South Dakota State University

Bachelor of Science
Major: Microbiology
2025-2026 Sample 4-Year Plan
Total Degree Requirements: 120 credits

Student _____ **Student ID#** _____ **Student Phone #** _____

Advisor _____ **Minimum GPA** 2.0 in major courses **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
BIOL 119	First Year Seminar		2	F	
BIOL 151-151L	General Biology I and Lab (SGR #6)	c. BIOL 151/L	4	F	
CHEM 112-112L	General Chemistry I and Lab	c. MATH 114 or higher placement	4	F/S/Su	
ENGL 101	Composition I (SGR #1)	p. Placement	3	F/S/Su	
SGR #3	Social Sciences - Civics Requirement	Choose 1: HIST 151, HIST 152, POLS 100, POLS 210, or CIV 100	3		
		Total Credit Hours	16		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
BIOL 153-153L	General Biology II and Lab		4	S	
BIOL 290	Seminar		1	S	
CHEM 114-114L	General Chemistry II and Lab	p. CHEM 112, MATH 114 or higher	4	F/S/Su	
CMST 101	Foundations of Communication (SGR #2)		3	F/S/Su	
SGR #4	Arts and Humanities (from two different disciplines or a sequence of a foreign language)	See list in catalog	3		
		Total Credit Hours	16		

Summer

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
	Shadowing or internship recommended				

SECOND YEAR

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
BIOL 202-202L	Genetics & Molecular Biology and Lab	p. BIOL 103 or 153; CHEM 114/L	4	F	
CHEM 326-326L	Organic Chemistry I and Lab	p. CHEM 114 (if only want 2 sciences, wait on CHEM)	4	F/S/Su	
ENGL 201	Composition II (SGR #1)	p. ENGL 101	3	F/S/Su	
MICR 233-233L	Introductory Microbiology and Lab	p. BIOL 151 & CHEM 112 or CHEM 114	4	F	
		Total Credit Hours	15		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
BIOL 204-204L	Introduction to Cell Biology and Lab	p. BIOL 202/L	4	S	
CHEM 328-328L	Organic Chemistry II and Lab	p. CHEM 326	4	F/S/Su	
SGR #3	Social Sciences (from two different disciplines)	See list in catalog	3		
SGR #4	Arts and Humanities (from two different disciplines or a sequence of a foreign language)	PHIL 220 Recommended	3		
		Total Credit Hours	15		

Summer

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
	Research and/or internship recommended				

Information Subject to Change. This is not a contract.

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

THIRD YEAR

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
Applied and Environ. Microbiology	BIOL 235, MICR 450, MICR 421/L, MICR 310/L, and MICR 311/L	3-4 credits course depending	3-4		
BIOL 383	Bioethics		4	F	
CHEM 464	Biochemistry I	p. CHEM 229 or 328	3	F/SU	
MICR 494 or MICR 498	Internship or Research		2		
PHYS elective	Physics elective	p. MATH 114 or higher Discuss with advisor whether PHYS 111 -113 is appropriate	4		
		Total Credit Hours	16-17		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
CHEM 466	Laboratory Methods - Biochemistry	p. CHEM 464	1	F/S	
MICR 332-332L	Microbial Physiology and Lab	p. MICR 231/L or 233/L	4	S	
STAT 281	Introduction to Statistics	p. MATH 103 or higher	3	F/S/Su	
General Electives	Select from any discipline		6		
	GRE preparation if pursuing graduate school	**Total Credit Hours**	14		

Summer

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
	Research and/or Internship recommended				
	GRE and graduate school application				

FOURTH YEAR

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
MATH	120 or 115 or 121/L or 123 or 125 (SGR #5)		3-5		
MICR 438L	Techniques in Molecular Biology Laboratory	highly recommended	2	F	
MICR 439	Medical and Veterinary Immunology	p. MICR 231 or 233 & BIOL 204	3	F	
MICR 448	Molecular and Microbial Genetics	p. BIOL 204 or BIOL 371	4	F	
General Electives	Select from any discipline	Consider internship/research credits	2		
		Total Credit Hours	14-16		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
Applied and Environ. Microbiology	BIOL 235, MICR 450, MICR 421/L, MICR 310/L, and MICR 311/L	3-4 credits course depending	6-7		
Infectious Disease	MICR 424, MICR 433, and MICR 440L		3		
Infectious Disease	MICR 424, MICR 433, and MICR 440L		3		
General Electives	Select from any discipline to reach 120 total credits		0-2		
		Total Credit Hours	12-15		

COMMENTS/NOTES:

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