CHEMISTRY - BIOCHEMISTRY CONCENTRATION (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-biochemistry-concentration-ms/).

Program Requirements

Code	Title	Credits
Core Courses		
CHEM 570	Advanced Biochemistry	3
Select two of the following:		6
CHEM 520	Advanced Inorganic Chemistry	
CHEM 530	Advanced Organic Chemistry	
CHEM 540	Advanced Physical Chemistry	
CHEM 560	Advanced Analytical Chemistry	
Research Options		
Select either the Graduate Literature Search Option or the Research & Thesis option:		3-9
Graduate Literature Search		
CHEM 598	Graduate Literature Search	
CHEM 599	Graduate Seminar	
Research & Thesis		
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.		
Culminating Experience		
Make a seminar presentation in conjunction with Research option. Graduate School must be notified when complete.		
Electives		
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.		18-12
Total Credits		**30**

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 534	Separation and Analysis	3
CHEM 538	Drug Design in Medicinal Chemistry	3
CHEM 540	Advanced Physical Chemistry	3
CHEM 560	Advanced Analytical Chemistry	3
CHEM 574	Protein Structure	3
CHEM 575	Enzyme Kinetics and Mechanisms	3
CHEM 577	Nucleic Acid Biochemistry	3
CHEM 578	Biochemistry Laboratory Techniques	3
CHEM 579	Biomolecular Assay Development	3
CHEM 582	Biochemical Pharmacology	3
CHEM 595	Graduate Research	1-6
Up to six credits may be taken from the following:		
BIOL 505	Experimental Cell Culture	3
BIOL 512	Special Topics in Modern Genetics	3
BIOL 547	Molecular Biology I	3
BIOL 548	Molecular Biology II	4
BIOL 594	Signal Transduction	3
BIOL 598	Selected Techniques in Molecular Biology	1.5

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
	8		**8**

Second Year

Fall	Credits	Spring	Credits
Core Course	3	Elective Course	3
Elective Course	3	CHEM 698	3
CHEM 595	2	Culminating Experience	
	8		**6**

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	Core Course	3
Core Course	3	Elective Course	3
Elective Course	3	CHEM 595	2
CHEM 595	2		
	13		**11**

Second Year

Summer	Credits
Elective Course	3
CHEM 698	3

		Culminating Experience	
			6

Total Credits 30

		Culminating Experience	
			4

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