SOUTH DAKOTA STATE UNIVERSITY

Bachelor of Sciences in Biological Sciences
Major: Biotechnology
2019-2020 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)		4	F	
CHEM 112	General Chemistry I	p. MATH 114 or higher placement	3	F/S/Su	
CHEM 112L	General Chemistry I Lab		1	F/S/Su	
ENGL 101	Composition I (SGR #1)	p. Placement	3	F/S/Su	
SGR #3	Social Sciences/Diversity	See list in catalog	3		
		Total Credit Hours	16		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
ABS 205	Biotechnology in Agriculture and Medicine		2	S	
BIOL 153-153L	General Biology II and Lab (SGR #6)		4	S	
CHEM 114	General Chemistry II	p. CHEM 112, MATH 114 or higher	3	F/S/Su	
CHEM 114L	General Chemistry II Lab		1	F/S/Su	
SGR #4	Arts and Humanities/Diversity	See list in catalog	3		
SPCM 101	Fundamentals of Speech (SGR #2)		3	F/S/Su	
		Total Credit Hours	16		

Summer

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

Second Year

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
BIOL 202	Genetics and Organismal Biology	p. BIOL 103 or BIOL 153, CHEM 114/L	3	F	
BIOL 202L	Genetics and Organismal Biology Lab		1	F	
CHEM 326	Organic Chemistry I	p. CHEM 114	3	F	
CHEM 326L	Organic Chemistry I Lab	(if only want 2 sciences, wait on CHEM)	1	F	
MICR 233-233L	Introductory Microbiology and Lab	p. BIOL 151 & 6 cr. CHEM	4	F	
SGR #3	Social Sciences/Diversity	See list in catalog	3		
		Total Credit Hours	15		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
BIOL 204	Genetics and Cellular Biology	p. BIOL 202/L	3	S	
BIOL 204L	Genetics and Cellular Biology Lab		1	S	
CHEM 328	Organic Chemistry II	p. CHEM 326	3	S	
CHEM 328L	Organic Chemistry II Lab		1	S	
ENGL 201	Composition II (SGR #1)	p. ENGL 101	3	F/S/Su	
SGR #4	Arts and Humanities/Diversity	Recommended PHIL 220	3		
		Total Credit Hours	14		

Information Subject to Change. This is not a contract.

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

Summer

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

Third Year

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
BIOL 383	Bioethics	Cross-Listed: PHIL 383	4	F	
Capstone Requirement	Students complete at least 2 credits from the following: BIOL/MICR 494 Internship or BIOL/MICR 498 Undergraduate Research/Scholarship	Prefixes may vary with approval by program coordinator	2		
CHEM 464	Biochemistry I	p. CHEM 229 or CHEM 328	3	F/SU	
MICR 450	Applied Microbiology and Biotechnology	p. MICR 231/L or MICR 233/L	3	F	
PHYS 111-111L	Introduction to Physics I and Lab (SGR #6)	p. MATH 114 or higher placement; or PHYS 101. Discuss with advisor.	4		
		Total Credit Hours	16		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
Advanced Fundamentals Requirement	BIOL 483, MICR 332 & 332/L, MICR 439, MICR 424, or VET 223/L	3-4 credits course depending	3-4		
CHEM 466	Laboratory Methods – Biochemistry	p. CHEM 464	1	F/S	
PHYS 113-113L	Introduction to Physics II and Lab	p. PHYS 111/L; or PHYS 101. Not necessary if PHYS 101 taken	4		
STAT 281	Introduction to Statistics (SGR #5)	p. MATH 103 or higher	3	F/S/Su	
General Electives	Select from any discipline		3		
	GRE preparation if pursuing graduate school	**Total Credit Hours**	14-15		

Summer

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

Fourth Year

Fall

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
MATH 121-121L or MATH 123	Survey of Calculus and Lab or Calculus I	p. MATH 114, 115, or placement p. MATH 115 or placement	5		
MICR 438L	Techniques in Molecular Biology Laboratory	p. MICR 448 or concurrent	2	F	
MICR 448	Molecular and Microbial Genetics	p. BIOL 204 or BIOL 371; Cross-Listed: BIOL 448	4	F	
General Electives	Select from any discipline		5		
		Total Credit Hours	16		

Spring

Prefix + Number	Course Title	Prerequisites/Comments	Credits	Semester	Grade
Applications Requirement	ABE 343/L, AS 332, AS 333/L, DS 301/L, DS 312/L, HO 414/L, PS 383/L, or MICR 440L	3-4 credits, course depending	3-4		
ENGL 379	Technical Communication (BIOL/MICR Section)	p. ENGL 201	3	F/S	
STAT 435	Applied Bioinformatics		3	S	
General Electives	Select from any discipline to reach 120 total credits		4		
		Total Credit Hours	13-14		

Comments/Notes

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

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Semester: F = Fall, S = Spring, SU = Summer