

MINOR IN SOIL ECOSYSTEMS SCIENCE AND CONSERVATION

The minor in Soil Ecosystems Science and Conservation is designed to equip students with a functional understanding of soil ecosystems and their critical role in environmental sustainability. The purpose of this minor is to combine the fundamental sub-disciplines of soil science to provide non-majors the essential elements of soil science.

Learning Objectives

Students will:

1. Evaluate the physical, chemical, and biological properties of soils, as well as the complex interactions and processes that occur within soil ecosystems.
2. Apply the methods for assessing soil health, including soil sampling techniques, laboratory analysis, and interpretation of soil data to identify factors affecting soil productivity.
3. Apply strategies for conserving and managing soil ecosystems to ensure their long-term sustainability.
4. Examine the role of soil ecosystems in sustainable agricultural practices that promote sustainable food production while minimizing environmental impacts.
5. Describe the role of soil science in land-use planning and decision-making processes.
6. Apply an interdisciplinary perspective by integrating knowledge and addressing real-world challenges related to soil ecosystems and conservation.

Requirements Effective Fall 2024

Additional coursework may be required due to prerequisites.

Students must satisfactorily complete the total credits required for the minor. Minors and interdisciplinary minors require 12 or more upper-division (300- to 400-level) credits.

Code	Title	Credits
Required Courses		
SOCR 210	Microbiome Roles in a Sustainable Earth (GT-SC2)	3
SOCR 240	Introductory Soil Science	4
SOCR 470	Soil Physics	3
Selected Courses		
Select one of the following:		4
GEOL 454	Geomorphology	
SOCR 440	Pedology	
Select one of the following:		3-4
BZ 440	Plant Physiology	
SOCR 421	Agroecosystem Management	
SOCR 441	Soil Ecology	
SOCR 455	Microbiomes of Soil Systems	
Select one of the following:		3-4
SOCR 350 & SOCR 351	Soil Fertility Management and Soil Fertility Laboratory	

SOCR 375	Soil Biogeochemistry	
SOCR 467	Soil and Environmental Chemistry	
Additional Electives		
Select one additional course from above or from the list of additional electives. Must have minimum of 21 credits total.		1-3
SOCR 370	Climate-Smart Irrigation Principles	
SOCR 371	Climate-Smart Irrigation Management	
SOCR 400	Soils and Global Change-Impacts and Solutions	
SOCR 442	Forest and Range Soils	
SOCR 487	Internship	

Program Total Credits: 21-25