



Four-Year Degree Plan: Bachelor of Science in Chemistry with ACS Concentration

Catalog Year: 2023-2024

COLLEGE OF
LETTERS,
ARTS AND
SCIENCES

This is a degree plan for completing a Bachelor of Science in Chemistry with ACS Concentration in eight semesters. This document is meant to be used as a guide for planning purposes only and is intended for use in consultation with a Professional Academic or Faculty advisor. **Students are responsible for consulting advisors and the [MSU Denver catalog](#) for degree requirements.**

Year One					
Semester 1			Semester 2		
Fall		Credits	Spring		Credits
CHE 1800	General Chemistry I*	4	CHE 1810	General Chemistry II	4
CHE 1801	General Chemistry I Lab	1	CHE 1811	General Chemistry II Lab	1
--	General Studies and electives	4	MTH 1410	Calculus I	4
ENG 1010	Composing Arguments	3	ENG 1020	Research and Argument Writing	3
--	Oral Communication	3	--	General Studies and Electives	3
Semester 1 Total		15	Semester 2 Total		15

Year Two					
Semester 3			Semester 4		
Fall		Credits	Spring		Credits
CHE 3000	Analytical Chemistry	3	CHE 3100	Organic Chemistry I	4
CHE 3010	Analytical Chemistry Lab	2	CHE 3120	Organic Chemistry I Lab	1
MTH 2410	Calculus II	4	MTH 2420	Calculus III	4
--	General Studies	3	--	General Studies	6
Semester 3 Total		12	Semester 4 Total		15

Year Three					
Semester 5			Semester 6		
Fall		Credits	Spring		Credits
CHE 3110	Organic Chemistry II	3	--	CHE Electives	2
CHE 3130	Organic Chemistry II Lab	2	--	General Studies	3
PHY 2311	General Physics I and	4	PHY 2331	General Physics II	4
PHY 2321	General Physics I Lab	1	PHY 2341	General Physics II Lab	1
	OR			OR	
PHY 2010	College Physics 1 and	4	PHY 2020	College Physics II and	4
PHY 2030	College Physics 1 Lab	1	PHY 2040	College Physics II Lab	1
--	CHE Electives	3	CHE 4100	Instrumental Analysis	3
CHE 3300	Inorganic Chemistry	3	CHE 4110	Instrumental Analysis Laboratory	2
Semester 5 Total		16	Semester 6 Total		15

Year Four					
Semester 7			Semester 8		
Fall		Credits	Spring		Credits
CHE 4450	Physical Chemistry : Quantum	4	CHE 4460	Physical Chemistry: Thermo	4
CHE 4480	Physical Chemistry: Quantum Lab	2	CHE 4490	Physical Chemistry: Thermo Lab	2
--	CHE Electives	4	--	CHE Senior Experience	3
--	General Studies	3	--	General Studies and Electives	6
CHE 4310	Biochemistry I	4			
Semester 7 Total		17	Semester 8 Total		15

Program Total: 120

* This program assumes math prerequisites have been met. Students must complete all courses with a grade of C- or better. This degree is an extended major and does not require a minor.

**MTH 1410 counts as a Quantitative Literacy General Studies course

**Physics courses count as Natural and Physical Sciences.

Advisor Contact Information: Kelsey Lumbar, klumbar@msudenver.edu, or visit [Department of Chemistry and Biochemistry Advising](#) or [CLAS Academic Advising](#)

Detailed Course Listing

Core Requirements		
CHE 1800	General Chemistry I	4
CHE 1801	General Chemistry I Laboratory	1
CHE 1810	General Chemistry II	4
CHE 1811	General Chemistry II Laboratory	1
CHE 3000	Analytical Chemistry	3
CHE 3010	Analytical Chemistry Laboratory	2
CHE 3100	Organic Chemistry I	4
CHE 3110	Organic Chemistry II	3
CHE 3120	Organic Chemistry I Laboratory	1
CHE 3130	Organic Chemistry II Laboratory	2
CHE 3300	Inorganic Chemistry	3
CHE 4100	Instrumental Analysis	3
CHE 4110	Instrumental Analysis Laboratory	2
CHE 4310	Biochemistry I	4
CHE 4450	Phys Che: Quant Mech & Spectro	4
CHE 4460	Phys Che: Thermo & Kinetics	4
CHE 4480	Phys Che Lab: Quant & Spectro	2
CHE 4490	Phys Che Lab: Thermo & Kinetics	2
Core Requirements Total		49

Electives, Ancillary, Additional Courses**		
MTH 1410	Calculus I	4
MTH 2410	Calculus II	4
MTH 2420	Calculus III	4
--	CHE senior experience course	3
Select one of the following Physics Lecture/Lab Sequence		
PHY 2010	College Physics I	4
PHY 2020	College Physics II	4
PHY 2030	College Physics I Laboratory	1
PHY 2040	College Physics II Laboratory	1
OR		
PHY 2311	General Physics I	4
PHY 2321	General Physics I Laboratory	1
PHY 2331	General Physics II	4
PHY 2341	General Physics II Laboratory	1
--	Chem upper-division electives	6
Elective, Ancillary and Additional Total		26

Program Totals

General Studies Requirements**	33
Core Requirements	49
Electives and Ancillary**	26
General Electives as Needed	12
Total to Graduate	120



Department of
Chemistry and Biochemistry
College of Letters, Arts and Sciences

Department of Chemistry and Biochemistry
303-615-0277 | che@msudenver.edu
Science, Room 3062 | Campus Box 52
Office Hours: 8:30 AM-4:30 PM