



**SOUTH DAKOTA BOARD OF REGENTS
ACADEMIC AFFAIRS FORMS**

Substantive Program Modification Form

UNIVERSITY:	SDSU
CURRENT PROGRAM TITLE:	Biology (B.S.)
CIP CODE:	26.1201
UNIVERSITY DEPARTMENT:	Biology & Microbiology
BANNER DEPARTMENT CODE:	SBIM
UNIVERSITY DIVISION:	College of Natural Sciences
BANNER DIVISION CODE:	3T

University Approval

To the Board of Regents and the Executive Director: I certify that I have read this proposal, that I believe it to be accurate, and that it has been evaluated and approved as provided by university policy.

Dennis D. Hedge

3/25/2020

Vice President of Academic Affairs or
President of the University

Date

1. This modification addresses a change in:

- | | |
|--|---|
| <input checked="" type="checkbox"/> Total credits required within the discipline | <input checked="" type="checkbox"/> Total credits of supportive course work |
| <input checked="" type="checkbox"/> Total credits of elective course work | <input type="checkbox"/> Total credits required for program |
| <input type="checkbox"/> Program name | <input type="checkbox"/> Existing specialization |
| <input type="checkbox"/> CIP Code | <input type="checkbox"/> Other (explain below) |

2. Effective date of change: 2020-2021 Academic Year

3. Program Degree Level: Associate Bachelor's Master's Doctoral

4. Category: Certificate Specialization Minor Major

5. If a name change is proposed, the change will occur:

- On the effective date for all students
- On the effective date for students new to the program (enrolled students will graduate from existing program)
- Proposed new name:

6. Primary Aspects of the Modification:

Existing Curriculum

Proposed Curriculum (Highlight Changes)

Pref	Num	Title	Cr Hrs	Pref	Num	Title	Cr Hrs		
System General Education Requirement				34	System General Education Requirement				32-34
SGR 1 Written Communication:				6	SGR 1 Written Communication:				6
ENGL 101 English Composition I (3)					ENGL 101 English Composition I (3)				
ENGL 201 English Composition II (3)					ENGL 201 English Composition II (3)				
SGR 2 Oral Communication:					SGR 2 Oral Communication:				
SPCM 101 Fundamentals of Speech				3	SPCM 101 Fundamentals of Speech				3
SGR 3 Social Sciences/Diversity				6	SGR 3 Social Sciences/Diversity				6
SGR 4 Arts and Humanities/Diversity				6	SGR 4 Arts and Humanities/Diversity				6

Existing Curriculum

Proposed Curriculum (Highlight Changes)

Pref	Num	Title	Cr Hrs	Pref	Num	Title	Cr Hrs
SGR 5 Mathematics: MATH 102 (3) and MATH 120 (3) or MATH 115 (5) or MATH 121-121L (5)			5	SGR 5 Mathematics: MATH 102 (3) and MATH 120 (3) or MATH 115 (5) or MATH 121-121L (5) MATH 115 Pre-Calculus or higher			5 3-5
SGR 6 Natural Sciences: BIOL 151-151L General Biology I & Lab (4) BIOL 153-153L General Biology II & Lab (4)			8	SGR 6 Natural Sciences: BIOL 151-151L General Biology I & Lab (4) BIOL 153-153L General Biology II & Lab (4)			8
Department Requirements			--	Department Requirements			--
<ul style="list-style-type: none"> 25 semester credits must be upper division (300 and above), with the exception that MATH 125 and 225, Calculus II and III, may be counted as five credits toward the total. Students must complete a minimum of 33 credits from the natural sciences. Refer to departments offering the degree for specific course listings. 			--	<ul style="list-style-type: none"> 25 semester credits must be upper division (300 and above) with the exception that MATH 125 and 225, Calculus II and III, may be counted as five credits toward the total. Students must complete a minimum of 33 credits from the natural sciences. Refer to departments offering the degree for specific course listings. 			--
Major Requirements			67-73	Major Requirements			69-70
BIOL	119	First Year Seminar	2	BIOL	119	First Year Seminar	2
BIOL	202-202L	Genetics and Organismal Biology & Lab	4	BIOL	202-202L	Genetics and Organismal Biology & Lab	4
BIOL	204-204L	Genetics and Cellular Biology & Lab	4	BIOL	204-204L	Genetics and Cellular Biology & Lab	4
BIOL	290	Seminar	1	BIOL	290	Seminar	1
BIOL	383	Bioethics	4	BIOL	383	Bioethics	4
MICR	233-233L	Introductory Microbiology & Lab	4	MICR	233-233L	Introductory Microbiology & Lab	4
Chemistry			16	Chemistry			16
CHEM	112 -112L	General Chemistry I & Lab	4	CHEM	112 -112L	General Chemistry I & Lab	4
CHEM	114 -142L	General Chemistry II & Lab	4	CHEM	114 -142L	General Chemistry II & Lab	4
CHEM	326 -326L	Organic Chemistry I & Lab	4	CHEM	326 -326L	Organic Chemistry I & Lab	4
CHEM	328 -328L	Organic Chemistry II & Lab	4	CHEM	328 -328L	Organic Chemistry II & Lab	4
Physics			8	Physics			4
PHYS	111-111L	Introduction to Physics I & Lab (4)	8	PHYS	111-111L	Introduction to Physics I & Lab (4)	8
OR		Introduction to Physics II & Lab (4)		OR		Introduction to Physics II & Lab (4)	
PHYS	113-113L	(4)		PHYS	113-113L		
						PHYS Electives	4
Mathematics			3-4	Mathematics			3
MATH	125	Calculus II (4)	3-4	MATH	125	Calculus II (4)	3
OR				OR			
STAT	281	Introduction to Statistics (3)		STAT	281	Introduction to Statistics (3)	
Advanced Writing and Capstone				Advanced Writing and Capstone			5
BIOL	490	Seminar	2	BIOL	490	Seminar	2
ENGL	379	Technical Communication – Biology & Microbiology	3	ENGL	379	Technical Communication – Biology & Microbiology	3
Biology Major Requirements			22-23	Biology Major Requirements			22-23
		Biology majors without specializations are required to complete at least 10 additional departmental credits at the 300-400 level (BIOL, BOT, or MICR)	10			Biology majors without specializations are required to complete at least 10 additional departmental credits at the 300-400 level (BIOL, BOT, or MICR)	10

<i>Existing Curriculum</i>				<i>Proposed Curriculum (Highlight Changes)</i>			
Pref	Num	Title	Cr Hrs	Pref	Num	Title	Cr Hrs
		In addition, select one of the following paths BIOL 373 - Evolution (3) BIOL 221-221L - Human Anatomy & Lab (4) BIOL 325-325L - Physiology & Lab (4) or BIOL 373 - Evolution (3) BOT 201-201L - General Botany & Lab * (3) BOT 327-327L - Plant Physiology & Lab (4)	10-11			In addition, select one of the following paths BIOL 373 - Evolution (3) BIOL 221-221L - Human Anatomy & Lab (4) BIOL 325-325L - Physiology & Lab (4) or BIOL 373 - Evolution (3) BOT 201-201L - General Botany & Lab * (3) BOT 327-327L - Plant Physiology & Lab (4) or VET 223-223L – Anatomy and Physiology of Domestic Animals & Lab (4) BIOL 476 Advanced Mammalian Physiology (4) MICR 439 Medical and Veterinary Immunology (3)	10-11
Electives			12-20	Electives			16-19
Summary of Credits Biology (B.S.)							
System General Education Requirement			33-35	System General Education Requirement			32-34
Department Requirements			--	Department Requirements			--
Major Requirements			67-73	Major Requirements			69-70
Electives			12-20	Electives			16-19
Total number of hours required for major			67-73	Total number of hours required for major			69-70
Total number of hours required for degree			120	Total number of hours required for degree			120

7. Explanation of the Changes:

The Department of Biology & Microbiology has identified the following changes to the Biology major:

- Removed the requirement students must complete MATH 115 or MATH 121 for SGR #5. Changes to the SDSU MATH course sequence necessitated the change for SGR#5.
- Replaced PHYS 111-111L Introduction to Physics I & Lab (4) and PHYS 113-113L Introduction to Physics II & Lab (4) with a PHYS elective. Students will complete a minimum of 4 credits in PHYS course(s). Not all healthcare programs require two semesters of physics for acceptance.
- Removed MATH 125 Calculus II. Modern biology is aided by large data sets so future professionals need a solid foundation in statistics. STAT 281 Introduction to Statistics will now be required.
- A third track was added for Pre-Vet students. We have had multiple students on pre-Vet track each year wanting a Biology degree. This third track is designed for Pre-Vet students wanting a Biology degree.
- The overall decrease in required course credits will free up credits for electives or towards a minor in another discipline area.