



Bachelor of Science

Major: Chemistry – ACS Certified

2024-2025 Sample 4-Year Plan

Total Degree Requirements: 120 credits

Student _____ Student ID# _____ Student Phone # _____
 Advisor _____ Minimum GPA 2.0 Minor/Career Interest(s) _____

Students are not limited to this plan; it is meant to be used as a guide for planning purposes in consultation with your advisor. The sample schedule is one possible path to completing your degree within four years. For official program requirements, please refer to the [Undergraduate Catalog](#).

FIRST YEAR

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 112/112L	General Chemistry I and Lab	p. MATH 114	4	F	
CHEM 119	First Year Seminar		1	F	
CHEM 180	Introduction to Laboratory Safety		1	F	
MATH 123	Calculus I	Based on Placement	4		
SGR #1	Written Communication	ENGL 101 Recommended	3		
SGR #4	Arts and Humanities (from two different disciplines or a sequence of a foreign language)	See list in catalog	3	F/S/Su	
Total Credit Hours			16		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 114/114L	General Chemistry II and Lab	p. CHEM 112/112L and MATH 114	4	S	
MATH 125	Calculus II	p. MATH 123	4		
SGR #2	Oral Communication	CMST 101 Recommended	3		
SGR #4	Arts and Humanities (from two different disciplines or a sequence of a foreign language)	See list in catalog	3	F/S/Su	
Total Credit Hours			14		

SECOND YEAR

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 237	Introduction to Research	p. CHEM 114/114L	1	F	
CHEM 326/326L	Organic Chemistry I and Lab	p. CHEM 114/114L	4	F	
CHEM 332/332L	Analytical Chemistry I and Lab	p. CHEM 114/114L	4	F	
PHYS 211/211L	University Physics I and Lab	p. MATH 123	5	F	
Total Credit Hours			14		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 328/328L	Organic Chemistry II and Lab	p. CHEM 326/326L	4	S	
CHEM 498	Research (need 4 credits total over a minimum of two semesters for graduation)	p. CHEM 237	1		
PHYS 213/213L	University Physics II and Lab	p. PHYS 211/211L and MATH 123	5	S	
SGR #1	Written Communication	ENGL 201 Recommended	3		
SGR #3	Social Sciences (from two different disciplines)	See list in catalog	3		
Total Credit Hours			16		

THIRD YEAR

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 464	Biochemistry I	p. CHEM 328/328L	3		
CHEM 498	Research (need 4 credits total over a minimum of two semesters for graduation)	p. CHEM 237	2		
MATH 225	Calculus III	p. MATH 125	4		
SGR #3	Social Science Elective (from two different disciplines)		3		
General Elective			3		
Total Credit Hours			15		



Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 343/343L	Fundamental of Chemical Thermodynamics and Lab	p. MATH 123 and CHEM 114/114L	3	S	
CHEM 466	Laboratory Methods - Biochemistry	p. CHEM 464	1	S	
CHEM 498	Research (need 4 credits total over a minimum of two semesters for graduation)	p. CHEM 237	1		
Advanced Chemistry Electives	choose from list		3		
General Electives			7		
Total Credit Hours			15		

FOURTH YEAR

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 452/452L	Inorganic Chemistry and Lab	p. CHEM 332/332L or CHEM 326/326L	4	F (even)	
Advanced Chemistry Elective	choose from list		3		
General Electives			8		
Total Credit Hours			15		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 490	Senior Seminar	p. CHEM 498	1	S	
Advanced Chemistry Elective	choose from list		3		
General Electives		Taken as needed to reach 120 credits and 33 upper division credits	11		
Total Credit Hours			15		

COMMENTS/NOTES

Students from all academic majors can pursue graduation with Fishback Honors College distinction. View the [Honors program requirements](#).

Advanced Chemistry Electives (9 credits required)

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 329	Organic Chemistry III	p. CHEM 328	2	S (even)	
CHEM 329L	Organic Chemistry Lab III	p. CHEM 328L	2	S (even)	
CHEM 432	Analytical Chemistry II	p. CHEM 332/332L	2	S (odd)	
CHEM 433	Bioanalytical Chemistry	p. CHEM 332/332L and CHEM 464	2	S (even)	
CHEM 448/448L	Biophysical Chemistry and Lab	p. MATH 125 and CHEM 464	4	F	
CHEM 465	Biochemistry II	p. CHEM 464	3	S	
CHEM 467	Essentials of Glycobiology	p. CHEM 464	3	S (even)	
CHEM 468	Chemical Biology	p. CHEM 464	3	S (odd)	
CHEM 482	Environmental Chemistry	p. CHEM 114/114L	3	F (odd)	
CHEM 484	Chemical Toxicology	p. CHEM 464	3	F (even)	
PHYS 331	Introduction to Modern Physics	p. PHYS 213	3	F	
PHYS 341	Thermodynamics	p. PHYS 213 and MATH 225	2	F	
PHYS 437	Foundations of Health Physics	p. PHYS 213 and MATH 123	3	S (even)	

As part of the Department of Chemistry, Biochemistry and Physics, students in this program must complete:

- a minimum of 33 upper division credits (300-400 level courses)
- a capstone course in the major (CHEM 490)

A grade of "C" or better is required in all courses required for the major.