



Bachelor of Science in Natural Science

Major: Chemistry

2019-2020 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 119	First Year Seminar		1	F	
CHEM 112/112L	General Chemistry I and Lab (SGR #6)	p. MATH 114 or higher	4	F, S, SU	
AHSS 111	Intro to Global Citizenship and Diversity		3	F, S	
ENGL 101	Composition I (SGR #1)	Based on Placement	3		
MATH 123	Calculus I (SGR #5)	Based on Placement	4		
Total Credit Hours			15		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 114/114L	Structure and Function of Organic Molecules (SGR #6)	p. CHEM 112	4	F, S, SU	
MATH 125	Calculus II (SGR #5)	p. MATH 123	4		
SPCM 101	Fundamentals of Speech (SGR #2)		3		
SGR #4	Arts and Humanities/Diversity	SGR #4 satisfied by coursework from 2 different disciplines or 2 courses from one modern language sequence	3		
Total Credit Hours			14		

Second Year

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 326/326L	Organic Chemistry I and Lab	p. CHEM 114/114L or 127/127L	4	F, SU	
CHEM 237	Intermediate Lab Investigations	c. CHEM 229/229L or CHEM 326/326L	1	F	
CHEM 332/332L	Analytical Chemistry I and Lab	p. CHEM 114 or CHEM 116 or CHEM 127	4	F	
ENGL 201	Composition II (SGR #1)	p. ENGL 101	3	F, S, SU	
SGR #4	Arts and Humanities/Diversity	SGR #4 satisfied by coursework from 2 different disciplines or 2 courses from one modern language sequence	3		
Total Credit Hours			15		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 328/328L	Organic Chemistry II and Lab	p. CHEM 326/326L	4	S, SU	
CHEM 237	Intermediate Lab Investigations	c. CHEM 229/229L or CHEM 326/326L	2	S	
SGR #3	Social Science Elective (from two different disciplines)	SGR #3 satisfied by course from 2 different disciplines	3		
SGR #3	Social Science Elective (from two different disciplines)	SGR #3 satisfied by course from 2 different disciplines	3		
Minor/2 nd Major Course			3		
Total Credit Hours			15		

Information Subject to Change. This is not a contract.

p. = Course Prerequisite
Semester: F = Fall, S = Spring, SU = Summer



Third Year

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 360	Chemistry of Biological Macromolecules	p. CHEM 229/229L or CHEM 328/328L	3	F	
CHEM 452/452L	Inorganic Chemistry and Lab	p. CHEM 326 or CHEM 332 or CHEM 352 or CHEM 442	4	F (even)	
MATH 225	Calculus III	p. MATH 125	4	F, S	
PHYS 211/211L	University Physics I and Lab	p. MATH 123	4	F, S	
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 236 or CHEM 114/114L	3	S	
CHEM 361	Chemistry of Biological Macromolecules Laboratory	p. CHEM 360	1	S	
CHEM 498	Undergraduate Research/Scholarship		3	S	
PHYS 213/213L	University Physics II and Lab	p. PHYS 211/211L	4	F, S	
Advanced Chemistry Electives (choose from list below)		Choose from list below	3		
Minor/2 nd Major Course			3		
Total Credit Hours			17		

Fourth Year

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
Advanced Chemistry Elective		Choose from list below	3		
Minor/2 nd Major Course			3		
Minor/2 nd Major Course			3		
General Elective		Taken as needed to reach 120 credits and 33 upper division credits	3		
General Elective		Taken as needed to reach 120 credits and 33 upper division credits	3		
Total Credit Hours			15		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
Advanced Chemistry Elective (choose from list below)		Choose from list below	3		
Minor/2 nd Major Course			3		
Minor/2 nd Major Course			3		
General Electives		Taken as needed to reach 120 credits and 33 upper division credits	5		
Total Credit Hours			14		

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)

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 329	Organic Chemistry III	p. CHEM 229/229L or CHEM 328/328L	2	S (even)	

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p. = Course Prerequisite
Semester: F = Fall, S = Spring, SU = Summer



Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 329L	Organic Chemistry Lab III	p. CHEM 229/229L or CHEM 328/328L	2	S (even)	
CHEM 345	Quantum Mechanics of Chemical Systems	p. CHEM 343, MATH 125, and PHYS 213	2	F (odd)	
CHEM 347	Chemical Kinetics	p. CHEM 343 and PHYS 213	2	F (even)	
CHEM 432	Analytical Chemistry II	p. CHEM 332/332L	2	S (odd)	
CHEM 433	Bioanalytical Chemistry	p. CHEM 332/332L and CHEM 360 or CHEM 464	2	S (even)	
CHEM 448/448L	Biophysical Chemistry and Lab	p. MATH 125, CHEM 360 or CHEM 464	4	F	
CHEM 465	Biochemistry II	p. CHEM 360 or CHEM 464	3	S	
CHEM 482	Environmental Chemistry	p. CHEM 114 or CHEM 127 or CHEM 326	3	F (odd)	
CHEM 484	Chemical Toxicology	p. CHEM 360 or CHEM 464	3	F (even)	

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

- a minimum of 33 upper division credits (300-400 level courses)
- a capstone course in the major (CHEM 498)
- a designated diversity, equity, and inclusion course – AHSS 111 (or AIS 211 for teaching specialization students only)
- minor, second major, or teaching specialization

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