Soil Science

www.ndsu.edu/soils

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

First Year Experience (F):		
AGRI 189	Skills for Academic Success (Students transferring in 24 or more credits do not need to take AGRI 189.)	1
Communication (C):		
ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
One Course in Upper Level Writing: Select one of the following:		3
ENGL 321	Writing in the Technical Professions	
ENGL 324	Writing in the Sciences	
ENGL 459	Researching and Writing Grants and Proposal	
COMM 110	Fundamentals of Public Speaking	3
Quantitative Reasoning (R):		
STAT 330	Introductory Statistics	3
Science & Technology (S):		
CHEM 121 & 121L	General Chemistry I and General Chemistry I Laboratory	4
CHEM 122	General Chemistry II	3
PLSC 110	World Food Crops	3
Humanities & Fine Arts (A): Select from current general education list		6
Social & Behavioral Sciences (B): Select from current general education list		6
Wellness (W): Select from current general education list		2
Cultural Diversity (D): Select from current general education list		
Global Perspectives (G):		
PLSC 110	World Food Crops	3
Total Credits		**40**

Major Requirements

General Education Requirements		40
Required Courses for Soil Science		
AGRI 150	Agriculture Orientation (Students transferring in 24 or more credits do not need to take AGRI 150.)	1
GEOG 455	Introduction to Geographic Information Systems	4
or RNG 452	Geographic Information Systems in Range Survey	
PLSC 225	Principles of Crop Production	3
or RNG 336	Introduction to Range Management	
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 122L	General Chemistry II Laboratory	1
Select one of the following:		3-5
CHEM 240	Survey of Organic Chemistry	
CHEM 260	Elements of Biochemistry	
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	4
MATH 103	College Algebra	3
MATH 105	Trigonometry	3
MATH 146	Applied Calculus I	4
or MATH 165	Calculus I	
PHYS 211 & 211L	College Physics I and College Physics I Laboratory	4
Agriculture Electives: Select 9 credits of agriculture electives		9
Degree Electives: Potential of 10 credits to reach 128.		10
Total Credits		**128**

Minor Requirements

Soil Science Minor

Minor Requirements

Required Credits: 18

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.