

# CHEMISTRY (M.S.)

For details about this program, including program description, admission requirements, and contact information, click here (<https://www.montclair.edu/graduate/programs-of-study/chemistry-ms/>).

## Program Requirements

Code	Title	Credits
<b>Core Courses</b>		
CHEM 540	Advanced Physical Chemistry <sup>1</sup>	3
Select two of the following:		6
CHEM 520	Advanced Inorganic Chemistry <sup>1</sup>	
CHEM 530	Advanced Organic Chemistry <sup>1</sup>	
CHEM 560	Advanced Analytical Chemistry	
CHEM 570	Advanced Biochemistry	
<b>Research Options</b>		
Select one of the following options:		3-9
<i>Graduate Literature Search Option</i>		
CHEM 598	Graduate Literature Search (Complete two times for a total of 2 credits.)	
CHEM 599	Graduate Seminar	
<i>Thesis Option</i>		
CHEM 595	Graduate Research	
CHEM 698	Master's Thesis	
Submit the completed Thesis original and one copy to the Graduate Office. See Thesis Guidelines for details.		
<b>Culminating Experience</b>		
Make a seminar presentation in conjunction with Research option. Graduate School must be notified when complete.		
<b>Electives</b>		
Complete 18 credits of electives if choosing the Graduate Literature Search option. Complete 12 credits of electives if choosing the Thesis option. See list below.		
<b>Total Credits</b>		<b>30</b>

<sup>1</sup> Students in the combined B.S. Chemistry/M.S. Chemistry program complete these courses as part of the undergraduate major.

## Electives

Code	Title	Credits
CHEM 510	Hazardous Materials Management	3
CHEM 520	Advanced Inorganic Chemistry	3
CHEM 525	Bioinorganic Chemistry	3
CHEM 530	Advanced Organic Chemistry	3
CHEM 532	Organic Synthesis	3
CHEM 534	Separation and Analysis	3
CHEM 538	Drug Design in Medicinal Chemistry	3
CHEM 542	Quantum Chemistry and Spectroscopy	3
CHEM 544	Chemical Thermodynamics and Electrochemistry	3
CHEM 548	Chemical Kinetics	3
CHEM 560	Advanced Analytical Chemistry	3
CHEM 570	Advanced Biochemistry	3

CHEM 590	Special Topics in Advanced Chemistry	3
CHEM 595	Graduate Research	1-6

## Research and Thesis Option - 2 Year Roadmap

First Year			
Fall	Credits	Spring	Credits
Core Course		3 Core Course	3
Elective Course		3 Elective course	3
CHEM 595		2 CHEM 595	2
		<b>8</b>	<b>8</b>
Second Year			
Fall	Credits	Spring	Credits
Core Course		3 Elective Course	3
Elective Course		3 CHEM 698	3
CHEM 595		2 Culminating Experience	
		<b>8</b>	<b>6</b>

**Total Credits 30**

## Research and Thesis Option - 15 Month Roadmap

First Year			
Fall	Credits	Spring	Credits
Core Course (Complete in the Summer term)		3 Elective Course (Complete in the Winter term)	3
CHEM 595 (Complete in the Summer term)		2 Elective Course	3
Core Course		3 CHEM 595	2
Elective Course		3 Core Course	3
CHEM 595		2	
		<b>13</b>	<b>11</b>

Second Year			
		Summer	Credits
		Elective Course	3
		CHEM 698	3
		Culminating Experience	
			<b>6</b>

**Total Credits 30**

## Literature Search Option - 2 Year Roadmap

### First Year

Fall	Credits	Spring	Credits
Core Course		3 Core Course	3
Elective Course		3 Elective Course	3
Elective Course		3 Elective Course	3
		CHEM 598	1
	9		10

### Second Year

Fall	Credits	Spring	Credits
Core Course		3 Elective Course	3
Elective Course		3 CHEM 599	1
CHEM 598		1 Culminating Experience	
	7		4

Total Credits 30

## Literature Search Option - 15 Month Roadmap

### First Year

Fall	Credits	Spring	Credits
Elective Course (Complete in the Summer term)		3 Elective Course (Complete in the Winter term)	3
Core Course		3 CHEM 598 (Complete in the Winter term)	1
Elective Course		3 Core Course	3
Elective Course		3 Elective Course	3
		Elective Course	3
		CHEM 598	1
	12		14

### Second Year

	Summer	Credits
	Core Course	3
	CHEM 599	1
	Culminating Experience	
		4

Total Credits 30