EARTH AND ENVIRONMENTAL SCIENCE (B.S.)

120 credits of coursework is required for the baccalaureate degree with a minimum 2.0 overall GPA, and a minimum 2.0 major GPA.

Program Requirements Overview

Code	Title	Credits
General Education Requirements		35
World Languages and Cultures Requirements		3-9
Major Requirements		67-68
Free Electives		15-8
Total Credits		**120**

Major Requirements

Code	Title	Credits
Major Requirements		
EAES 105	Physical Geology	4
EAES 220	Mineralogy	4
EAES 240	Earth System History	4
EAES 302	Structural Geology	3
EAES 320	Igneous Metamorphic Petrology	4
EAES 342	Invertebrate Paleobiology	4
EAES 441	Stratigraphy	4
EAES 404	Field Geology	6
Math Collateral		
Select two of the following courses:		7-8
AMAT 120	Applied Calculus A	
or MATH 121	Calculus I	
AMAT 220	Applied Calculus B	
or MATH 221	Calculus II	
MATH 111	Applied Precalculus	
STAT 230	Data Science and Statistics	
Physics Collateral		
Select one of the following sequences:		8
PHYS 191 & PHYS 192	University Physics I and University Physics II	
PHYS 193 & PHYS 194	College Physics I and College Physics II	
Chemistry Collateral		
CHEM 120	General Chemistry I	4
CHEM 121	General Chemistry II	4
Major Electives		
Select 11 credits from the list below:		11
Total Credits		**67-68**

Major Electives

Code	Title	Credits
EAES 200	Geomorphology	3
EAES 201	Understanding Weather and Climate	4
EAES 204	Geology Field Trip	1
EAES 210	Introduction to GIS and Remote Sensing	3
EAES 230	Hydrology	3
EAES 250	Introduction to Marine Sciences	4
EAES 301	Climatology	3
EAES 310	Geographic Information Systems (GIS)	3
EAES 311	Fundamentals of Remote Sensing of Environment	3
EAES 321	Economic Geology	3
EAES 322	Environmental Geochemistry	3
EAES 330	Fluvial Geography	3
EAES 331	Geohydrology	3
EAES 332	Hydroclimatology	3
EAES 340	Sedimentology	4
EAES 341	Principles of Soil Science	3
EAES 350	Oceanography	3
EAES 361	Environmental Policy	3
EAES 403	Meteorology	4
EAES 451	Coastal Marine Geology	4
EAES 455	Field Methods in Oceanography	2
EAES 460	Environmental Law	3
EAES 494	Independent Study in Geoscience	1-4
EAES 499	Special Topics in Earth and Environmental Studies	1-4
PHYS 280	Astronomy for Physicists	4

General Education Requirements

Click here for a list of courses that fulfill General Education categories. (http://catalog.montclair.edu/programs/general-education-requirements-ba-bs/)

Code	Title	Credits
A. New Student Seminar		
Complete a 1 credit New Student Seminar course.		1
C. Communication		
1. Writing		*3*
2. Literature		*3*
3. Communication		*3*
D. Fine and Performing Arts		
Complete a 3 credit Fine and Performing Arts course.		3
F. Humanities		
1. Great Works and Their Influences		*3*
2. Philosophical and Religious Perspectives		*3*
G. Computer Science		
Complete a 3 credit Computer Science course.		3
H. Mathematics		
Fulfilled by collateral mathematics courses in the major.		
I. Natural Science Laboratory		
EAES 105	Physical Geology (Fulfilled in the major.)	
J. Physical Education		
Complete a 1 credit Physical Education course.		1
K. Social Science		
1. American and European History		*3*
2. Global Cultural Perspectives		*3*
3. Social Science Perspectives		*3*
L. Interdisciplinary Studies		

Complete a 3 credit Interdisciplinary Studies course.	3
Total Credits	**35**

World Languages and Cultures Requirements

Click here for a list of courses that fulfill World Languages and Cultures categories. (http://catalog.montclair.edu/programs/world-languages-and-cultures-requirements/)

Code	Title	Credits
World Languages		
Based on language placement exam, complete one or two sequential courses in the same language. **Requirement is automatically fulfilled by language major courses.**		3-6
World Cultures		
Requirement may be fulfilled by course selected in General Education - Social Science: Global Cultural Perspectives. Requirement may also be fulfilled by major coursework. See list of courses.		0-3
Total Credits		**3-9**

Recommended Roadmap to Degree Completion

This recommended four-year plan is provided as an outline for students to follow in order to complete their degree requirements within four years. This plan is a recommendation and students should only use it in consultation with their academic advisor.

First Year

Fall	Credits	Spring	Credits
GENERAL EDUCATION: (A) New Student Seminar	1	GENERAL EDUCATION: (C2) Literature	3
GENERAL EDUCATION (C1) Writing	3	GENERAL EDUCATION (G) Computer Science	3
GENERAL EDUCATION: (D) Fine and Performing Arts	3	GENERAL EDUCATION: (J) Physical Education	1
EAES 105	4	EAES 240	4
Collateral Math/ Applied Math/ Statistics course.	4	Collateral Math/ Applied Math/ Statistics course.	4
	15		**15**

Second Year

Fall	Credits	Spring	Credits
GENERAL EDUCATION: (C3) Communication	3	World Language 2	3
World Language 1	3	CHEM 121	4
CHEM 120	4	EAES 320	4
EAES 220	4	Major Elective	4
	14		**15**

Third Year

Fall	Credits	Spring	Credits	Summer	Credits
GENERAL EDUCATION: (K1) Social Science – American and European History	3	GENERAL EDUCATION: (F1) Humanities – Great Works and Their Influences	3	EAES 404	6
EAES 302	3	EAES 441	4		
EAES 342	4	Major Elective	3		
PHYS 191 or 193	4	PHYS 192 or 193	4		
	14		**14**		**6**

Fourth Year

Fall	Credits	Spring	Credits
GENERAL EDUCATION: (K2) Social Science – Global Cultural Perspectives	3	GENERAL EDUCATION: (F2) Humanities – Philosophical and Religious Perspectives	3
GENERAL EDUCATION (L) Interdisciplii Studies	3	GENERAL EDUCATION (K3) Social Science – Social Science Perspective	3
World Cultures	3	Free Elective	3
Major Elective	4	Free Elective	3
Free Elective	2		
	15		**12**

Total Credits 120