

# EARTH AND ENVIRONMENTAL SCIENCE (B.S.) (COMBINED B.S./M.A.T. TEACHING WITH TEACHER CERTIFICATION IN EARTH SCIENCE (PRESCHOOL-GRADE 12) AND TEACHER OF STUDENTS WITH DISABILITIES)

A Combined Degree program enables undergraduate students to enroll in graduate courses in their senior year, which can be counted towards the completion of both their Bachelor's and Master's degree requirements.

The ability to take these "swing courses" allows students to earn both their Bachelor's and Master's degrees in a shortened period of time, typically within five years of intensive study. Undergraduate students interested in this option can find more information regarding program requirements on the University's Combined Programs website (<https://www.montclair.edu/combined-programs/programs-of-study/>).

The Combined Degree with Dual Certification program is a 5-year program that leads to teacher certification in Earth Science (grades P-12), teacher certification in Teacher of Students with Disabilities, a baccalaureate degree and a master's degree. Interested students must apply to and be admitted to the Teacher Education Program as an undergraduate. Students must successfully complete the undergraduate portion of the program in order to be admitted to the Graduate School and complete the one-year master's portion of the program.

Please visit the Teacher Education Program website (<https://www.montclair.edu/cehs/academics/centers-and-institutes/cop/teacher/>) for the required undergraduate professional sequence of courses, overall course outline, and other important Program requirements, guidelines, and procedures. Students also are strongly advised to review the Teacher Education Program Handbook.

120 credits of coursework is required for the baccalaureate degree with a minimum 3.0 overall GPA. Major GPA requirements differ depending on field of study. Consult the Teacher Education Program Handbook for more information.

## Program Requirements Overview

Code	Title	Credits
	General Education Requirements	19
	World Languages and Cultures Requirements	3-6
	Major Requirements	59-62
	Teacher Education Program Requirements	36
	Free Electives	3-0
<b>Total Credits</b>		<b>120-123</b>

## Major Requirements

Requirements for the graduate portion of this combined program can be found here (<http://catalog.montclair.edu/programs/teaching-certification-earth-science-preschool-grade-12-students-disabilities-combined-ba-mat/>).

Code	Title	Credits
<b>Required Courses</b>		
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 441	Stratigraphy	4
<b>Collateral Chemistry Courses</b>		
Complete one of the following sequences:		7-8
CHEM 100 & EAES 322	Introductory Chemistry and Environmental Geochemistry	
CHEM 120 & CHEM 121	General Chemistry I and General Chemistry II	
<b>Collateral Math Courses</b>		
Complete two courses from the following:		8
AMAT 120 or MATH 122	Applied Calculus A or Calculus I	
AMAT 220 or MATH 221	Applied Calculus B or Calculus II	
MATH 111	Applied Precalculus	
STAT 230	Data Science and Statistics	
<b>Collateral Physics Courses</b>		
Select one of the following sequences:		7-8
PHYS 191 & PHYS 192	University Physics I and University Physics II	
PHYS 193 & PHYS 194	College Physics I and College Physics II	
<b>Collateral Biology Course</b>		
BIOL 112 or BIOL 113	Principles of Biology I or Principles of Biology II	4
<b>Major Electives</b>		
Select one course each in Meteorology, Astronomy and Oceanography for a total of 10-11 credits from the list below.		10-11
<b>Total Credits</b>		<b>59-62</b>
<b>Major Electives</b>		
Code	Title	Credits
<i>Meteorology</i>		
EAES 201	Understanding Weather and Climate	4
EAES 301	Climatology	3
EAES 403	Meteorology	4
<i>Astronomy</i>		
PHYS 180	Astronomy for Everyone	4
PHYS 280	Astronomy for Physicists	4
<i>Oceanography</i>		
EAES 150	General Oceanography	3
EAES 250	Introduction to Marine Sciences	4
EAES 350	Oceanography	3

## Teacher Education Program Requirements for Combined Degree Programs with P-12 Subject Area and Teacher of Students with Disabilities Certification

Code	Title	Credits
<b>Teacher Education Prerequisites</b>		
EDFD 200	Psychological Foundations of Education	3
or PSYC 200	Educational Psychology	
or FSHD 216	Adolescent Development	
SASE 210	Public Purposes of Education: Democracy and Schooling	3
<b>Undergraduate Professional Sequence I</b>		
SASE 320	Curriculum Design for Inclusive Classrooms	3
SASE 321	Assessment Practices for Inclusive Classrooms	3
SPED 279	Foundation and Philosophy of Inclusive Education	3
<b>Undergraduate Professional Sequence II</b>		
SASE 322	Language and Learning in Content Area Teaching	3
SPED 469	Inclusive Methods for Middle and Secondary Schools	3
<b>Undergraduate Professional Sequence III</b>		
SPED 483	Advanced Inclusive Methods for Middle and Secondary Schools	3
SPED 488	Promoting Prosocial Behaviors in Inclusive Settings	3
<b>Graduate Sequence</b>		
SPED 566	Creating Curricular Access for Adolescents with Disabilities <sup>1</sup>	3
SPED 586	Educational Planning for Adolescents with Disabilities <sup>1</sup>	3
SPED 690	Action Research in Inclusive Settings <sup>1</sup>	3
<b>Total Credits</b>		<b>36</b>

<sup>1</sup> Courses will also count toward graduate portion of this program.

## General Education Requirements

Click here for a list of courses that fulfill General Education categories. (<http://catalog.montclair.edu/undergraduate-graduate-degree-requirements/general-ed-ba-bs/>)

Code	Title	Credits
<b>A. New Student Seminar</b>		
	Complete a 1 credit New Student Seminar course.	1
<b>C. Communication</b>		
	1. Writing	3
	2. Literature	3
	Complete one course from D. Fine and Performing Arts or F1. Great Works and Their Influences or F2. Philosophical and Religious Perspectives.	3
<b>G. Computer Science</b>		
	Complete a 3 credit Computer Science course.	3
<b>H. Mathematics</b>		
	Fulfilled by collateral mathematics courses in the major.	0
<b>I. Natural Science Laboratory</b>		

EAES 105	Physical Geology (Fulfilled in the major.)	
<b>K. Social Science</b>		
	1. Complete one course from K1. American and European History or K3. Social Science.	3
	2. Global Cultural Perspectives	3
<b>L. Interdisciplinary Studies</b>		
SASE 210	Public Purposes of Education: Democracy and Schooling (Fulfilled in the Teacher Education sequence.)	
<b>Total Credits</b>		<b>19</b>

## World Languages and Cultures Requirements

Click here for a list of courses that fulfill World Languages requirement. (<http://catalog.montclair.edu/undergraduate-graduate-degree-requirements/world-languages-cultures-requirement/>)

Code	Title	Credits
<b>World Languages</b>		
	Based on placement exam complete one or two sequential courses in 3-6 the same language.	
<b>Total Credits</b>		<b>3-6</b>

## Recommended Roadmap to Degree(s)

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

Fifth year courses are taken at the graduate level, after matriculation into the graduate portion of this combined degree program.