PLANT AND ENVIRONMENTAL SOIL SCIENCE - BS, SOIL AND WATER EMPHASIS

Curriculum in Plant and Environmental Soil Science is administered by the Department of Soil and Crop Sciences. Students following this curriculum develop and utilize basic scientific knowledge to understand the most fundamental resources—plants, soils, and water—and the interaction of these resources in different environmental settings. The required courses provide an essential foundation in several disciplines, while the elective courses can be selected to meet the interests, needs and objectives of individual students.

Based on professional goals and objectives, students majoring in Plant and Environmental Soil Science will select an emphasis in crops or soil and water. In the soil and water emphasis, students will study the nature, properties, management, conservation, and use of soils and water. The graduate in Plant and Environmental Soil and Science with a soil and water emphasis may choose a career in: soil and water resource management such as soil surveying, land appraisal, land use planning, conservation and pollution abatement, or watershed management, or in environmental areas such as pollution control and environmental protection as affected by plant-soil-water interactions.

Flexible curricula are provided so that each student, in consultation with their academic advisor, can design a degree program that best serves the student's career objectives.

Program Requirements

First Year		
Spring		**Semester Credit Hours**
AGEC 105	Introduction to Agricultural Economics	3
COMM 203	Public Speaking	3
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history) [1]		3
Government/Political science (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science) [1]		3
Mathematics (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#mathematics) [2]		3
	Semester Credit Hours	**15**
Fall		
SCSC 205	Problem Solving in Plant and Soil Systems	3
American history (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#american-history) [1]		3
Communication (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication) [1]		3
Government/Political science (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#government-political-science) [1]		3
Mathematics (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#mathematics) [2]		3
	Semester Credit Hours	**15**
Second Year		
Spring		
CHEM 222 or CHEM 227	Elements of Organic and Biological Chemistry or Organic Chemistry I	3
HORT 201	Horticultural Science and Practices	3
Select one of the following:		4
BIOL 101	Botany	
BIOL 111	Introductory Biology I	
CHEM 120	Fundamentals of Chemistry II	
GEOL 101 & GEOL 102	Principles of Geology and Principles of Geology Laboratory	
PHYS 201	College Physics	
Select one of the following:		3
ENTO 201	General Entomology	
ENTO 401	Principles of Integrated Pest Management	
PLPA 301	Plant Pathology	
SCSC 446	Weed Management and Ecology	
Creative arts (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#creative-arts) [1]		3
	Semester Credit Hours	**16**
Fall		
CHEM 119	Fundamentals of Chemistry I	4
Select one of the following:		3
ENTO 201	General Entomology	
ENTO 401	Principles of Integrated Pest Management	
PLPA 301	Plant Pathology	
SCSC 446	Weed Management and Ecology	
Language, philosophy and culture (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture) [1]		3
Directed elective [3]		3
General elective		3
	Semester Credit Hours	**16**
Third Year		
Spring		
ECCB 205 or SCSC 444	Fundamentals of Ecology or Forage Ecology and Management	3
SCSC 309	Water in Soils and Plants	4
SCSC 310	Soil Morphology and Interpretations	2
Directed elective [3]		3
General elective		3
	Semester Credit Hours	**15**
Fall		
SCSC 301	Soil Science	4
SCSC 307	Crop Biology and Physiology	4
Select one of the following: [4]		3
RWFM 313	Vegetation Sampling Methods and Designs in Ecosystems	

STAT 201	Elementary Statistical Inference	
STAT 302	Statistical Methods	
General elective		3
	Semester Credit Hours	**14**
Fourth Year		
Spring		
GEOG 390 or ECCB 351	Principles of Geographic Information Systems or Geographic Information Systems for Resource Management	4
SCSC 455	Environmental Soil and Water Science	3
SCSC 458	Watershed, Water and Soil Quality Management	3
SCSC 481	Senior Seminar	2
General elective		3
	Semester Credit Hours	**15**
Fall		
SCSC 405	Soil and Water Microbiology	3
SCSC 406	Soil and Water Microbiology Laboratory	1
SCSC 422	Soil Fertility and Plant Nutrient Management	3
SCSC 432	Soil Fertility and Plant Nutrient Management Laboratory	1
Select one of the following: [5]		3
SCSC 420	Brazilian Agriculture and Food Production Systems	
SCSC 421	International Agricultural Research Centers - Mexico	
SCSC 484	Internship	
SCSC 491	Research	
General elective		3
	Semester Credit Hours	**14**
	Total Semester Credit Hours	**120**

[1] Graduation requirements include a requirement for 3 hours of International and Cultural Diversity (http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/) courses and 3 hours of Cultural Discourse (http://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/) courses. A course satisfying a Core category, a college/department requirement, or a free elective can be used to satisfy this requirement. Select in consultation with an academic advisor.

[2] Choose from core curriculum courses with a MATH prefix.

[3] To be selected from SCSC 201 and SCSC 300-499 (http://catalog.tamu.edu/undergraduate/course-descriptions/scsc/) courses not already required on the degree plan and selected in consultation with an academic advisor.

[4] Statistics course to be selected in consultation with academic advisor.

[5] Students will complete an internship, study abroad or independent research experience.