



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

**Substantive Program Modification Form**

<b>UNIVERSITY:</b>	SDSU
<b>CURRENT PROGRAM TITLE:</b>	Soil Science Minor
<b>CIP CODE:</b>	01.1201
<b>UNIVERSITY DEPARTMENT:</b>	Agronomy, Horticulture & Plant Science
<b>BANNER DEPARTMENT CODE:</b>	SAHP
<b>UNIVERSITY DIVISION:</b>	Agriculture, Food & Environmental Sciences
<b>BANNER DIVISION 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

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 checked="" 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:** 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: Soil Health Management Minor

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

*Existing Curriculum*

*Proposed Curriculum (highlight changes)*

Pref.	Num.	Title	Cr.Hrs.	Pref.	Num.	Title	Cr.Hrs.
PS	213-213L	Soils & Lab	3	PS	213-213L	Soils & Lab	3
PRAG	410-410L	Soil Geography and Land Use Interpretation & Lab	2, 1	<b>PRAG</b>	<b>410-410L</b>	<b>Soil Geography and Land Use Interpretation &amp; Lab</b> <i>(realigned to elective list)</i>	<b>2, 1</b>
PRAG	423	Soil Fertility and Plant Nutrient Management	3	<b>PRAG</b>	<b>423</b>	<b>Soil Fertility and Plant Nutrient Management</b> <i>(realigned to elective list)</i>	<b>3</b>
PS	412	Environmental Soil Chemistry	3	<b>PS</b>	<b>412</b>	<b>Environmental Soil Chemistry</b> <i>(realigned to elective list)</i>	<b>3</b>

<i>Existing Curriculum</i>				<i>Proposed Curriculum (highlight changes)</i>			
Prof.	Num.	Title	Cr.Hrs.	Prof.	Num.	Title	Cr.Hrs.
PS	421-421L	Soil Microbiology & Lab	3	<del>PS</del>	<del>421-421L</del>	<del>Soil Microbiology &amp; Lab</del> (realigned to elective list)	<del>3</del>
PS	462-462L	Environmental Soil Management & Lab	3	<del>PS</del>	<del>462-462L</del>	<del>Environmental Soil Management &amp; Lab</del> (realigned to elective list)	<del>3</del>
				Select from the following:			15
				Select at least 6 credits from the following:			6-9
				PRAG	410-410L	Soil Geography and Land Use Interpretation & Lab	2, 1
				PRAG	423	Soil Fertility and Plant Nutrient Management	3
				PS	412	Environmental Soil Chemistry	3
				PS	421-421L	Soil Microbiology & Lab	3
				PS	462-462L	Environmental Soil Management & Lab	3
				Select at least 6 credits from the following:			6-9
				HO/PS	447	Organic Food and Plant Production	3
				PRAG	310	Introduction to Sustainable Agriculture	3
				PRAG	440-440L	Crop Management with Precision Farming & Lab	3
				PS	483	Irrigation–Crops and Soil Practices	3
Total number of hours required for minor			18	Total number of hours required for minor			18

## 7. Explanation of the Change:

As agriculture has been evolving there has become a much greater focus on soil health and sustainability – preserving it for future generations. Many of our soils have been degraded over time due to past and some current cropping systems and management. There is also a concern for the environment and trying to limit carbon emissions which are changing the climate. Across the US there is a renewed focus on soil health and sustainable farming as can be seen both locally and nationally (<https://www.sdsoilhealthcoalition.org>, <https://mnsoilhealth.org>, <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>).

Changes to the soil science minor are proposed to better educate students on:

- the need to build organic matter in the soil, which in turn retains and cycles nitrogen and sequesters carbon in the soil
- stabilize soil for reduced wind and water erosion
- improve water infiltration and retention
- how soils can better filter and clean water that percolates through soils
- minimize impacts of drought on water availability
- how soil health can improve the biotic (living microorganisms and macroorganisms) components in soil, which in turn improve agricultural production

Changes to the course work will allow students to tailor their minor to better suit their need for farming, industry specialties, and will allow much more flexibility for students and professionals in the industry to work on a soil health minor at SDSU.