

# CHEMISTRY (B.S.)(COMBINED B.S./M.A.T. TEACHING WITH TEACHER CERTIFICATION IN CHEMISTRY (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 Chemistry (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 (<http://www.montclair.edu/cehs/academics/cop/teacher/>) website 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	25
	World Languages and Cultures Requirements	3-6
	Major Requirements	50
	Teacher Education Program Requirements	36
	Free Electives	6-3
	<b>Total Credits</b>	<b>120</b>

## Major Requirements

Requirements for the graduate portion of this combined program can be found here. (<http://catalog.montclair.edu/programs/teaching-certification-p12-students-disabilities-combined-bx-mat/>)

Code	Title	Credits
<b>Required Chemistry Courses</b>		
CHEM 120	General Chemistry I	4
CHEM 121	General Chemistry II	4
CHEM 230	Organic Chemistry I	3
CHEM 231	Organic Chemistry II	3
CHEM 232	Experimental Organic Chemistry I	2
CHEM 233	Experimental Organic Chemistry II	2
CHEM 310	Analytical Chemistry	5
CHEM 311	Instrumental Analysis	4
CHEM 340	Physical Chemistry I	3
CHEM 370	Biochemistry I	3
CHEM 495	The Chemical Literature	1
<b>Math Collaterals</b>		
AMAT 120	Applied Calculus A	4
	or MATH 122 Calculus I	
AMAT 220	Applied Calculus B	4
	or MATH 221 Calculus II	
<b>Physics Collaterals</b>		
PHYS 191	University Physics I	4
PHYS 192	University Physics II	4
<b>Total Credits</b>		<b>50</b>

## Teacher Education Program Requirements

Teacher Education Program Requirements for Combined Degree Programs with Subject Area P-12 and Teacher of Students with Disabilities Certifications (<http://catalog.montclair.edu/programs/combined-bx-mat-teacher-education-program-requirements-p12-tds/>)

## 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
<b>A. New Student Seminar</b>		
CHEM 190	Freshman Seminar in Chemistry	1
<b>C. Communication</b>		
	1. Writing	3
	2. Literature	3
	3. Communication	3
<b>D. Fine and Performing Arts</b>		
	Complete a 3 credit Fine and Performing Arts course.	3
<b>F. Humanities</b>		
	Complete one course from 1. Great Works and Their Influences or 2. Philosophical and Religious Perspectives	3
<b>G. Computer Science</b>		
	Complete a 3 credit Computer Science course.	3
<b>H. Mathematics</b>		
	Fulfilled in the major.	

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AMAT 120 Applied Calculus A  
or MATH 122 Calculus I

**I. Natural Science Laboratory**

CHEM 120 General Chemistry I (Fulfilled in the major.)

**K. Social Science**

1. *American and European History* 3

2. *Global Cultural Perspectives* 3

3. *Social Science Perspectives*

EDFD 200 Psychological Foundations of Education (Fulfilled in the Teacher Education sequence.)

**L. Interdisciplinary Studies**

SASE 210 Public Purposes of Education: Democracy and Schooling (Fulfilled in the Teacher Education sequence.)

**Total Credits** 25

## 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
<b>World Languages</b>		
Based on placement exam, complete one or two sequential courses in a single language.		3-6
<b>Total Credits</b>		<b>3-6</b>

**World Languages**

## 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.

Course	Title	Credits
<b>First Year</b>		
<b>Fall</b>		
GENERAL EDUCATION: (A) New Student Seminar		1
GENERAL EDUCATION: (C1) Writing		3
<b>Credits</b>		<b>4</b>
<b>Spring</b>		
GENERAL EDUCATION: (C2) Literature		3
GENERAL EDUCATION: (C3) Communication		3
<b>Credits</b>		<b>6</b>
<b>Third Year</b>		
<b>Fall</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>Credits</b>		<b>9</b>
<b>Spring</b>		
SASE 322	Language and Learning in Content Area Teaching	3
SPED 469	Inclusive Methods for Middle and Secondary Schools	3
<b>Credits</b>		<b>6</b>

**First Year**

**Fall**

**Spring**

**Third Year**

**Fall**

**Spring**

**Fourth Year**

**Fall**

SPED 483	Advanced Inclusive Methods for Middle and Secondary Schools	3
SPED 488	Promoting Prosocial Behaviors in Inclusive Settings	3
<b>Credits</b>		<b>6</b>

**Spring**

SPED 566	Creating Curricular Access for Adolescents with Disabilities	3
SPED 586	Educational Planning for Adolescents with Disabilities	3
SPED 690	Action Research in Inclusive Settings	3
<b>Credits</b>		<b>9</b>
<b>Total Credits</b>		<b>40</b>

Course	Title	Credits
<b>Fifth Year</b>		
<b>Fall</b>		
SASE 526	Seminar in Inclusive Pedagogies	3
SASE 527	Clinical Practice I	3
SPED 584	Assessment in Special Education and Classroom Practice	3
Teaching Methods Course		3-4
<b>Credits</b>		<b>12-13</b>
<b>Spring</b>		
SASE 529	Clinical Practice II	6
SASE 543	Advanced Seminar in Inclusive Pedagogies	3
<b>Credits</b>		<b>9</b>
<b>Total Credits</b>		<b>21-22</b>

**Fifth Year**

**Fall**

**Spring**