

# **EARTH SCIENCE 2021-2022**

Department of Geography 206 Morris Hall, (507) 389-2617

https://sbs.mnsu.edu/academics/earth-science/

The Earth Science program emphasizes study in Earth Systems Science - an interdisciplinary field of study that focuses on our planet's connected natural systems of the atmosphere, biosphere, cryosphere, geosphere, hydrosphere, pedosphere, and our place in the cosmos. Thus, courses in Anthropology, Astronomy, Biology, Chemistry, Geography, Geology, and Physics are included to explore the chemical, physical and biological processes operating at and near Earth's surface. Earth Science students are well prepared for the workforce or graduate study because of the interdisciplinary breadth and depth of study, through hands-on training in the field, laboratory, and classroom, and with focus on contemporary issues that impact people and the environment - like climate change, natural resource management, and natural hazards.

Admission requirements are: (1) A minimum of 32 earned semester credit hours. (2) A minimum cumulative GPA of 2.0 ("C"). Contact the department for application procedures.

#### **EARTH SCIENCE, BS**

Require	d for ma	jor (Core, 28 credits)					
AST	101	Introduction to Astronomy	(3)	GEOG	416W	Fluvial Geomorphology	
BIOL	100	Our Natural World	(4)			and Hydrology	(4)
CHEM	201	General Chemistry I	(5)	GEOG	417	Quaternary Environments	
GEOG	101	Introductory Physical	(-)			and Climatic Change	(4)
GLOG	101	Geography	(4)	GEOG	420	Conservation of Natural	
GEOG	217	Weather				Resources	(3)
			(4)	GEOG	440	Field Studies	(1-4)
GEOL	121	Physical Geology	(4)	GEOG	471	Digital Field Mapping with	
PHYS	211	Principles of Physics I	(4)			GPS	(4)
				GEOG	474	Introduction to Remote	(4)
•		e for Major (21 Credits)		CEOC	400	Sensing	(4)
(Choose	21 credi	ts from the following)		GEOG	480	Seminar	(1-4)
ANTH	210	Introduction to Archaeology	(4)	GEOG	497	Internship	(1-10)
ANTH	331	Environmental Anthropology	/ (3)	GEOL	122	Earth History	(4)
ANTH	417	Quaternary Environments		GEOL	201	Elements of Mineralogy	(4)
		and Climatic Change	(4)	GEOL	302	Petrology	(4)
ANTH	418	Agricultural Systems and		GEOL	320W	Sedimentology and	
		Environmental Change	(4)			Stratigraphy	(4)
AST	125	Observational Astronomy	(3)	GEOL	330	Structural Geology	(4)
BIOL	402	Stream Ecology	(4)	GEOL	410	Glacial Geology	(3)
BIOL	404	Wetlands	(4)	GEOL	430	Petroleum and Ore Deposit	
BIOL	410	Global Change Biology	(3)			Geology	(3)
BIOL	412	Soil Ecology	(4)	GEOL	449	Applied Soil Science and	
BIOL	432	Lake Ecology	(4)			Surface Hydrology	(4)
GEOG	313	Natural Disasters	(4)	GEOL	450	Hydrogeology	(3)
GEOG	315	Geomorphology	(3)	GEOL	497	Internship	(1-10)
GEOG	373	Introduction to Geography					
		Information Systems	(4)				
GEOG	410	Climatic Environments	(3)				
GEOG	411	Soils Geomorphology	(4)				
GEOG	412	Advanced Weather	(4)				
GEOG	414	Biogeography	(3)	Geomo	rphology :	and Earth Surface Processes	
GEOG	415	Earth Surface Processes	(4)	Certificate information is located on back side.			

# **Geomorphology and Earth Surface Processes**

## **Certificate (18-20 credits)**

### **Required for Certificate**

GEOG	315	Geomorphology	(3)
or GEOG and	415	Earth Surface Processes	(4)
GEOG or	410	Climatic Environments	(3)
GEOG	417	Quaternary Environments And Climatic Change	(4)

### **Required Elective**

(Choose one from the following)					
GEOG	411	Soils Geomorphology	(4)		
GEOG	416W	Fluvial Geomorphology and			
		Hydrology	(4)		

#### **Unrestricted Electives**

(Choose at least six credits from the following):

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ANTH	331	<b>Environmental Anthropology</b>	(3)		
GEOG	411	Soils Geomorphology	(4)		
GEOG	416W	Fluvial Geomorphology and			
		Hydrology	(4)		
GEOG	417	Quaternary Environments			
		and Climatic Change	(4)		
GEOG	440	(Approval Required)	(3-4)		
GEOL	201	Elements of Mineralogy	(4)		
GEOL	320W	Sedimentology and			
		Stratigraphy	(4)		
GEOL	410	Glacial Geology	(3)		

The information listed comes from the University Catalog, for any discrepancies refer to the Catalog.