



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

**Substantive Program Modification Form**

<b>UNIVERSITY:</b>	SDSU
<b>CURRENT PROGRAM DEGREE:</b>	Bachelor of Science (B.S.)
<b>CURRENT PROGRAM MAJOR/MINOR:</b>	Dairy Manufacturing
<b>CURRENT SPECIALIZATION:</b>	Microbiology
<b>CIP CODE:</b>	01.0905 – Major CIP 26.0502 – Specialization CIP
<b>UNIVERSITY DEPARTMENT:</b>	Dairy & Food Science
<b>BANNER DEPARTMENT CODE:</b>	SDFS
<b>UNIVERSITY COLLEGE:</b>	Agricultural, Food & Environmental Sciences
<b>BANNER COLLEGE CODE:</b>	3F

**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

Vice President of Academic Affairs or  
President of the University

4/3/2023

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 type="checkbox"/> Total credits of elective course work                   | <input type="checkbox"/> Total credits required for program                 |
| <input type="checkbox"/> Program name  | <input checked="" type="checkbox"/> Existing specialization                 |
| <input type="checkbox"/> CIP Code  | <input type="checkbox"/> Other (explain below)                              |
| <input type="checkbox"/> Modification requiring Board of Regents approval        |   |

*Must have prior approval from Executive Director or designee*

**2. Effective date of change: 2023-2024 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:**

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

**6. Is the program being modified associated with a current articulation agreement?**

Yes ☐ No ☒

**a. If yes, will the articulation agreement need to be updated with the partner institution following the approve of the program change? Please explain:**

**7. Primary Aspects of the Modification:**

*Existing Curriculum*

*Proposed Curriculum (highlight changes)*

Pref.	Num.	Title	Cr. Hrs.	Pref.	Num.	Title	Cr. Hrs.
<b>Systems General Education Requirements</b>			<b>32-34</b>	<b>Systems General Education Requirements</b>			<b>32-34</b>
<b>Systems General Education Requirements – Electives</b>			<b>9</b>	<b>Systems General Education Requirements – Electives</b>			<b>18</b>
						SGR #1	3
						SGR #1	3
						SGR #2	3
		SGR #3	3			SGR #3	3
		SGR #4	3			SGR #4	3
		SGR #4	3			SGR #4	3
<b>Systems General Education Requirements – Required</b>			<b>23</b>	<b>Systems General Education Requirements – Required</b>			<b>14-16</b>
ENGL	101	Composition I (SGR #1)	3	ENGL	101	Composition I (SGR #1)	3
ENGL	201	Composition I (3) (SGR #1)	3	ENGL	201	Composition I (3) (SGR #1)	3
CMST	101	Fundamentals of Speech (SGR #2)	3	CMST	101	Fundamentals of Speech (SGR #2)	3
ECON	201	Principles of Microeconomics (3) (SGR #3)	3	ECON	201	Principles of Microeconomics (3) (SGR #3)	3
OR				OR			
ECON	202	Principles of Macroeconomics (3) (SGR #3)		ECON	202	Principles of Macroeconomics (3) (SGR #3)	
MATH	114	College Algebra (3)	3-5	MATH	114	College Algebra (3)	3-5
OR				OR			
MATH	115	Precalculus (5)		MATH	115	Precalculus (5)	
CHEM	112	General Chemistry I	3	CHEM	112	General Chemistry I	3
CHEM	112L	General Chemistry I Lab	1	CHEM	112L	General Chemistry I Lab	1
CHEM	114	General Chemistry II	3	CHEM	114	General Chemistry II	3
CHEM	114L	General Chemistry II Lab	1	CHEM	114L	General Chemistry II Lab	1
<b>College Requirements</b>			<b>7</b>	<b>College Requirements</b>			<b>7</b>
Students must complete a minimum of 11 credits from the approved list of Group 1 courses in Agriculture, Food and Environmental Science. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.				Students must complete a minimum of 11 credits from the approved list of Group 1 courses in Agriculture, Food and Environmental Science. Some departments require specific courses from the list, whereas others leave the selection entirely to the student and the advisor.			
**Students in the Microbiology Specialization need to only complete 7 of the 11 required Group 1 Electives to meet AFES College Requirements.				**Students in the Microbiology Specialization need to only complete 7 of the 11 required Group 1 Electives to meet AFES College Requirements.			
DS	130	Introduction to Dairy Science	3	DS	130	Introduction to Dairy Science	3
DS	130L	Introduction to Dairy Science Lab	0	DS	130L	Introduction to Dairy Science Lab	1
MICR	311	Food Microbiology	4	MICR	311	Food Microbiology	3
MICR	311L	Food Microbiology Lab	0	MICR	311L	Food Microbiology Lab	3
<b>Major Requirements</b>			<b>81-83</b>	<b>Major Requirements</b>			<b>88-90</b>
<b>Major Core</b>			<b>40-41</b>	<b>Major Core</b>			<b>47-48</b>
AST	443	Food Processing and Engineering Fundamentals	3	AST	443	Food Processing and Engineering Fundamentals	2
AST	443L	Food Processing and Engineering Fundamentals Lab	0	AST	443L	Food Processing and Engineering Fundamentals Lab	1
BIOL	103-103L	Biology Survey II & Lab (2,1)	3-4	BIOL	103-103L	Biology Survey II & Lab (2,1)	3-4
OR				OR			
BIOL	153-153L	General Biology & Lab (4,0)		BIOL	153-153L	General Biology & Lab (4,0)	
DS	119	First Year Seminar – Dairy and Food Science	2	DS	119	First Year Seminar – Dairy and Food Science	2

## Existing Curriculum

## Proposed Curriculum (highlight changes)

Existing Curriculum				Proposed Curriculum (highlight changes)			
Pref.	Num.	Title	Cr. Hrs.	Pref.	Num.	Title	Cr. Hrs.
				DS	130	Introduction to Dairy Science	2
				DS	130L	Introduction to Dairy Science Lab	1
DS	202	Dairy Products Judging	1	DS	202	Dairy Products Judging	1
DS	301	Dairy Microbiology & Lab	4	DS	301	Dairy Microbiology & Lab	2
DS	301L	Dairy Microbiology Lab	0	DS	301L	Dairy Microbiology Lab	2
DS	321	Dairy Products Processing I	5	DS	321	Dairy Products Processing I	4
DS	321L	Dairy Products Processing I Lab	0	DS	321L	Dairy Products Processing I Lab	1
DS	322	Dairy Products Processing II	5	DS	322	Dairy Products Processing II	4
DS	322L	Dairy Products Processing II Lab	0	DS	322L	Dairy Products Processing II Lab	1
DS	400	Dairy Chemistry and Analysis	5	DS	400	Dairy Chemistry and Analysis	3
DS	400L	Dairy Chemistry and Analysis Lab	0	DS	400L	Dairy Chemistry and Analysis Lab	2
DS	421	Dairy Plant Management	4	DS	421	Dairy Plant Management	3
DS	421L	Dairy Plant Management Lab	0	DS	421L	Dairy Plant Management Lab	1
DS	490	Seminar	1	DS	490	Seminar	1
DS	496	Field Experience	3	DS	496	Field Experience	3
MICR	231	General Microbiology	4	MICR	231	General Microbiology	4
MICR	231	General Microbiology Lab	0	MICR	231	General Microbiology Lab	0
				MICR	311	Food Microbiology	2
				MICR	311L	Food Microbiology Lab	2
Microbiology Specialization Requirements			41-42	Microbiology Specialization Requirements			41-42
ACCT	210	Principles of Accounting	3	ACCT	210	Principles of Accounting	3
BIOL OR BIOL	101-101L 151-151L	Biology Survey I & Lab (3,0) General Biology I (4,0)	3-4	BIOL OR BIOL	101-101L 151-151L	Biology Survey I & Lab (3,0) General Biology I (4,0)	3-4
BIOL	202	Genetics and Organismal Biology	3	BIOL	202	Genetics and Organismal Biology	3
BIOL	202L	Genetics and Organismal Biology Lab	1	BIOL	202L	Genetics and Organismal Biology Lab	1
BIOL	204	Genetics and Cellular Biology	3	BIOL	204	Genetics and Cellular Biology	3
BIOL	204L	Genetics and Cellular Biology Lab	1	BIOL	204L	Genetics and Cellular Biology Lab	1
CHEM	326	Organic Chemistry I	3	CHEM	326	Organic Chemistry I	3
CHEM	326L	Organic Chemistry I Lab	1	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	464	Biochemistry I	3	CHEM	464	Biochemistry I	3
CHEM	466	Laboratory Methods – Biochemistry	1	CHEM	466	Laboratory Methods – Biochemistry	1
MICR	310	Environmental Microbiology	4	MICR	310	Environmental Microbiology	3
MICR	310L	Environmental Microbiology	0	MICR	310L	Environmental Microbiology	1
MICR	332	Microbial Physiology	4	MICR	332	Microbial Physiology	2
MICR	332L	Microbial Physiology Lab	0	MICR	332L	Microbial Physiology Lab	2
MICR	448	Molecular and Microbial Genetics	4	MICR	448	Molecular and Microbial Genetics	4
STAT	281	Introduction to Statistics	3	STAT	281	Introduction to Statistics	3
Electives			0	Electives			0
Summary of Credits in Dairy Manufacturing (B.S.) – Microbiology Specialization							
System General Education Requirements			32-34	System General Education Requirements			32-34
College Requirements			7	College Requirements			7
Major Requirements			81-83	Major Requirements			88-90
Electives			0	Electives			0
Total number of hours required for specialization			111-115	Total number of hours required for specialization			102-106
Total number of hours required for degree			120	Total number of hours required for degree			120

## 8. Explanation of the Change:

Removed a specific course selection from SGR #1 and SGR #2 to allow students more flexibility

in meeting their System General Education requirements.

The College of Agriculture, Food and Environmental Sciences has eliminated the college requirement to complete 11 credits from the Group 1 list. Students in the Microbiology Specialization needed to only complete 7 of the 11 credits. The courses listed as part of the college requirement have realigned to the major requirements.

PHYS 211-211 University Physics I & Lab (4, 0) changed from variable (3-4/0-1) to only 4,1 so that common courses will have common credits. A separate 3+1-credit course sequence (PHYS 207-207L Fundamentals of Physics I & Lab) was added in parallel to serve engineering students. PHYS 211-211 University Physics I & Lab has been removed from the program requirements.

Departments have updated zero credit lab courses. The credits between the lecture and labs were adjusted to accurately reflect contact time.