

CHEMISTRY BACHELOR OF SCIENCE DEGREE

Code	Title	Credits
General Education Requirements (https://catalog.msubillings.edu/undergraduate/general-education-requirements)		31

Students should consult with an academic advisor before registering for General Education courses in order to minimize the number of courses needed to satisfy the requirements of the major.¹

Note: 7 credits will be filled with requirements below, leaving 24 credits needed in General Education.

Chemistry		
CHMY 141	College Chemistry I *	3
CHMY 142	College Chemistry I Lab *	1
CHMY 143	College Chemistry II	3
CHMY 144	College Chemistry II Lab	1
CHMY 311	Analytical Chem-Quant Analysis	3
CHMY 312	Analytical Chem Lab-Quant Anlsys	1
CHMY 321	Organic Chemistry I	3
CHMY 322	Organic Chemistry Lab I	1
CHMY 323	Organic Chemistry II	3
CHMY 324	Organic Chemistry Lab II	1
CHMY 361	Elements of Physical Chemistry	3
CHMY 362	Elements of Phys Chemistry Lab	1
CHMY 401	Advanced Inorganic Chemistry	3
CHMY 402	Advanced Inorganic Chem Lab	1
CHMY 411	Advanced Organic Chemistry	3
CHMY 412	Advanced Organic Chemistry Lab	1
CHMY 421	Advanced Instrument Analysis	3
CHMY 422	Adv Instrument Analysis Lab	2
CHMY 490	Undergraduate Research	2
CHMY 494	Seminar/Workshop	1
CHMY 498	Internship/Cooperative Educ	2
BCH 380	Biochemistry	3
BCH 381	Biochemistry Lab	1
BCH 480	Advanced Biochemistry I	3
BCH 481	Advanced Biochemistry I Lab	1
Subtotal		50
Mathematics		
STAT 216	Introduction to Statistics *	4
Select from the following:		8
M 171	Calculus I	
& M 172	and Calculus II *	
M 161	Survey of Calculus (Plus 5 credits of math electives) *	
Subtotal		12
Physics		
PHSX 220	Physics I	3
PHSX 221	Physics I Lab	1
PHSX 232	Physics II & Thermo	3
PHSX 233	Physics II & Thermo Lab	1
Subtotal		8
Science and Math electives selected with advisor approval		23

Electives	6
Electives should be chosen in consultation with an academic advisor.	
Total Minimum Credits	120

¹ The following General Education courses also satisfy requirements in the major: CHMY 141/CHMY 142, M 171, and STAT 216.

* May satisfy General Education requirements.

Certain courses in this program have prerequisites; students should check the course descriptions for required prerequisites.

Suggested Plan of Study Starting in the Fall of Even Year

Code	Title	Credits
First Year		
Fall		
CHMY 141 & CHMY 142	College Chemistry I and College Chemistry I Lab	4
BIOB 160 & BIOB 161	Principles of Living Systems and Principles Living Systems Lab	4
M 171	Calculus I	4
General Education		3
Total		15
Spring		
CHMY 143 & CHMY 144	College Chemistry II and College Chemistry II Lab	4
M 172	Calculus II	4
STAT 216	Introduction to Statistics	4
General Education		3
Total		15
Second Year		
Fall		
CHMY 321 & CHMY 322	Organic Chemistry I and Organic Chemistry Lab I	4
PHSX 220 & PHSX 221	Physics I and Physics I Lab	4
General Education		6
Electives		1
Total		15
Spring		
CHMY 323 & CHMY 324	Organic Chemistry II and Organic Chemistry Lab II	4
PHSX 232 & PHSX 233	Physics II & Thermo and Physics II & Thermo Lab	4
General Education		6
Electives		1
Total		15
Third Year		
Fall		
BCH 380 & BCH 381	Biochemistry and Biochemistry Lab	4
CHMY 311 & CHMY 312	Analytical Chem-Quant Analysis and Analytical Chem Lab-Quant Anlsys	4
CHMY 498	Internship/Cooperative Educ	1

Science/Math Electives		3
General Education		3
Total		15
Spring		
BCH 480 & BCH 481	Advanced Biochemistry I and Advanced Biochemistry I Lab	4
CHMY 421 & CHMY 422	Advanced Instrument Analysis and Adv Instrument Analysis Lab	5
Science/Math Electives		6
Total		15
Fourth Year		
Fall		
CHMY 411 & CHMY 412	Advanced Organic Chemistry and Advanced Organic Chemistry Lab	4
CHMY 490	Undergraduate Research	1
Science/Math Electives		10
Total		15
Spring		
CHMY 401 & CHMY 402	Advanced Inorganic Chemistry and Advanced Inorganic Chem Lab	4
CHMY 490	Undergraduate Research	1
CHMY 494	Seminar/Workshop	1
Science/Math Electives		8
Elective		1
Total		15

Starting in the Fall of Odd Year

Code	Title	Credits
First Year		
Fall		
CHMY 141 & CHMY 142	College Chemistry I and College Chemistry I Lab	4
BIOB 160 & BIOB 161	Principles of Living Systems and Principles Living Systems Lab	4
M 171	Calculus I	4
General Education		3
Total		15
Spring		
CHMY 143 & CHMY 144	College Chemistry II and College Chemistry II Lab	4
M 172	Calculus II	4
STAT 216	Introduction to Statistics	4
General Education		3
Total		15
Second Year		
Fall		
CHMY 321 & CHMY 322	Organic Chemistry I and Organic Chemistry Lab I	4
CHMY 311 & CHMY 312	Analytical Chem-Quant Analysis and Analytical Chem Lab-Quant Anlsys	4
PHSX 220 & PHSX 221	Physics I and Physics I Lab	4
General Education		3
Total		15

Spring		
CHMY 323 & CHMY 324	Organic Chemistry II and Organic Chemistry Lab II	4
PHSX 232 & PHSX 233	Physics II & Thermo and Physics II & Thermo Lab	4
General Education		6
Elective		1
Total		15
Third Year		
Fall		
CHMY 411 & CHMY 412	Advanced Organic Chemistry and Advanced Organic Chemistry Lab	4
CHMY 498	Internship/Cooperative Educ	1
General Education		6
Science Electives		4
Total		15
Spring		
CHMY 401 & CHMY 402	Advanced Inorganic Chemistry and Advanced Inorganic Chem Lab	4
Science/Math Electives		9
Elective		2
Total		15
Fourth Year		
Fall		
BCH 380 & BCH 381	Biochemistry and Biochemistry Lab	4
CHMY 490	Undergraduate Research	1
Science/Math Electives		10
Total		15
Spring		
BCH 480 & BCH 481	Advanced Biochemistry I and Advanced Biochemistry I Lab	4
CHMY 421 & CHMY 422	Advanced Instrument Analysis and Adv Instrument Analysis Lab	5
CHMY 490	Undergraduate Research	1
CHMY 494	Seminar/Workshop	1
Science/Math Electives		4
Total		15