CHEMISTRY B.S.

(American Chemical Society Certified)

The courses required for the B.S. degree provide a solid education in chemistry for the professional chemist and in preparation for graduate work in most areas of chemistry. These requirements meet the latest certification standards of the American Chemical Society.

General Degree Requirements

To earn a baccalaureate degree, all students must complete successfully, in addition to any other requirements, the University of Montana General Education Requirements. Please refer to the General Education Requirements page (https://catalog.umt.edu/academics/general-education-requirements/) for more information.

Additional requirements for graduation can be found on the Degree/Certificate Requirements for Graduation page (https://catalog.umt.edu/academics/graduation-requirements/).

Unless otherwise noted in individual program requirements, a minimum grade point average of 2.00 in all work attempted at the University of Montana-Missoula is required for graduation. Please see the Academic Policies and Procedures page (https://catalog.umt.edu/academics/policies-procedures/) for information on how your GPA is calculated.

Courses taken to satisfy the requirements of a major, minor, or certificate program must be completed with a grade of C- or better unless a higher grade is noted in the program requirements.

Bachelor of Science - Chemistry

Course Requirements

Code	Title	Hours
Lower-Division Core Courses		
Complete all of the following courses:		
CHMY 141N	College Chemistry I	4
CHMY 142N	College Chemistry I Lab	1
CHMY 143N	College Chemistry II	4
CHMY 144N	College Chemistry II Lab	1
CHMY 221	Organic Chemistry I	3
CHMY 222	Organic Chemistry I Lab	2
CHMY 223	Organic Chemistry II	3
CHMY 224	Organic Chemistry II Lab	2
CSCI 150	Introduction to Computer Science	3
M 171	Calculus I	4
M 172	Calculus II	4
PHSX 215N	Fundamentals of Physics with Calculus I	4
PHSX 216N	Physics Laboratory I with Calculus	1
PHSX 217N	Fundamentals of Physics with Calculus II	4
PHSX 218N	Physics Laboratory II with Calculus	1
Upper-Division Core Courses		
Complete all of the following courses:		
BCH 480	Advanced Biochemistry I	3
BCH 482	Advanced Biochemistry II	3
BCH 486	Biochemistry Research Lab	3
CHMY 311	Analytical Chemistry-Quantitative Analysis	4
CHMY 373	Physical Chemistry-Kinetics & Thermodynamics	4
CHMY 401	Advanced Inorganic Chemistry	3
CHMY 402	Advanced Inorganic Chemistry Lab	2
CHMY 421	Advanced Instrument Analysis	4
Advanced Electives [1]		
Complete 13 credits in the following courses:		13
CHMY 371	Physical Chemistry-Quantum Chemistry & Spectroscopy	
CHMY 397	Teaching Chemistry	
CHMY 411	Advanced Organic Chemistry	
CHMY 420	Chemoinformatics	
CHMY 465	Organic Spectroscopy	
CHMY 490	Undergraduate Research	
CHMY 491	Special Topics/Experimental Course	
CHMY 492	Independent Study	
CHMY 494	Seminar/Workshop	
CHMY 497	Teaching Laboratory Chemistry	
CHMY 498	Internship/Cooperative Education	
CHMY 499	Senior Thesis/capstone	
Writing in the Disciplines Requirement		
To complete thWriting in the Disciplines Requirement, Chemistry students take BCH 482 and BCH 486 or any other stand-alone advanced writing course.		
Total Hours		**80**

[1] Other upper division classes in Chemistry, Computer Science, Physics, Geosciences, Biochemistry, Biology, or Mathematics (including graduate level courses offered for undergraduate credit) may be used to meet the advanced electives requirement with approval of the Chemistry advisor. A maximum of 9 credits of CHMY courses number 490-499 may be applied toward degree requirements.

Four Year Plan

Course	Title	Hours
Freshman		
Autumn		
CHMY 141N & CHMY 142N	College Chemistry I and College Chemistry I Lab	5
BIOB 160 & BIOB 161N	Principles of Living Systems and Principles of Living Systems Lab	4
CSCI 150	Introduction to Computer Science	3
M 171	Calculus I	4
	Hours	**16**
Spring		
CHMY 143N & CHMY 144N	College Chemistry II and College Chemistry II Lab	5
M 172	Calculus II	4
WRIT 101	College Writing I	4
General Education Requirement		3
	Hours	**16**
Sophomore		
Autumn		
CHMY 221 & CHMY 222	Organic Chemistry I and Organic Chemistry I Lab	5
PHSX 215N & PHSX 216N	Fundamentals of Physics with Calculus I and Physics Laboratory I with Calculus	5

M 273	Multivariable Calculus	4
	Hours	**14**
Spring		
CHMY 223 & CHMY 224	Organic Chemistry II and Organic Chemistry II Lab	5
PHSX 217N & PHSX 218N	Fundamentals of Physics with Calculus II and Physics Laboratory II with Calculus	5
General Education Requirement		3
Intermediate Writing		3
	Hours	**16**
Junior		
Autumn		
CHMY 311	Analytical Chemistry-Quantitative Analysis	4
CHMY 373	Physical Chemistry-Kinetics & Thermodynamics	4
M 274	Introduction to Differential Equations	4
General Education Requirement		3
	Hours	**15**
Spring		
CHMY 421	Advanced Instrument Analysis	4
CHMY 371	Physical Chemistry-Quantum Chemistry & Spectroscopy	4
General Education Requirement		6
	Hours	**14**
Senior		
Autumn		
CHMY 401	Advanced Inorganic Chemistry	3
BCH 480	Advanced Biochemistry I	3
Advanced Elective		6
General Education Requirement		3
	Hours	**15**
Spring		
BCH 482	Advanced Biochemistry II	3
BCH 486	Biochemistry Research Lab	3
CHMY 402	Advanced Inorganic Chemistry Lab	2
Advanced Elective		4
General Education Requirement		3
	Hours	**15**
	Total Hours	**121**

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