SOIL SCIENCE (SOILS) - BACHELOR OF SCIENCE IN AGRICULTURE

Soil scientists investigate the physical, chemical and biological characteristics and behavior of soils, their description and classification, and their management for both agricultural and non-agricultural uses. Career opportunities include: industry jobs; environmental consulting firms; and federal, state and local government careers working on various environmental, agricultural and ecological projects.

Crop production and plant growth are emphasized in the soils concentration. Soil management, soil conservation, and soil reclamation are related to plant growth for those students interested in both private industry and government employment opportunities as well as farm management.

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 120 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework. In addition to the courses listed for each major, you must take 35 credits in the College of Agricultural, Consumer and Environmental Sciences and at least 24 credits of soil science related courses with a grade of C- or above including:

Prefix	Title	Credits
General Education		
Area I: Communications		
English Composition - Level 1 [1]		*4*
English Composition - Level 2		
ENGL 2210G	Professional & Technical Communication	3
Oral Communication [1]		*3*
Area II: Mathematics		
Choose from one of the following:		3-4
MATH 1430G	Applications of Calculus I [2]	
MATH 1511G	Calculus and Analytic Geometry I [2]	
Area III/IV: Laboratory Science and Social/Behavioral Sciences		*11*
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	
Area IV: Social & Behavioral Sciences Course (3 credits) [1]		
Area V: Humanities [1]		*3*
Area VI: Creative and Fine Arts [1]		*3*
General Education Elective		
GEOL 1110G	Physical Geology	4
Viewing A Wider World [3]		**6**
Departmental/College Requirements		
SOIL 2110 & 2110L	Introduction to Soil Science and Introduction to Soil Science Laboratory	4
SOIL 312 & 312 L	Soil Management and Fertility and Soil Management and Fertility Lab	4
SOIL 447	Seminar	1
Choose one SOIL Elective Course (300-level or above)		3
Select 12-13 credits from the following:		12-13
SOIL 424	Soil Chemistry	
or SOIL 479	Environmental Soil Chemistry	
SOIL 456	Irrigation and Drainage	
SOIL 472	Soil Morphology and Classification	
SOIL 476	Soil Microbiology	
SOIL 477	Environmental Soil Physics	
Concentration Coursework [4]		
Select at least one course from each of the following four categories to bring total concentration coursework to 30 credits		30
All course selections must in addition to the courses required under the Departmental/College and Non-Departmental Requirements sections listed above		
Category 1: Crop Production & Protection		
Course category areas are as follows:		
Agronomy		
Entomology		
Plant Pathology		
Weed Science		
Horticulture		
Category 2: Plant Biology & Ecology		
Course category areas are as follows:		
Biology		
Rangeland Resources		
Category 3: Soil, Water & Agricultural Business Management		
Course category areas are as follows:		
Agricultural Economics		
Geography		
Economic Geology		
Range Science		
Soil		
Category 4: Advanced Science, Computing & Statistics		
Course category areas are as follows:		
Math		
Chemistry		
Physics		
Computer-Oriented		
Statistics or Applied Statistics		
Non-Departmental Requirements (in addition to Gen.Ed/VWW)		
CHEM 2115	Survey of Organic Chemistry and Laboratory (or above except CHEM 310V)	4
PHYS 1230G	Algebra-Based Physics I	3
Choose two from the following (lab is NOT required for this major):		6
BIOL 2610G	Principles of Biology: Biodiversity, Ecology, and Evolution	
BIOL 311	General Microbiology	
BIOL 2110G	Principles of Biology: Cellular and Molecular Biology	
Second Language: (not required)		
Electives, to bring the total credits to 120 [5]		**11-13**
Total Credits		**120**

1. See the General Education (http://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses
2. MATH 1430G Applications of Calculus I or MATH 1511G Calculus and Analytic Geometry I is required for the degree but students may need to take any prerequisites to enter either course first.

[3] See the Viewing a Wider World (http://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses

[4] Please see your academic advisor for a list of appropriate courses to satisfy the concentration coursework requirements.

[5] Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However, students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1220G College Algebra and ENGL 1110G Composition I. The contents and order of this roadmap may vary depending on initial student placement in mathematics and English. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change.

First Year		
Semester 1		**Credits**
MATH 1220G	College Algebra [1]	3
ACOM 1130G	Effective Leadership and Communication in Agriculture	3
GEOL 1110G	Physical Geology	4
ACES 1120	Freshman Orientation	1
ACES 1210	Financial Fitness for College Students	1
Area IV: Social and Behavioral Science Course [2]		3
	Credits	**15**
Semester 2		
MATH 1430G	Applications of Calculus I [1]	3
ENGL 1110G	Composition I [1]	4
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors [1]	4
CHEM 1121	General Supplemental Instruction I	1
BIOL 2610G	Principles of Biology: Biodiversity, Ecology, and Evolution (Lab not required)	3
	Credits	**15**
Second Year		
Semester 1		
PHYS 1230G	Algebra-Based Physics I	3
BIOL 2110G	Principles of Biology: Cellular and Molecular Biology (Lab not required)	3
SOIL 2110 & 2110L	Introduction to Soil Science and Introduction to Soil Science Laboratory [1]	4
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors [1]	4
CHEM 1122	General Supplemental Instruction II	1
	Credits	**15**
Semester 2		
SOIL 312 & 312 L	Soil Management and Fertility and Soil Management and Fertility Lab [1]	4
ENGL 2210G	Professional & Technical Communication [1]	3
Area V: Humanities Course [2]		3
Area VI: Creative and Fine Arts Course [2]		3
Soils Option Course		3
	Credits	**16**
Third Year		
Semester 1		
SOIL 424	Soil Chemistry [1]	3
SOIL 472	Soil Morphology and Classification [1]	4
Choose one SOIL Elective Course (300-level or above)		3
Soils Option Course		3
VWW: Viewing a Wider World Course [3]		3
	Credits	**16**
Semester 2		
SOIL 476 & 476 L	Soil Microbiology and Soil Microbiology Laboratory	4
CHEM 2115	Survey of Organic Chemistry and Laboratory	4
Soils Option Course		3
Soils Option Course		3
Soils Option Course		3
	Credits	**17**
Fourth Year		
Semester 1		
SOIL 477 & 477 L	Environmental Soil Physics and Environmental Soil Physics Laboratory	4
VWW: Viewing a Wider World Course [3]		3
Soils Option Course		3
Soils Option Course		3
Soils Option Course		3
	Credits	**16**
Semester 2		
SOIL 456	Irrigation and Drainage	3
SOIL 447	Seminar	1
Soils Option Course		3
Soils Option Course		3
	Credits	**10**
	Total Credits	**120**

[1] These courses have prerequisites and it is the students responsibility for checking and fulfilling all course prerequisites listed for these courses

[2] See the General Education (http://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses.

[3] See the Viewing a Wider World (http://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses.