



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

Substantive Program Modification Form

UNIVERSITY:	SDSU
CURRENT PROGRAM TITLE:	Agromony (B.S.)
CIP CODE:	01.1102
UNIVERSITY DEPARTMENT:	Agromony, Horticulture & Plant Science
BANNER DEPARTMENT CODE:	SAHP
UNIVERSITY DIVISION:	Agricultural, Food and Environmental Sciences
BANNER DIVISION CODE:	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

5/3/2021

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 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 |

2. Effective date of change: 2021-2022 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)

Pre	Num	Title	Cr Hrs	Pre	Num	Title	Cr Hrs
System General Education Requirements			31-34	System General Education Requirements			30-34
SGR Goal #1 Written Communication: ENGL 101 English Composition I ENGL 201 English Composition II			6	SGR Goal #1 Written Communication: ENGL 101 English Composition I ENGL 201 English Composition II			6
SGR Goal #2 Oral Communication			3	SGR Goal #2 Oral Communication			3
SGR Goal #3 Social Sciences/Diversity ECON 201 Principles of Microeconomics (3) OR ECON 202 Principles of Macroeconomics (3) AND ABS 203 Global Food Systems (3)			6	SGR Goal #3 Social Sciences/Diversity ECON 201 Principles of Microeconomics (3) OR ECON 202 Principles of Macroeconomics (3) AND ABS 203 Global Food Systems (3)			6

Existing Curriculum

Proposed Curriculum (*highlight changes*)

Pre	Num	Title	Cr Hrs	Pre	Num	Title	Cr Hrs
OR SOC 100		Introduction to Sociology (3)		OR SOC 100		Introduction to Sociology (3)	
OR SOC 150		Social Problems (3)		OR SOC 150		Social Problems (3)	
OR SOC 240		The Sociology of Rural America (3)		OR SOC 240		The Sociology of Rural America (3)	
SGR Goal #4		Arts and Humanities/Diversity	6	SGR Goal #4		Arts and Humanities/Diversity	6
SGR Goal #5		Mathematics:	3-5	SGR Goal #5		Mathematics:	3-5
MATH 114		College Algebra (3)		MATH 114		College Algebra (3)	
OR MATH 115		Precalculus (5)		OR MATH 115		Precalculus (5)	
OR MATH 120		Trigonometry (3)		OR MATH 120		Trigonometry (3)	
SGR Goal #6		Natural Sciences:	7-8	SGR Goal #6		Natural Sciences:	6-8
BIOL 151-151L		General Biology I and Lab (4)		BIOL 101-101L - Biology Survey I and Lab (3)			
AND BIOL 153-153L		- General Biology II and Lab (4)		OR BIOL 151-151L		General Biology I and Lab (4)	
OR BOT 201-201L		- General Botany and Lab (3)		AND BOT 201-201L		- General Botany and Lab (3)	
				OR BIOL 103-103L - Biology Survey II and Lab (3)			
				OR BIOL 153-153L		- General Biology II and Lab (4)	
College Requirement			0	College Requirement			0
Students who wish to complete a Bachelor of Science in Agriculture must complete a minimum of <u>11 credits</u> from the approved list of Group 1 courses in Agriculture .				Students who wish to complete a Bachelor of Science in Agriculture must complete a minimum of <u>11 credits</u> from the approved list of Group 1 courses in Agriculture .			
<ul style="list-style-type: none"> • PS 103-103L Crop Production & Lab (3) [Major] • PS 213-213L Soils & Lab (2,1) [Major] • PS 223-223L Principles of Plant Pathology & Lab (3) [Major] • PS 405-405L Entomology & Lab (3) [Major] 				<ul style="list-style-type: none"> • PS 103-103L Crop Production & Lab (3) [Major] • PS 213-213L Soils & Lab (2,1) [Major] • PS 223-223L Principles of Plant Pathology & Lab (3) [Major] • PS 405-405L Entomology & Lab (3) [Major] 			
Major Requirements			58-64	Major Requirements			58-64
ABS	475-475L	Integrated Natural Resource Management & Lab ^A	3	ABS	475-475L	Integrated Natural Resource Management & Lab ^A	3
AGEC	354	Agricultural Marketing and Prices (3)	3	AGEC	354	Agricultural Marketing and Prices (3)	3
OR AS	285-285L	Livestock Evaluation and Marketing Lab (3)		OR AS	285-285L	Livestock Evaluation and Marketing Lab (3)	
OR MKTG	474	Personal Selling (3)		OR MKTG	474	Personal Selling (3)	
OR ENGL	379	Technical Communication (3)		OR ENGL	379	Technical Communication (3)	
BIOL	202-202L	Genetics & Organismal Biology & Lab (4)	3-4	BIOL	202-202L	Genetics and Molecular Biology Lab (4)	3-4
OR BIOL	371	Genetics (3)		OR BIOL	371	Genetics (3)	
OR PS	383-383L	Principles of Crop Improvement & Lab (3) ²		OR PS	383-383L	Principles of Crop Improvement & Lab (3) ²	
BOT	327-327L	Plant Physiology & Lab (4)	3-4	BOT	327-327L	Plant Physiology & Lab (4)	3-4
OR BOT	419-419L	Plant Ecology & Lab (3)		OR BOT	419-419L	Plant Ecology & Lab (3)	
CHEM	106-106L	Chemistry Survey & Lab (4)	4	CHEM	106-106L	Chemistry Survey & Lab (4)	4
OR CHEM	112-112L	General Chemistry & Lab (4)		OR CHEM	112-112L	General Chemistry & Lab (4)	
CHEM	120-120L	Elementary Organic Chemistry & Lab (3)	3-5	CHEM	120-120L	Elementary Organic Chemistry & Lab (3)	3-5
OR CHEM	108-108L	Organic and Biochemistry & Lab (5)		OR CHEM	108-108L	Organic and Biochemistry & Lab (5)	
PHYS	101-101L	Survey of Physics & Lab (4)	4	PHYS	101-101L	Survey of Physics & Lab (4)	4
OR PHYS	111-111L	Introduction to Physics I & Lab (4)		OR PHYS	111-111L	Introduction to Physics I & Lab (4)	
PRAG	423	Soil Fertility and Plant Nutrient Management ^A	3	PRAG	423	Soil Fertility and Plant Nutrient Management ^A	3
PS	103-103L	Crop Production & Lab ^A	3	PS	103-103L	Crop Production & Lab ^A	3

Existing Curriculum

Proposed Curriculum (highlight changes)

Pre	Num	Title	Cr Hrs	Pre	Num	Title	Cr Hrs
PS	119	First Year Seminar	1	PS	119	First Year Seminar	1
PS	213-213L	Soils & Lab	3	PS	213-213L	Soils & Lab	3
PS	223-223L	Principles of Plant Pathology & Lab ^A	3	PS	223-223L	Principles of Plant Pathology & Lab ^A	3
PS	285	Agricultural Computations ^A	2	PS	285	Agricultural Computations ^A	2
PS	405-405L	Entomology & Lab ^A	3	PS	405-405L	Entomology & Lab ^A	3
PS	407-407L	Insect Pest Management & Lab ^A		PS	407-407L	Insect Pest Management & Lab ^A	
PS	445-445L	Weed Science & Lab ^A	3	PS	445-445L	Weed Science & Lab ^A	3
PS AND PS OR MICR	492 421-421L 231-231L	Topics (1) Soil Microbiology & Lab (3) General Microbiology & Lab (4)	4	PS AND PS OR MICR	492 421-421L 231-231L	Topics (1) Soil Microbiology & Lab (3) General Microbiology & Lab (4)	4
PS/HO	490	Seminar for Internship ^A	1	PS/HO	490	Seminar for Internship ^A	1
PS/HO	494	Internship ^A	1	PS/HO	494	Internship ^A	1
STAT	281	Introduction to Statistics	3	STAT	281	Introduction to Statistics	3
Natural Resources Stewardship Elective: (Select <u>one</u> of the following courses ^A) ABS 203 - Global Food Systems (3) ² ABS 482-582 - International Experience (3) BIOL 383 - Bioethics (4) PS 243 - Principles of Geology (3) ² PS 407-407L - Insect Pest Management & Lab (3) ² PRAG 410-410L - Soil Geography and Land Use Interpretation & Lab (3) ² PS 462-462L - Environmental Soil Management & Lab (3) ²			3-4	Natural Resources Stewardship Elective: (Select <u>one</u> of the following courses ^A) ABS 203 - Global Food Systems (3) ² ABS 482-582 - International Experience (3) BIOL 383 - Bioethics (4) PS 243 - Principles of Geology (3) ² PS 407-407L - Insect Pest Management & Lab (3) ² PRAG 410-410L - Soil Geography and Land Use Interpretation & Lab (3) ² PS 462-462L - Environmental Soil Management & Lab (3) ²			3-4
Precision Ag Elective: (select <u>one</u> of the following courses) PRAG 427 – Precision Ag Data Mapping (2) ² PRAG 440-440L Crop Management with Precision Farming & Lab (3) ² PRAG 203-203L Introduction to Precision Agriculture & Lab (3) AST 426 – 426L Technology Applications for Precision Agriculture and Lab (3)			2-3	Precision Ag Elective: (select <u>one</u> of the following courses) PRAG 427 – Precision Ag Data Mapping (2) ² PRAG 440-440L Crop Management with Precision Farming & Lab (3) ² PRAG 203-203L Introduction to Precision Agriculture & Lab (3) AST 426 – 426L Technology Applications for Precision Agriculture and Lab (3)			2-3
Agronomy, Horticulture & Plant Science Electives Take at least two credits from each of the three areas listed below.			13	Agronomy, Horticulture & Plant Science Electives Take at least two credits from each of the three areas listed below.			15
<u>Crops</u> PRAG 340 – Climate Risk of Management with Precision Agriculture (3) HO/PS 255-255L – Woody Plants & Lab (4) HO/PS 311-311L – Herbaceous Plant Identification & Lab (3) HO/PS 339 – Arboriculture and Urban Forestry (3) HO/PS 411 – Fruit Crop Systems (1) HO/PS 413-413L Greenhouse and High Tunnel Management & Lab (3) HO/PS 414-414L – Plant Propagation & Lab (3) HO/PS 416 – Landscape Nursery Management (3) HO/PS 434 Local Food Production (2) HO/PS 435 – Local Food Production: Harvest and Storage (3) HO/PS 444 – Vegetable Crop Systems (1) PS 308-308L - Grain Grading & Lab (2) PS 312 - Grain and Seed Production and Processing (3) PS 313 - Forage Crop and Pasture Management (3)				<u>Crops</u> PRAG 340 – Climate Risk of Management with Precision Agriculture (3) HO/PS 255-255L – Woody Plants & Lab (4) HO/PS 311-311L – Herbaceous Plant Identification & Lab (3) HO/PS 339 – Arboriculture and Urban Forestry (3) HO/PS 411 – Fruit Crop Systems (1) HO/PS 413-413L Greenhouse and High Tunnel Management & Lab (3) HO/PS 414-414L – Plant Propagation & Lab (3) HO/PS 416 – Landscape Nursery Management (3) HO/PS 434 Local Food Production (2) HO/PS 435 – Local Food Production: Harvest and Storage (3) HO/PS 444 – Vegetable Crop Systems (1) PS 308-308L - Grain Grading & Lab (2) PS 312 - Grain and Seed Production and Processing (3) PS 313 - Forage Crop and Pasture Management (3)			

Existing Curriculum

Proposed Curriculum (highlight changes)

Pre	Num	Title	Cr Hrs	Pre	Num	Title	Cr Hrs
PS 320 - Crop Judging (2) ¹ PS 383-383L - Principles of Crop Improvement & Lab (3) ² PS 403-403L - Seed Technology & Lab (3) PRAG 424 Wheat Production (2) PRAG 425 Soybean Production (2) PRAG 426 Corn Production (2) PRAG 427 Precision Ag Data Mapping (2) PRAG 440-440L - Crop Management with Precision Farming & Lab (3)				PS 320 - Crop Judging (2) ¹ PS 383-383L - Principles of Crop Improvement & Lab (3) ² PS 403-403L - Seed Technology & Lab (3) PRAG 424 Wheat Production (2) PRAG 425 Soybean Production (2) PRAG 426 Corn Production (2) PRAG 427 Precision Ag Data Mapping (2) PRAG 440-440L - Crop Management with Precision Farming & Lab (3)			
<u>Plant Protection</u> HO/PS 210-210L - Turf and Weed Management in Horticulture and Lab (3) PS 407-407L - Insect Pest Management & Lab (3) ² Or PS 405-405L - Entomology & Lab (COM) (3) ² PS/HO 329 - Horticultural Pests (3) PS 433 – Field Crop Diseases and Management (3) PS 415-415L- Mycology & Lab (3) PS 431-531 - Insect Ecology and Biological Control (3) PS/HO 447 – Organic Food and Plant Production (3)				<u>Plant Protection</u> HO/PS 210-210L - Turf and Weed Management in Horticulture and Lab (3) PS 407-407L - Insect Pest Management & Lab (3) ² Or PS 405-405L - Entomology & Lab (COM) (3) ² PS/HO 329 - Horticultural Pests (3) PS/HO 345 Non-Chemical Weed Management (3) PS 433 – Field Crop Diseases and Management (3) PS 415-415L- Mycology & Lab (3) PS 431-531 - Insect Ecology and Biological Control (3) PS/HO 447 – Organic Food and Plant Production (3)			
<u>Soils/Environmental Protection</u> PRAG 410-410L - Soil Geography and Land Use Interpretation & Lab** (3) ² PS 243 - Principles of Geology* (3) ² PS 244 - Geological Resources of South Dakota Lab (1) PS 321 - Soil Judging Credits: 1 ¹ PS 412- Environmental Soil Chemistry (3) PS 421-421L- Soil Microbiology & Lab (3) ² PS 462-462L - Environmental Soil Management & Lab ** (3) ² PS 473-473L- Rural Real Estate Appraisal & Lab (3) PS 483 - Irrigation – Crop and Soil Practices (3)				<u>Soils/Environmental Protection</u> PRAG – 310 Sustainable Agriculture (3) PRAG 410-410L - Soil Geography and Land Use Interpretation & Lab** (3) ² PS 243 - Principles of Geology* (3) ² PS 244 - Geological Resources of South Dakota Lab (1) PS 321 - Soil Judging Credits: 1 ¹ PS 412- Environmental Soil Chemistry (3) PS 421-421L- Soil Microbiology & Lab (3) ² PS 462-462L - Environmental Soil Management & Lab ** (3) ² PS 483 - Irrigation – Crop and Soil Practices (3)			
Electives (Taken as needed to complete any additional degree requirements.)			14-23	Electives (Taken as needed to complete any additional degree requirements.)			12-22
Summary of Credits Agronomy (B.S.)							
System General Education Requirements			31-34	System General Education Requirements			30-34
College Requirements			0	College Requirements			0
Major Requirements			58-64	Major Requirements			58-64
Agronomy, Horticulture & Plant Science Electives			13	Agronomy, Horticulture & Plant Science Electives			15
Electives			14-23	Electives			12-22
Notes ¹ Cannot be used to solely meet area requirements. ² Can only be used to meet requirements in one section ^A Agronomy Major Core Curriculum: A student must have a 2.5 GPA or higher and a grade of C or higher in the courses used to satisfy the Agronomy core curriculum in order to graduate with a major in Agronomy.				Notes ¹ Cannot be used to solely meet area requirements. ² Can only be used to meet requirements in one section ^A Agronomy Major Core Curriculum: A student must have a 2.5 GPA or higher and a grade of C or higher in the courses used to satisfy the Agronomy core curriculum in order to graduate with a major in Agronomy.			
Total number of hours required for major			58-64	Total number of hours required for degree			58-64
Total number of hours required for degree			125	Total number of hours required for degree			125

7. Explanation of the Change:

The Department of Agronomy, Horticulture and Plant Science has identified the following changes to the Agronomy major:

- Add the option of BIOL 101-101L – Biology Survey I and Lab (COM) [SGR #6] (Credits 3) to BIOL 151-151L - General Biology I and Lab (COM) [SGR #6] (4 Credits). The content of the BIOL 101-101L is also suitable for the program as it covers the study of the nature, diversity, and classification of life, ecology, cells and cell cycles, Mendelian and modern genetics evolution and evolution theory and is intended for those not majoring in biology.
- Add the option also of BIOL 103-1031L – Biology Survey II and Lab (COM) [SGR #6] (Credits 3) to BOT 201-201L General Botany and Lab (3 credits) or BIOL 153-153L - General Biology II and Lab (COM) [SGR #6] (4 Credits). The content of BIOL 103-103L is also suitable for the program as it covers the study of energetics; plant growth; development and reproduction; animal structure and function and is intended for those not majoring in biology.
- Increase the Agronomy, Horticulture & Plant Science Electives from 13 credits to 15 credits to provide students a more in-depth and a broader understanding of the three disciplines.
- Add the new course PS 345 – Non-Chemical Weed Management (3) to the Agronomy, Horticulture & Plant Science Electives list under the Plant Protection section. This course addresses alternative, non-chemical approaches in managing weeds to reduce/eliminate environmental hazards associated with herbicide application and development of herbicide resistant weeds.
- Add the new course PRAG 310 – Introduction to Sustainable Agriculture (3), to the Agronomy, Horticulture & Plant Science Electives list in the Soils/Environmental Protection section. This topic is of increasing importance as we work to mitigate climate change and become better stewards of the land.