



Bachelor of Science in Natural Sciences

Major: Chemistry

2018-2019 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 115-115L	Atomic and Molecular Structure and Lab		4	F	
AHSS 111	Introduction to Global Citizenship and Diversity		3	F, S	
ENGL 101	Composition I (SGR #1)	p. Placement	3		
MATH 123	Calculus I (SGR #5)	p. Placement	4		
Total Credit Hours			15		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 127-127L	Structure and Function of Organic Molecules	p. CHEM 115-115L	4	S	
MATH 125	Calculus II	p. MATH 123	4		
SGR #4	Arts and Humanities/Diversity	SGR #4 satisfied by coursework from 2 different disciplines or 2 courses from one modern language sequence	3-4		
SPCM 101	Fundamentals of Speech (SGR #2)		3		
Total Credit Hours			14-15		

Second Year

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 229-229L	Transformations of Organic Molecules and Lab	p. CHEM 127-127L	4	F	
CHEM 237	Intermediate Lab Investigations	p. CHEM 229-229L	1	F	
CHEM 332-332L	Analytical Chemistry I and Lab	p. CHEM 127-127L or CHEM 114-114L	4	F	
ENGL 201	Composition II (SGR #1)	p. ENGL 101	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			15		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 236	Equilibrium and Energy in Molecular Systems	p. MATH 123 and CHEM 229-229L	2	S	
CHEM 237	Intermediate Lab Investigations	p. CHEM 229-229L	2	S	
CHEM 360	Chemistry of Biological Macromolecules or Biochemistry I		3	S	
Minor/2 nd Major Course			3		
SGR #3	Social Science/Diversity	SGR #3 satisfied by coursework from 2 different disciplines	6		
Total Credit Hours			16		

**Third Year****Fall**

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 361	Chemistry of Biological Macromolecules Laboratory	p. CHEM 360	1	F	
CHEM 452-452L	Inorganic Chemistry and Lab	p. CHEM 332-332L	4	F (even)	
MATH 225	Calculus III	p. MATH 125	4	F, S	
Minor/2 nd Major Course			3		
PHYS 211-211L	University Physics I and Lab	p. MATH 123	4	F, S	
Total Credit Hours			16		

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 498	Undergraduate Research/Scholarship		3	S	
Advanced Chemistry Electives		Choose from list below	3		
Minor/2 nd Major Course			3		
PHYS 213-213L	University Physics II and Lab	p. PHYS 211-211L	4	F, S	
Total Credit Hours			16		

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			6		
General Elective		Taken as needed to reach 120 credits and 33 upper division credits	6		
Total Credit Hours			15		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
Advanced Chemistry Elective		Choose from list below	3		
Minor/2 nd Major Course			3		
General Electives			7		
Total Credit Hours			13		

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)	
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, PHYS 211-221L, 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 127-127L or CHEM 326/326L	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.