South Dakota State University

Bachelor of Science in Natural Science
Major: Chemistry Education
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	
ENGL 101	Composition I (SGR #1)	p. Placement	3		
MATH 123	Calculus I (SGR #5)	p. Placement	4		
SGR #3	Social Science/Diversity	SGR #3 satisfied by coursework from 2 different disciplines	3		
		Total Credit Hours	15		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 127-127L	Structure and Function of Organic Molecules and Lab	p. CHEM 115-115L	4	S	
EDFN 101	Exploration of Teaching and Learning		1		
ENGL 201	Composition II (SGR #1)	p. ENGL 101	3		
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		
		Total Credit Hours	15-16		

Second Year

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 229-229L	Transformation 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 114-114L or CHEM 127-127L	4	F	
PHYS 111-111L	Introduction to Physics I and Lab	p. MATH 102 or higher	4	F, S	
SPCM 101	Fundamentals of Speech (SGR #2)		3		
		Total Credit Hours	16		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
AIS 211	SD American Indian Culture and Education		3		
CHEM 236	Equilibrium and Energy in Molecular Systems	p. CHEM 229-229L and MATH 123	2	S	
CHEM 237	Intermediate Lab Investigations	p. CHEM 229-229L	2	S	
PHYS 113-113L	Introduction to Physics II and Lab	p. PHYS 111-111L	4	S	
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		
		Total Credit Hours	14-15		

Information Subject to Change. This is not a contract.

p. = Course Prerequisite c. = Course Co-requisite
Semester: F = Fall, S = Spring, SU = Summer

Third Year

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 452-452L	Inorganic Chemistry and Lab	p. CHEM 332-332L	4	F (even)	
CHEM 464	Biochemistry I	p. CHEM 229-229L	3	F, S	
CHEM 482 or CHEM 484	Environmental Chemistry (Fall odd years) or Chemical Toxicology (Fall even years)	CHEM 482: p. CHEM 127 or CHEM 326 CHEM 484: p. CHEM 464 or CHEM 360	3	F S	
EDFN 351	Teaching and Learning I	c. EDFN 475; Teaching, Learning and Leadership department consent required.	1		
EDFN 475	Human Relations	Teaching, Learning and Leadership department consent required	3		
BIOL 151-151L	General Biology I and Lab		4	F	
		Total Credit Hours	18		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 343	Fundamentals of Thermodynamics	p. MATH 123 and CHEM 236 or CHEM 114/114L	2	S	
CHEM 466	Laboratory Methods in Biochemistry	p. CHEM 464	1	F, S	
EDFN 352-352L	Teaching and Learning II and Lab	p. EDFN 351; Teaching, Learning and Leadership department consent required.	5		
BIOL 153-153L	General Biology II and Lab	p. BIOL 151-151L	4		
SGR #3	Social Science/Diversity	SGR #3 satisfied by coursework from 2 different disciplines	3		
General Elective			1-3		
		Total Credit Hours	16-18		

Fourth Year

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
EDFN 453- 453L	Teaching and Learning III and Lab	p. EDFN 352; Teaching, Learning and Leadership department consent required	7		
SEED 450	7-12 Reading and Content Literacy	p. Teaching, Learning and Leadership department consent required.	2		
SEED 413	7-12 Science Methods		3		
		Total Credit Hours	12		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
EDFN 454	Teaching and Learning IV	p. EDFN 453; Teaching, Learning and Leadership department consent required.	11		
SEED 456	Capstone/Action Research	c. EDFN 454	1		
		Total Credit Hours	12		

Comments/Notes

Students from all academic majors can pursue graduation with Fishback Honors College distinction. View the Honors program requirements.

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 (SEED 456)
- a designated diversity, equity, and inclusion course –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.