

EARTH, WATER, AND CLIMATE SCIENCE B.S.

Bachelor of Science - Earth, Water, and Climate Science

General Education Requirements

Information regarding these requirements can be found in the General Education Section (<http://catalog.umd.edu/academics/general-education-requirements/>) of the catalog.

Summary

Code	Title	Hours
Lower-Division Core		13
Upper-Division Core		6
Upper-Division Electives		18-24
Upper-Division Experiential Learning		3
Cognate Sciences		24-26
Total Hours		64-72

Degree Specific Credits: 64-72

Required Cumulative GPA: 2.0

Note: This degree is designed for students who seek post-graduate employment as a professional geoscientist or preparation for graduate study in Geosciences.

Lower-Division Core

Code	Title	Hours
Complete one of the following courses:		4
ERTH 101N & ERTH 103N	Earth Systems Science and Earth Systems Science Lab	
GEO 103N & GEO 104N	Introduction to Environmental Geology and Introduction to Environmental Geology Laboratory	
GEO 107N & GEO 104N	Natural Disasters and Introduction to Environmental Geology Laboratory	
Complete all of the following courses:		
ERTH 194	Getting to Know Earth, Water, and Climate Science	1
GEO 201	Geologic Evolution of North America	4
GEO 202	The Water Planet	4
Total Hours		13

Minimum Required Grade: C-

Upper-Division Core

Code	Title	Hours
Complete all of the following courses:		
GEO 323	Computational Methods for Earth and Environmental Scientists	3

GEO 428	Field Methods: Earth, Water, and Climate Science	3
Total Hours		6

Minimum Required Grade: C-

Upper-Division Electives

Rule: Complete two courses from each of the following three categories. At least one course from each category must be a GEO course.

Earth Science

Code	Title	Hours
Complete two of the following courses:		6-8
GEO 302	Mineralogy and Optical Mineralogy	
GEO 305	Igneous & Metamorph Petrology	
GEO 309	Sedimentation/Stratigraphy	
GEO 321	Earth Resources and Sustainability	
GEO 327	Geochemistry	
GEO 433	Global Tectonics	
GEO 439	Geophysics	
GEO 443	Principles of Sedimentary Petrology	
Total Hours		6-8

Minimum Required Grade: C-

Water Science

Code	Title	Hours
Complete two of the following courses:		6-8
GEO 320	Global Water	
GEO 420	Hydrogeology	
GEO 421	Hydrology	
GEO 460	Process Geomorphology	
NRSM 385	Watershed Hydrology	
Total Hours		6-8

Minimum Required Grade: C-

Climate Science

Code	Title	Hours
Complete 3 credits of the following courses:		3
ERTH 303N	Weather and Climate	
GEO 318	Earth's Changing Climate	
GEO 322	Energy and the Environment	
GEO 488	Snow, Ice and Climate Change	
NRSM 408	Global Cycles and Climate	
Total Hours		3

Minimum Required Grade: C-

Upper-Division Experiential Learning

Rule: Complete 3 credits of experiential learning. Course substitutions must be approved by the department.

Code	Title	Hours	Minimum Required Grade: C-
Complete 3 credits of the following courses:		3	
GEO 316	Getting Started in Research		
GEO 392	Independent Study		
GEO 409	Careers in Geosciences		
GEO 498	Internship		
GEO 499	Senior Thesis /Capstone		
Total Hours		3	

Minimum Required Grade: C-

Cognate Sciences

Rule: The following cognate courses are required. Course substitutions must be approved by the department.

Physics

Code	Title	Hours
Complete one of the following sequences:		10
Algebra- and Trigonometry-based Physics:		
PHSX 205N & PHSX 206N	College Physics I and College Physics I Laboratory	
PHSX 207N & PHSX 208N	College Physics II and College Physics II Laboratory	
Calculus-based Physics:		
PHSX 215N & PHSX 216N	Fundamentals of Physics with Calculus I and Physics Laboratory I with Calculus	
PHSX 217N & PHSX 218N	Fundamentals of Physics with Calculus II and Physics Laboratory II with Calculus	

Minimum Required Grade: C-

Chemistry

Code	Title	Hours
Complete one of the following:		3-5
CHMY 121N	Introduction to General Chemistry	
CHMY 141N & CHMY 142N	College Chemistry I and College Chemistry I Lab	
Total Hours		3-5

Minimum Required Grade: C-

Mathematics and Statistics

Code	Title	Hours
Complete the following courses:		
M 171	Calculus I	4
M 172	Calculus II	4
or STAT 216	Introduction to Statistics	
Total Hours		8

Minimum Required Grade: C-

Computer Science

Code	Title	Hours
Complete the following course:		
CSCI 150	Introduction to Computer Science	3
Total Hours		3