

Soil Science

Soil Science is a field-oriented discipline that defines, investigates, and utilizes one of the most important of our natural resources. All terrestrial life depends upon the soil for food and clean water. Knowledge of soil science is critical to address environmental problems, such as wetland protection, habitat restoration, and waste disposal, and it is vital to ensure sustainability of agricultural and forest products. Soil expertise is also essential in the emerging fields of urban and sustainable agriculture. Soils are complex and constantly evolving natural systems, hence the curriculum accentuates physical, biological, and earth sciences. A soil science degree prepares a student with the training to enter careers in both traditional agriculture and the environmental sectors, including: environmental consulting, soil conservation and resource management, production agriculture, and state and federal research and regulatory agencies.

Major Requirements

Major: Soil Science

Degree Type: B.S.

Required Degree Credits to Graduate: 128

General Education Requirements for Baccalaureate Degree

- A list of approved general education courses is available here (<http://bulletin.ndsu.edu/past-bulletin-archive/2017-18/academic-policies/undergraduate-policies/general-education/#genedcoursestext>).
- General education courses may be used to satisfy requirements for both general education and the major, minor, and program emphases, where applicable. Students should carefully review the major, minor, and program emphases requirements for minimum grade restrictions, should they apply.

Code	Title	Credits
Communication (C)		12
ENGL 110	College Composition I	
ENGL 120	College Composition II	
COMM 110	Fundamentals of Public Speaking	
Upper Division Writing [†]		
Quantitative Reasoning (R) [†]		3
Science and Technology (S) [†]		10
Humanities and Fine Arts (A) [†]		6
Social and Behavioral Sciences (B) [†]		6
Wellness (W) [†]		2
Cultural Diversity (D) ^{**†}		
Global Perspectives (G) ^{**†}		
Total Credits		39

* May be satisfied by completing courses in another General Education category.

† May be satisfied with courses required in the major. Review major requirements to determine if a specific upper division writing course is required.

Major Requirements

Code	Title	Credits
Required Courses for Soil Science		
AGRI 150	Agriculture Orientation (Students transferring in 24 or more credits do not need to take AGRI 150.)	1
AGRI 189	Skills for Academic Success ¹	1
GEOG 455 or RNG 452	Introduction to Geographic Information Systems Geographic Information Systems in Range Survey	4
PLSC 110	World Food Crops (May satisfy general education category S and G)	3
PLSC 225 or RNG 136	Principles of Crop Production Introduction to Range Management	3
SOIL 210	Introduction to Soil Science	3
SOIL 217	Introduction to Meteorology & Climatology	3
SOIL 264	Natural Resource Management Systems	3

SOIL 322	Soil Fertility and Fertilizers	3
SOIL 351	Soil Ecology	3
SOIL 410	Soils and Land Use	3
SOIL 433	Soil Physics	3
SOIL 444	Soil Genesis and Survey	3
SOIL 462	Natural Resource and Rangeland Planning	3
Supporting Courses		
BIOL 150 & 150L	General Biology I and General Biology I Laboratory	4
BIOL 151 & 151L	General Biology II and General Biology II Laboratory	4
or PHYS 212 & 212L	College Physics II and College Physics II Laboratory	
BOT 380	Plant Physiology	3
CHEM 121 & 121L	General Chemistry I and General Chemistry I Laboratory (May satisfy general education category S)	4
CHEM 122 & 122L	General Chemistry II and General Chemistry II Laboratory (May satisfy general education category S)	4
Select one from the following: (May satisfy general education category C)		
ENGL 321	Writing in the Technical Professions	
ENGL 324	Writing in the Sciences	
ENGL 459	Researching and Writing Grants and Proposal	
Select one of the following:		3-5
BIOC 260	Elements of Biochemistry	
CHEM 240	Survey of Organic Chemistry	
CHEM 341	Organic Chemistry I	
CHEM 431 & 431L	Analytical Chemistry I and Analytical Chemistry I Laboratory	
MICR 202 & 202L	Introductory Microbiology and Introductory Microbiology Lab	
MICR 350 & 350L	General Microbiology and General Microbiology Lab	
GEOL 105 & 105L	Physical Geology and Physical Geology Lab (May satisfy general education category S)	4
MATH 103	College Algebra	3
MATH 105	Trigonometry	3
MATH 146 or MATH 165	Applied Calculus I (May satisfy general education category R) Calculus I	4
PHYS 211 & 211L	College Physics I and College Physics I Laboratory (May satisfy general education category S)	4
STAT 330	Introductory Statistics (May satisfy general education category R)	3
Agriculture Electives: Select 9 credits of agriculture electives		9
Total Credits		92

¹ AGRI189 is only required for first-time, first-year students—A first-time, first-year student is defined as a student who has not yet completed a college course as a college student. Students that are not first-time, first-year students that either transfer into the university or change their major are not required to take AGRI 189.

Minor Requirements

Soil Science Minor

Minor Requirements

Required Credits: 18

Code	Title	Credits
Required Courses		
SOIL 210	Introduction to Soil Science	3
SOIL 322	Soil Fertility and Fertilizers	3
SOIL 444	Soil Genesis and Survey	3
Elective Courses		
Select three of the following:		9
SOIL 264	Natural Resource Management Systems	
SOIL 351	Soil Ecology	
SOIL 410	Soils and Land Use	
SOIL 433	Soil Physics	
SOIL 447	Microclimatology	
SOIL/NRM/RNG 454	Wetland Resources Management	
SOIL 465	Soil And Plant Analysis	
Total Credits		18

Minor Requirements and Notes:

- A minimum of 8 credits must be taken at NDSU.
- Students must earn a minimum 2.00 GPA for the minor requirements.