

# CHEMISTRY WITH CONCENTRATION IN MEDICINAL CHEMISTRY AND DRUG DISCOVERY, B.S.

## Requirements

Requires 39.5-45.5 hours in chemistry and must include the following courses:

Code	Title	Hours
<b>Required Major Courses</b>		
CHM 111	College Chemistry I	3
CHM 111L	College Chemistry I Lab	1
CHM 122	Organic Chemistry I	3
or CHM 123	Organic Chemistry I Honors	
CHM 122L	Organic Chemistry I Lab	1
or CHM 123L	Organic Chemistry I Honors Lab	
CHM 223	Organic Chemistry II	3
CHM 223L	Organic Chemistry II Lab	1
CHM 280	College Chemistry II	3
CHM 280L	Theory and Methods of Quantitative Analysis Lab	1
CHM 324	Medicinal Chemistry I	3
CHM 324L	Medicinal Chemistry Laboratory	1.5
CHM 334	Chemical Analysis	4
CHM 334L	Chemical Analysis Lab	0
CHM 341	Physical Chemistry I	3
CHM 361	Inorganic Chemistry	3
CHM 361L	Inorganic Chemistry Lab	1
CHM 370	Biochemistry I: Macromolecules and Metabolism	3
CHM 370L	Biochemistry Lab	1
or CHM 371L	Advanced Biochemistry Lab	
CHM 381	Chemistry Seminar and Literature	0.5
CHM 395	Senior Capstone	0.5
Select one of the following Options:		0-3
Option 1:		
CHM 390	Chemical Research Experience	
Option 2:		
Select no fewer than 1.5 hours of the following:		
CHM 391	Undergraduate Research	
CHM 392	Undergraduate Research	
Select one of the Medicinal Chemistry electives:		
CHM 321	Intermediate Organic Chemistry	3
CHM 373	Biochemistry II	3
CHM 376	Biophysical Chemistry	3
BIO 265	Cellular and Molecular Biology	3
Select one of the following:		3
CHM 321	Intermediate Organic Chemistry *	
CHM 342	Physical Chemistry II	

CHM 351	Special Topics in Chemistry	
CHM 362	Nanochemistry in Energy and Medicine	
CHM 364	Materials Chemistry	
CHM 366	Chemistry and Physics of Solid State Materials	
CHM 373	Biochemistry II *	
CHM 376	Biophysical Chemistry *	
Any chemistry graduate class (POI)		
<b>Co-Requirements</b>		
BIO 150	Biology I	3
BIO 150L	Biology I Lab	1
MTH 112	Calculus with Analytic Geometry II	4
PHY 111	Mechanics Waves and Heat	4
or PHY 113	General Physics I	
or PHY 123	General Physics I - Studio Format	
PHY 114	General Physics II	4
or PHY 124	General Physics II - Studio Format	

\*  
Can only be used to fulfill this requirement if not also used to fill the medicinal chemistry elective requirement.

For the **B.S. major with concentration in medicinal chemistry and drug discovery**, the following schedule of chemistry and related courses is typical:

Code	Title	Hours
<b>First Year</b>		
CHM 111	College Chemistry I	3
CHM 111L	College Chemistry I Lab	1
CHM 122	Organic Chemistry I	3
or CHM 123	Organic Chemistry I Honors	
CHM 122L	Organic Chemistry I Lab	1
or CHM 123L	Organic Chemistry I Honors Lab	
MTH 111	Calculus with Analytic Geometry I	4
MTH 112	Calculus with Analytic Geometry II	4
<b>Sophomore</b>		
BIO 150	Biology I	3
BIO 150L	Biology I Lab	1
CHM 223	Organic Chemistry II	3
CHM 223L	Organic Chemistry II Lab	1
CHM 280	College Chemistry II	3
CHM 280L	Theory and Methods of Quantitative Analysis Lab	1
PHY 111	Mechanics Waves and Heat	4
or PHY 113	General Physics I	
or PHY 123	General Physics I - Studio Format	
PHY 114	General Physics II	4
or PHY 124	General Physics II - Studio Format	
<b>Junior</b>		
CHM 370	Biochemistry I: Macromolecules and Metabolism	3
CHM 370L	Biochemistry Lab	1
or CHM 371L	Advanced Biochemistry Lab	
CHM 381	Chemistry Seminar and Literature	0.5

**Junior or Senior**

CHM 334	Chemical Analysis	4
CHM 334L	Chemical Analysis Lab	0
CHM 341	Physical Chemistry I	3
CHM 391	Undergraduate Research	0-3
or CHM 392	Undergraduate Research	
or CHM 390	Chemical Research Experience	

**Medicinal Chemistry Elective****Senior**

CHM 324	Medicinal Chemistry I	3
CHM 324L	Medicinal Chemistry Laboratory	1.5
CHM 361	Inorganic Chemistry	3
CHM 361L	Inorganic Chemistry Lab	1
CHM 395	Senior Capstone	0.5

Upper-level CHM elective

## Honors

Qualified majors are considered for honors in chemistry. To be graduated with the designation "Honors in Chemistry," a student must have a minimum GPA in chemistry courses of 3.3 and a minimum overall GPA of 3.0. In addition, the honors candidate must satisfactorily complete an approved research project, prepare a paper describing the project, and present results at a seminar for departmental approval. Honors thesis research must be conducted on the Wake Forest University campus with a WFU Chemistry faculty member as research adviser or co-adviser. For additional information, members of the departmental faculty should be consulted.