



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

Substantive Program Modification Form

UNIVERSITY:	SDSU
CURRENT PROGRAM TITLE:	Dairy Manufacturing (B.S.) [S.BSAG.DM] – Microbiology Specialization [S.BSAG.DM-MICR]
CIP CODE:	01.0905
UNIVERSITY DEPARTMENT:	Dairy & Food Science
UNIVERSITY DIVISION:	Agriculture & Biological 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.

_____ _____
 Dennis D. Hedge 5/8/18
 Vice President of Academic Affairs or Date
 President of the University

1. This modification addresses a change in:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Total credits required within the discipline | <input 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 checked="" type="checkbox"/> Existing specialization |
| <input type="checkbox"/> CIP Code | <input type="checkbox"/> Other (explain below) |

2. Effective date of change: 2018-2019 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. Primary Aspects of the Modification:

Existing Curriculum

Proposed Curriculum (Highlight Changes)

Pre	Num	Title	Cr Hrs	Pre	Num	Title	Cr Hrs		
System General Education Requirements				31-34	System General Education Requirements				31-34
		SGR 1 Written Communication	6			SGR 1 Written Communication	6		
		ENGL 101 Composition I (3)				ENGL 101 Composition I (3)			
		ENGL 201 Composition II (3)				ENGL 201 Composition II (3)			
		SGR 2 Oral Communication	3			SGR 2 Oral Communication	3		
		SPCM 101 Fundamentals of Speech				SPCM 101 Fundamentals of Speech			
		SGR 3 Social Sciences/Diversity	6			SGR 3 Social Sciences/Diversity	6		
		ECON 202 Macroeconomics (3)				ECON 201 Macroeconomics (3) or ECON 202			
		and an additional non ECON class				Macroeconomics (3)			
						and an additional non ECON class			

Existing Curriculum

Proposed Curriculum (Highlight Changes)

SGR 4 Arts and Humanities/Diversity		6	SGR 4 Arts and Humanities/Diversity	6
SGR 5 Mathematics MATH 102 College Algebra (3) OR MATH 115 Precalculus (5)		3-5	SGR 5 Mathematics MATH 102 College Algebra (3) OR MATH 115 Precalculus (5)	3-5
SGR 6 Natural Sciences <i>Dairy Manufacturing Major:</i> CHEM 106-106L Chemistry Survey & Lab (4) OR CHEM 112-112L General Chemistry I & Lab (4) AND BIOL 101-101L Biology Survey I & Lab (3) OR BIOL 151-151L General Biology I (4) <i>Microbiology Specialization:</i> CHEM 112-112L General Chemistry I & Lab (4) CHEM 114-114L General Chemistry II & Lab (4)		7-8	SGR 6 Natural Sciences <i>Dairy Manufacturing Major:</i> CHEM 106-106L Chemistry Survey & Lab (4) OR CHEM 112-112L General Chemistry I & Lab (4) AND BIOL 101-101L Biology Survey I & Lab (3) OR BIOL 151-151L General Biology I (4) <i>Microbiology Specialization:</i> CHEM 112-112L General Chemistry I & Lab (4) CHEM 114-114L General Chemistry II & Lab (4)	7-8
College Requirements		7-11	College Requirements	7-11
DS	130-130L	Introduction to Dairy Science & Lab	3	DS 130-130L Introduction to Dairy Science & Lab
MICR	311-311L	Food Microbiology & Lab	4	MICR 311-311L Food Microbiology & Lab
Group I Agriculture Electives **Students in the Microbiology Specialization need to only complete 7 of the 11 required Group 1 Electives to meet ABS College Requirements.		0-4	Group I Agriculture Electives **Students in the Microbiology Specialization need to only complete 7 of the 11 required Group 1 Electives to meet AFES College Requirements.	0-4
Major Requirements		54-83	Major Requirements	55-83
Major Core		40-41	Major Core	40-41
AST	443-443L	Food Processing and Engineering Fundamentals	3	AST 443-443L Food Processing and Engineering Fundamentals
BIOL 103-103L Biology Survey II & Lab (3) OR BIOL 153-153L General Biology & Lab (4)		3-4	BIOL 103-103L Biology Survey II & Lab (3) OR BIOL 153-153L General Biology & Lab (4)	3-4
DS	119	First Year Seminar – Dairy and Food Science	2	DS 119 First Year Seminar – Dairy and Food Science
DS	202	Dairy Products Judging	1	DS 202 Dairy Products Judging
DS	301-301L	Dairy Microbiology & Lab	4	DS 301-301L Dairy Microbiology & Lab
DS	321-321L	Dairy Products Processing I & Lab	5	DS 321-321L Dairy Products Processing I & Lab
DS	322-322L	Dairy Products Processing II & Lab	5	DS 322-322L Dairy Products Processing II & Lab
DS	400-400L	Dairy Chemistry and Analysis & Lab	5	DS 400-400L Dairy Chemistry and Analysis & Lab
DS	421-421L	Dairy Plant Management & Lab	4	DS 421-421L Dairy Plant Management & Lab
DS	490	Seminar	1	DS 490 Seminar
DS	496	Field Experience	3	DS 496 Field Experience
MICR	231-231L	General Microbiology & Lab	4	MICR 231-231L General Microbiology & Lab
Dairy Manufacturing Major Requirements		14-15	Dairy Manufacturing Major Requirements	15
ACCT	210	Principles of Accounting I	3	ACCT 210 Principles of Accounting I
CHEM 108-108L Organic and Biochemistry & Lab (5) OR CHEM 120-120L Elementary Organic Chemistry & Lab (4)		4-5	CHEM 108-108L Organic and Biochemistry & Lab (5) OR CHEM 120-120L Elementary Organic Chemistry & Lab (4)	5
DS 494 Internship (3) OR DS 498 Undergraduate Research (3)		3	DS 494 Internship (3) OR DS 498 Undergraduate Research (3)	3

Existing Curriculum

Proposed Curriculum (Highlight Changes)

PHYS 101-101L Survey of Physics & Lab (4)		4	PHYS 101-101L Survey of Physics & Lab (4)	4
OR			OR	
PHYS 111-111L Introduction to Physics & Lab (4)			PHYS 111-111L Introduction to Physics & Lab (4)	
OR			OR	
PHYS 211-211L University Physics & Lab (4)			PHYS 211-211L University Physics & Lab (4)	
Microbiology Specialization Requirements		41-42	Microbiology Specialization Requirements	41-42
ACCT	210	Principles of Accounting	ACCT	210
Principles of Accounting		3	Principles of Accounting	
BIOL 101-101L Biology Survey I & Lab (3)		3-4	BIOL 101-101L Biology Survey I & Lab (3)	
OR			OR	
BIOL 151-151L General Biology I (4)			BIOL 151-151L General Biology I (4)	
BIOL	202-202L	Genetics and Organismal Biology & Lab	BIOL	202-202L
Genetics and Organismal Biology & Lab		4	Genetics and Organismal Biology & Lab	
BIOL	204-204L	Genetics and Cellular Biology & Lab	BIOL	204-204L
Genetics and Cellular Biology & Lab		4	Genetics and Cellular Biology & Lab	
CHEM	326-326L	Organic Chemistry I & Lab	CHEM	326-326L
Organic Chemistry I & Lab		4	Organic Chemistry I & Lab	
CHEM	328-328L	Organic Chemistry II & Lab	CHEM	328-328L
Organic Chemistry II & Lab		4	Organic Chemistry II & Lab	
CHEM	464	Biochemistry I	CHEM	464
Biochemistry I		3	Biochemistry I	
CHEM	466	Laboratory Methods – Biochemistry	CHEM	466
Laboratory Methods – Biochemistry		1	Laboratory Methods – Biochemistry	
MICR	310-310L	Environmental Microbiology & Lab	MICR	310-310L
Environmental Microbiology & Lab		4	Environmental Microbiology & Lab	
MICR	332-332L	Microbial Physiology	MICR	332-332L
Microbial Physiology		4	Microbial Physiology & Lab	
MICR	448	Molecular and Microbial Genetics	MICR	448
Molecular and Microbial Genetics		4	Molecular and Microbial Genetics	
STAT	281	Introduction to Statistics	STAT	281
Introduction to Statistics		3	Introduction to Statistics	
Electives		0-24	Electives	
Dairy Manufacturing Major Electives		19-24	Dairy Manufacturing Major Electives	
Business Elective (any ECON, BADM, STAT, ACCT or ENTR except ACCT 210 and ECON 202)		3	Business Elective (any ECON, BADM, BLAW, MGMT, MKTG, FIN, DSCL, HRM, STAT, ACCT or ENTR (excludes required courses completed as a program requirement))	
FS Elective		3	FS Elective	
Other electives		13-18	Other electives	
Microbiology Specialization Electives		0	Microbiology Specialization Electives	
Summary of Credits Dairy Manufacturing (B.S.)				
System General Education Requirements		31-34	System General Education Requirements	
College Requirements		11	College Requirements	
Major Requirements		54-56	Major Requirements	
Major Core (40-41)			Major Core (40-41)	
Dairy Manufacturing Major Requirements (14-15)			Dairy Manufacturing Major Requirements (15)	
Electives		19-24	Electives	
Summary of Credits Dairy Manufacturing (B.S.) – Microbiology Specialization				
System General Education Requirements		32-34	System General Education Requirements	
College Requirements		7	College Requirements	
Major Requirements		81-83	Major Requirements	
Major Core (40-41)			Major Core (40-41)	
Microbiology Specialization Requirements (41-42)			Microbiology Specialization Requirements (41-42)	
Electives		0	Electives	
Total number of hours required for major and specialization		54-83	Total number of hours required for major and specialization	
Total number of hours required for degree		120	Total number of hours required for degree	

7. Explanation of the Change:

The Department of Dairy and Food Science has reviewed the Dairy Manufacturing major and Microbiology specialization. The following changes have been identified:

- Removed CHEM 120-120L Elementary Organic Chemistry & Lab (4). The Department of Chemistry & Biochemistry will no longer offer this course.
- Added ECON 201 Microeconomics as a course that may satisfy SGR #3 for the program. ECON 202 was required partly because it also fulfilled the Globalization requirement. As the Globalization requirement no longer exists, providing students the option of taking either ECON 201 or 202 will give them more flexibility in their curriculum.
- Revised the business elective list to include the new prefixes (BLAW, MGMT, MKTG, FIN, DSCI, HRM) that were put in place by the Economics department as replacements.