



**Bachelor of Science in Natural Sciences**

**Major: Physics**

**Specialization: Science Teaching**

**2020-2021 Sample 4-Year Plan**

**Total Degree Requirements: 120 credits**

Student \_\_\_\_\_ Student ID# \_\_\_\_\_ Student Phone # \_\_\_\_\_

Advisor \_\_\_\_\_ Minimum GPA 2.00 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
EDFN 101	Exploration of Teaching and Learning		1		
PHYS 119	First Year Seminar in Physics		1	F	
PHYS 185-185L	Astronomy I and Lab	Suggested Physics Major Technical Elective	3	F	
ENGL 101	Composition I (SGR #1)	p. Placement; Grade of C or higher required.	3		
PHYS 211-211L	University Physics I and Lab (SGR #6)	c. MATH 123	4		
MATH 123	Calculus I (SGR #5)	p. Placement; Grade of C or higher required.	4		
<b>Total Credit Hours</b>			16		

**Spring**

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 112-112L	General Chemistry I and Lab	p. MATH 114 or higher	4		
SPCM 101	Fundamentals of Speech (SGR #2)	Grade of C or higher required.	3		
PHYS 213-213L	University Physics II and Lab (SGR #6)	c. MATH 125	4		
MATH 125	Calculus II	p. MATH 123	4		
<b>Total Credit Hours</b>			15		

**Second Year**

**Fall**

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 114-114L	General Chemistry II and Lab	p. CHEM 112-112L and MATH 114 or higher	4		
PHYS 316-316L	Measurement Theory and Lab	p. PHYS 213-213L or PHYS 113-113L	2	F	
PHYS 331	Introduction to Modern Physics	p. PHYS 213-213L or PHYS 113-113L	3	F	
MATH 225	Calculus III	p. MATH 125	4		
MATH 321	Differential Equations	p. MATH 125	3		
<b>Total Credit Hours</b>			16		

**Spring**

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
PHYS 337	Foundations of Health Physics	p. MATH 123 and PHYS 213-213L	3	S-even	
PHYS 341	Thermodynamics	p. MATH 225	2	F	
PHYS 343	Statistical Physics	p. MATH 321	2	F	
EE 216-216L	Linear Circuits I and Lab	c. MATH 125	4	S	
ENGL 201 or ENGL 277	Composition II (SGR #1) or Technical Writing in Engineering (SGR #1)	p. ENGL 101	3		
AIS 211	South Dakota American Indian Culture and Education	p. ENGL 101 and PHYS 119	3		
<b>Total Credit Hours</b>			17		

**Information Subject to Change. This is not a contract.**

p. = Course Prerequisite c. = Course Corequisite  
Semester: F = Fall, S = Spring, SU = Summer  
odd (even) = odd (even) year only



**Third Year**

**Fall**

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
EDFN 351	Teaching and Learning I	c. EDFN 340; Teaching, Learning and Leadership department consent required.	1		
EDFN 340	Adolescent Development in Educational Contexts	c. EDFN 351; Teaching, Learning and Leadership department consent required	3		
PHYS 451	Classical Mechanics	p. MATH 321 and 225	4	F	
GEOG 210	World Regional Geography (SGR #3)	SGR #3 satisfies by coursework from 2 different disciplines	3-6		
PHIL 200	Introduction to Logic (SGR #4)	SGR #4 satisfies by coursework from 2 different disciplines or 1 modern language sequence	3-4		
<b>Total Credit Hours</b>			14-18		

**Spring**

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
EDFN 352-352L	Teaching and Learning II and Lab	p. EDFN 351; Teaching, Learning and Leadership department consent required.	5		
PHYS 490	Seminar	Capstone	2	S	
PHYS 421	Electromagnetism	p. MATH 321 and 225	4	S	
SGR #3	Social Sciences/Diversity	SGR #3 satisfies by coursework from 2 different disciplines	0-3		
SGR #4	Arts and Humanities/Diversity	SGR #4 satisfies by coursework from 2 different disciplines or 1 modern language sequence	3-4		
<b>Total Credit Hours</b>			14-18		

**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 413	Science Methods		3		
SEED 450	Reading and Content Literacy	p. Teaching, Learning and Leadership department consent required.	2		
<b>Total Credit Hours</b>			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		
<b>Total Credit Hours</b>			12		

**Comments/Notes**

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

If math placement is to take MATH 115, take MATH 115 and CHEM 112/L. In the following semester, take MATH 123 and PHYS 211/L.

If math placement is to take MATH 114, take MATH 114 and CHEM 112/L. In the following semester, take MATH 115 and CHEM 114/L.

As part of this program, students must complete:

- a minimum of 33 upper division credits (300-400 level courses)
- a capstone course in the major
- a designated diversity, equity, and inclusion course –AIS 211 for teaching specialization students only
- a minor, second major, or teaching specialization
- Natural Sciences Coursework: 10+ credits in any two lab sciences; must include two prefixes.

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Semester: F = Fall, S = Spring, SU = Summer  
odd (even) = odd (even) year only