SOUTH DAKOTA STATE UNIVERSITY

Bachelor of Science
Major: Chemistry Education
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 #3	Social Sciences (from two different disciplines)	See list in catalog	3		
		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	
EDFN 101	Explore Teaching/Learning		1		
MATH 125	Calculus II	p. MATH 123	4		
SGR #1	Written Communication	ENGL 201 Recommended	3		
SGR #4	Arts and Humanities (from two different disciplines or a sequence of foreign language courses)	See list in catalog	3		
		Total Credit Hours	15		

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 111/111L	Introduction to Physics I and Lab	p. MATH 114 or higher	4	F	
SGR #2	Oral Communication	CMST 101 Recommended	3		
		Total Credit Hours	16		

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 343	Fundamentals of Thermodynamics	p. MATH 123 and CHEM 114/114L	2	S	
CHEM 498	Research	p. CHEM 237	2		
PHYS 113/113L	Introduction to Physics II and Lab	p. PHYS 111/111L	4	S	
AIS 211 (SGR #3)	SD American Indian Culture and Education		3		
		Total Credit Hours	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 464	Biochemistry I	p. CHEM 328/328	3	F	
CHEM 452/452L	Inorganic Chemistry and Lab	p. CHEM 326/L	4	F (even)	
CHEM 482 or CHEM 484	Environmental Chemistry or Chemical Toxicology	p. CHEM 114/114L or p. CHEM 464	3	F (odd) F (even)	
EDFN 351	Teaching and Learning I		1		
SEED 413	7-12 Science Methods		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 466	Laboratory Methods in Biochemistry	p. CHEM 464	1	S	
EDFN 352/352L	Teaching and Learning II and Lab		5		
EDFN 340	Adolescent Development in Educational Contexts		3		
BIOL 153/153L	General Biology II and Lab	p. BIOL 151/151L	4	S	
General Elective		Taken as needed to reach 120 credits and 33 upper division credits	2		
		Total Credit Hours	15		

FOURTH YEAR

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
EDFN 453	Teaching and Learning III		3		
EDFN 453L	Teaching and Learning III Lab		4		
SEED 450	Reading and Context Literacy		2		
SGR #4	Arts and Humanities (from two different disciplines or a sequence of foreign language courses)	See list in catalog	3		
		Total Credit Hours	12		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 490	Seminar		1	S	
EDFN 454	Teaching and Learning IV		11		
SEED 456	Capstone/Action Research		1		
		Total Credit Hours	13		

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

***If student wants to also minor in Physics, the suggested additional courses to take are:**

- PHYS 185/185L (F) **OR** PHYS 187/187L (S) [3 cr.]
- PHYS 331 (F) [3 cr.]
- PHYS 494 or 498 [1 cr.] OR PHYS 316/316L (F) [2 cr.]
- *SEED 413 [3 cr.] and PHYS 111/L [4 cr.] and 113/L [4 cr.] already count towards 18 credits for minor*