11**

Climate Change Concentration

In addition to the Geosciences core courses noted above (11 credits), students selecting the Climate Change Concentration are required to complete a Science core (~~9-11~~ 14-15 credits), the Climate Change Concentration core (~~30~~ 27credits), and Geosciences and Interdisciplinary electives (21 credits) as noted below. The stipulated limit of 6 credits of GEO 4905/4915 DIS/DIR may be waived with the approval of a Geosciences Department advisor. The B.S. in Geosciences with a Climate Change Concentration requires a total of 73-74 credits. ~~Total credits for the B.S. in Geosciences with a Climate Change Concentration are 71-73 credits.~~

Science Core Courses		
Biological Principles and Lab	BSC 1010/1010L	4 **or**
Biodiversity and Lab	BSC 1011/1011L	4 **or**
Life Science and Life Science Lab or RI: Life Science Lab	BSC 1005/1005L	3
The Blue Planet	ESC 2000	3 **or**
Introduction to Physical Geography	GEO 2200C	3 ~~**or**~~
~~Physical Geology / Evolution of the Earth~~	~~GLY 2010C~~	~~4~~
Methods of Calculus	MAC 2233	3
General Physics 1and Lab	PHY 2048/2048L	5
Science Core Total		~~**9 – 11**~~ **14–15**

Climate Change Concentration Core Courses		
Environmental Issues in Atmospheric and Earth Science	ESC 3704	3
~~Climate Change: The Human Dimensions~~	~~EVR 1110~~	~~3~~

Climate Change: Myths, Realities and Solutions	EVR 3114	3
Hazards, Climate and People	EVR 4112	3
Quantitative Methods	GEO 4022	3
Remote Sensing of the Environment	GIS 4035C	3
Principles of Geographic Information Systems	GIS 4043C	3
~~Weather, Climate and Climate Change~~ Weather and Climate	MET 2010	3
Atmospheric Hazards	MET 3052	3
Tropical Climatology	MET 3112	3
Core Total		~~**30**~~ **27**

Geosciences and Interdisciplinary Electives ***Choose 21 credits from the courses below.***		
Conservation Biology	BSC 3052	3
Climate Change Biology: Ecosystems to Human Health	BSC 4307	3
Microeconomic Principles	ECO 2023	3
Environmental Economics	ECP 4302	3
Environmental Science and Engineering	ENV 3001C	3
RI: Human-Environmental Interactions in South Florida	GEA 4275	3
Sea-Level Rise: Impacts and Responses	GEO 3342	3
~~Spatial Data Analysis~~	~~GIS 4115C~~	~~3~~
Programming in GIS	GIS 4102C	3
Water Resources	GEO 4280C	3
Biogeography	GEO 4300	3
Directed Independent Study	GEO 4905	3
Directed Independent Research in Geosciences	GEO 4915	~~1-6~~ 3
Mobile GIS and Drone Technology	GIS 4140C	3
Coastal and Marine Science	GLY 3730	3

Environmental Geochemistry	GLY 4241	3
Hydrogeology	GLY 4822	3
~~Directed Independent Study~~	~~GLY 4905~~	~~1-3~~
Comparative Environmental Politics	INR 4054	3
Global Environmental Politics and Policies	INR 4350	3
Climate Data Applications	MET 4142	3
Disaster and Emergency Management	PAD 4393	3
Principles of Ecology	PCB 4043	3
Sociology of Climate and Disaster	SYP 4464	3
RI: Sustainable Cities	URP 4403	3
Environmental Planning Methods	URP 4420	3
Planning for Hazards/Disasters	URP 4430	3
Geosciences and Interdisciplinary Electives Total		**21**

Geography Concentration

In addition to the Geosciences core courses noted above, students selecting the Geography Concentration are required to complete a Science core (7 credits), the Geography Concentration core (24 credits), and Geosciences electives (30~~-31~~ credits) as noted below. The stipulated limit of 6 credits of GEO 4905/4915 DIS/DIR may be waived with the approval of a Geosciences Department advisor. The B.S. in Geosciences with a Geography Concentration requires a total of 72 credits. ~~Total credits for the B.S. in Geosciences with a Geography Concentration are 72-73 credits.~~

Science Core Courses		
Biological Principles and Lab	BSC 1010/1010L	4 **or**
Biodiversity and Lab	BSC 1011/1011L	4
Methods of Calculus	MAC 2233	3
Science Core Total		**7**

Geography Concentration Core Courses		
World Geography	GEA 2000	3
Introduction to Physical Geography	GEO 2200C	3
~~Weather, Climate and Climate Change~~ Weather and Climate	MET 2010	3
Quantitative Methods	GEO 4022	3
Principles of GIS	GIS 4043C	3
Remote Sensing of the Environment	GIS 4035C	3
RI: Human-Environmental Interactions in South Florida	GEA 4275	3
Biogeography	GEO 4300	3
Core Total		**24**

Geosciences Electives		
Choose 30-~~31~~ credits from the courses below.		
~~The Blue Planet~~	~~ESC 2000~~	~~3~~
~~Physical Geology/Evolution of the Earth~~	~~GLY 2010C~~	~~4~~
~~History of the Earth and Life~~	~~GLY 2100~~	~~3~~
Environmental Issues in Atmospheric and Earth Science	ESC 3704	3
Climate Change: Myths, Realities and Solutions	EVR 3114	3
Introduction to Coastal Freshwater Resources	EVR 4322	3
Hazards, Climate and People	EVR 4112	3
Water Resources	GEO 4280C	3
Tourism and Commercial Recreation	GEO 4542	3
Urban Geography	GEO 4602	3
Transportation and Spatial Organization	GEO 4700	3
Directed Independent Study	GEO 4905	3
Directed Independent Research	GEO 4915	3

Applications in GIS	GIS 4048C	3
Photogrammetry and Aerial Photograph Interpretation	GIS 4021C	3
Digital Image Analysis	GIS 4037C	3
Web GIS	GIS 4054C	3
Programming in GIS	GIS 4102C	3
Geospatial Databases	GIS 4118	3
Geovisualization and GIS	GIS 4138C	3
Mobile GIS and Drone Technology	GIS 4140C	3
Spatial Data Analysis	GIS 4115C	3
Coastal and Marine Science	GLY 3730	3
Geomorphology	GLY 4700C	3
Hydrogeology	GLY 4822	3
Atmospheric Hazards	MET 3052	3
Tropical Climatology	MET 3112	3
Climate Data Applications	MET 4142	3
Geosciences Electives Total		**30~~-31~~**

Geology Concentration

In addition to the Geosciences core courses noted above (11 credits), students selecting the Geology Concentration are required to complete a Science core (~~15-16~~ 17 credits), the Geology Concentration core (~~38~~ 34 credits), and Geosciences electives (~~9~~ 12 – 13 credits) as noted below. The stipulated limit of 3 credits of GLY 4905/4915 DIS/DIR may be waived with the approval of a Geosciences Department advisor. The B.S. in Geosciences with a Geology Concentration requires a total of 74-75 credits. ~~Total credits for the B.S. in Geosciences with a Geology Concentration are 73-74 credits.~~

Science Core Courses		
General Physics 1	PHY 2048	4
General Physics 1 Lab	PHY 2048L	1

General Physics 2	PHY 2049	4
Calculus with Analytic Geometry 1	MAC 2311	4
Calculus with Analytic Geometry 2	MAC 2312	4
Science Core Total		**17**

Geology Concentration Core Course		
Physical Geology/Evolution of the Earth	GLY 2010C	4
History of the Earth and Life	GLY 2100	3
Mineralogy and Petrology	GLY 4310C	4
Structural Geology	GLY 4400C	4
Solid Earth Geophysics	GLY 4451	3
Stratigraphy and Sedimentation	GLY 4500C	4
Geology Field Methods	GLY 4750C	3
Field Camp	GLY 4790	6
Hydrogeology	GLY 4822	3
Core Total		**34**

Geosciences Electives ***Choose ~~four courses~~ 12 to 13 credits from the list below~~, only one of which may have a GIS prefix~~.***		
Introduction to Coastal Freshwater Resources	EVR 4453	3
Remote Sensing of the Environment **OR**	GIS 4035C	3
Principles of GIS	GIS 4043C	3
Geology of Florida	GLY 4155C	4
Paleontology	GLY 3603C	3
Coastal and Marine Science	GLY 3730	3
Environmental Geochemistry	GLY 4241	3

Ancient Carbonate Platforms	GLY 4351C	3
Geomorphology	GLY 4700C	3
Groundwater Numerical Modeling	GLY 4832C	3
Directed Independent Study **OR**	GLY 4905	3
Directed Independent Research in Geosciences	GLY 4915	3
Geosciences Electives Total		**12 - 13**