SOUTH DAKOTA BOARD OF REGENTS
ACADEMIC AFFAIRS FORMS

Substantive Program Modification Program

Use this form to request minor changes in existing programs (majors, minors, certificates, or specializations).

UNIVERSITY:	DSU
CURRENT PROGRAM TITLE:	**BS in Biology for Information Systems**
CIP CODE:	
UNIVERSITY DEPARTMENT:	**College of Arts and Sciences**
UNIVERSITY DIVISION:	**College of Arts and Sciences**

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.

Click here to enter a date.

_____   _____
Vice President of Academic Affairs or   Date
President of the University

1. **This modification addresses a change in** (*place an "X" in the appropriate box*):

☐ Total credits required within the discipline ☒ Total credits of supportive course work

☒ Total credits of elective course work ☐ Total credits required for program

☒ Program name ☐ Existing specialization

☐ CIP Code ☐ Other (explain below)

2. **Effective date of change: 8/1/2017**

3. **Program Degree Level** (*place an "X" in the appropriate box*):

Associate ☐ Bachelor's ☒ Master's ☐ Doctoral ☐

4. **Category** (*place an "X" in the appropriate box*):

Certificate ☐ Specialization ☐ Minor ☐ Major ☒

5. **If a name change is proposed, the change will occur** (*place an "X" in the appropriate box*):

☐ 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: **Biology**

Reminder: Name changes may require updating related articulation agreements, site approvals, etc.

6. Primary Aspects of the Modification (*add lines or adjust cell size as needed*):

Existing Curriculum

Pref.	Num.	Title	Cr. Hrs.
System Wide General Education Requirement*			30
Majors must take BIOL 151 and ~~BIOL 165~~ as part of the System-wide General Education Requirement			
~~**Institutional Graduation Requirement**~~			~~11~~
Biology Component			~~37~~
BIOL	145	Introduction to Scientific Inquiry	1
~~BIOL~~	~~201~~	~~General Botany~~	~~4~~
BIOL	221	Human Anatomy	4
BIOL	311	Principles of Ecology	4
BIOL	331	Microbiology	4
BIOL	343	Cell and Molecular Biology	4
BIOL	371	Genetics	4
BIOL	498	Undergraduate Research/Scholarship	2
Select ~~10~~ credits from the following			~~10~~
BIOL	325	Physiology	4
BIOL	365	Vertebrate Zoology	4
BIOL	410	Conservation Biology	3
~~BIOL~~	~~415~~	~~Mycology~~	~~3~~
BIOL	450	Aquatic Biology	4
BIOL	492	Topics	1-4*
*May be repeated provided student does not enroll in the same topics course. One credit Biology topics offering may not be combined to substitute for a required or elective three-or-four credit Biology course.			
Math and Science Core Support Courses			**23**
CHEM	112	General Chemistry I	4
CHEM	114	General Chemistry II	4
MATH	281	Introduction to Statistics	3
Select 12 Credits from the following:			12
CHEM	326	Organic Chemistry I	3
CHEM	326L	Organic Chemistry I Lab	1

Proposed Curriculum (==highlight changes==)

Pref.	Num.	Title	Cr. Hrs.
System Wide General Education Requirement*			30
Majors must take BIOL 151 and **BIOL 153** as part of the System-wide General Education Requirement			
Biology Component			**40**
BIOL	145	Introduction to Scientific Inquiry	1
BIOL	221	Human Anatomy	4
BIOL	**280**	**Inquiry & Analysis in Biology**	**2**
BIOL	311	Principles of Ecology	4
BIOL	331	Microbiology	4
BIOL	343	Cell and Molecular Biology	4
BIOL	371	Genetics	4
BIOL	498	Undergraduate Research/Scholarship	2
Select **15** credits from the following			**15**
BIOL	325	Physiology	4
BIOL	365	Vertebrate Zoology	4
BIOL	410	Conservation Biology	3
BIOL	**422/ 422L**	**Immunology/Lab**	**4**
BIOL	450	Aquatic Biology	4
BIOL	492	Topics	1-4*
*May be repeated provided student does not enroll in the same topics course. One credit Biology topics offering may not be combined to substitute for a required or elective three-or-four credit Biology course.			
Math and Science Core Support Courses			**23**
CHEM	112	General Chemistry I	4
CHEM	114	General Chemistry II	4
MATH	281	Introduction to Statistics	3
Select 12 Credits from the following:			12
CHEM	326	Organic Chemistry I	3
CHEM	326L	Organic Chemistry I Lab	1

CHEM	328	Organic Chemistry II	3		CHEM	328	Organic Chemistry II	3
CHEM	328L	Organic Chemistry II Lab	1		CHEM	328L	Organic Chemistry II Lab	1
CHEM	332	Analytical Chemistry	3		CHEM	332	Analytical Chemistry	3
CHEM	332L	Analytical Chemistry Lab	1		CHEM	332L	Analytical Chemistry Lab	1
CHEM	460	Biochemistry	3		CHEM	460	Biochemistry	3
CHEM	492	Topics	1-4		CHEM	492	Topics	1-4
EXS	350	Exercise Physiology/Lab	4		EXS	350	Exercise Physiology/Lab	4
EXS	353	Kinesiology	3		EXS	353	Kinesiology	3
HIM	130	Basic Medical Terminology	2		HIM	130	Basic Medical Terminology	2
HLTH	422	Nutrition	3		HLTH	422	Nutrition	3
MATH	123	Calculus I	4		MATH	123	Calculus I	4
MATH	125	Calculus II	4		MATH	125	Calculus II	4
MATH	418	Math Modeling	3		MATH	418	Math Modeling	3
PHYS	111	Introduction to Physics I	4		PHYS	111	Introduction to Physics I	4
PHYS	113	Introduction to Physics II	4		PHYS	113	Introduction to Physics II	4
PHYS	211	University Physics I	4		PHYS	211	University Physics I	4
PHYS	213	University Physics II	4		PHYS	213	University Physics II	4

Left column:

Note: Students planning to pursue a career in medicine or other health professions are encouraged to take CHEM 326, CHEM 460, CHEM 492, MATH 125 or MATH 201 and PHYS 213.

Science Technology Courses			9
ENGL	379	Technical Communication	3
SCTC	303	Intro to Biological Instrumentation	3
SCTC	345	Intr. To Bioinformatics	3

Electives*			10

*Three of these electives will have been met upon completion of BIOL 151 and BIOL 165 as part of the system general Education requirement.

Total number of hours required for major, minor, or specialization	69
Total number of hours required for degree	120

Right column:

Note: Students planning to pursue a career in medicine or other health professions are encouraged to take CHEM 326, CHEM 460, CHEM 492, MATH 125 or MATH 201, **PHYS 211**, and PHYS 213.

Science and Technology Courses			15
CSC	105	**Introduction to Computers**	**3**
CSC	123	**Problem Solving and Prog.** OR	**3**
CSC	150	**Computer Science I** OR	
CIS	130	**Visual Basic Programming**	
ENGL	379	Technical Communication	3
SCTC	303	Intro to Biological Instrumentation	3
SCTC	345	Intr. To Bioinformatics	3

Social Science Course			**3**
Course with prefix ANTH, HIST, and SOC cannot also satisfy general education requirements.			

Electives*			9

***Two** of these electives will have been met upon completion of BIOL 151 and **BIOL 153** as part of the System General Education requirement.

Total number of hours required for major, minor, or specialization	81
Total number of hours required for degree	120

7. **Explanation of the Change:**

We request changing the program name from Biology for Information Systems to Biology. The current name is unfamiliar to most people and often creates problems for our majors applying to graduate programs, professional schools and other jobs. The biology program still includes strong support for the integration of computer technology in the program as befits the mission of Dakota State University. There is a required 15 credit science and technology component that is unique in the South Dakota Regental system.

The Institutional Graduation Requirements are removed from the curriculum. The two introductory computer courses of these requirements are retained and moved to the science and technology courses component section. Another 3 credits from the removal of IGR is allocated to a social science course to meet the growing demand for social science in the health professions.

BIOL 153 General Biology II is added to the required course list and replaces BIOL 165 General Zoology and BIOL 201 General Botany. Botany and zoology will be occasionally taught as general education courses. Four credits from the deletion of BIOL 201 and one from the IGR removal are added to the credits of biology elective courses.

BIOL 415 Mycology will no longer be taught and is deleted.

A new course BIOL 280 Inquiry and Analysis in Biology is added to teach lower level students the foundational skills needed for success in upper level biology courses.

BIOL 422 Immunology is added as an elective in the biology component to meet the needs of students preparing for careers in the health professions.

To accomplish the addition of BIOL 280 and the increase in biology elective credits, one credit hour is removed from general electives.