

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

Students in this program develop and utilize basic scientific knowledge to understand the most fundamental resources, including plants, soils, and water, and the interaction of these resources in different environmental settings.

Curriculum in Plant and Environmental Soil Science is administered by the Department of Soil and Crop Sciences. 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

Fall		Semester Credit Hours
POLS 206	American National Government ¹	
SCSC 205	Problem Solving in Plant and Soil Systems	3
Communication (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#communication) ¹		3
Life and physical sciences ²		4
Mathematics (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#mathematics) ³		3
Semester Credit Hours		16
Spring		
POLS 207	State and Local Government ¹	3
SCSC 301	Soil Science	4
Select one of the following:		3
AGEC 105	Introduction to Agricultural Economics	
ECON 202	Principles of Economics	
ECON 203	Principles of Economics	
Life and physical sciences ²		4

Mathematics (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#mathematics) ³	3	
Semester Credit Hours		17

Second Year

Fall		Semester Credit Hours
COMM 203	Public Speaking	
American history (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#American-History) ¹		3
Language, philosophy and culture (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#language-philosophy-culture) ¹		3
Life and physical sciences ²		4
Soils emphasis elective ⁴		3
Semester Credit Hours		16

Spring

SCSC 307	Crop Biology and Physiology	4
American history (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#American-history) ¹		3
PSSC science elective ⁵		3
Directed electives ⁶		4
Semester Credit Hours		14

Third Year

Fall		Semester Credit Hours
Select one of the following: ⁷		
STAT 201	Elementary Statistical Inference	
STAT 301	Introduction to Biometry	
STAT 302	Statistical Methods	
STAT 303	Statistical Methods	
STAT 312	Statistics for Biology	
Creative arts (https://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/#Creative-arts)		3
Soils emphasis elective ⁴		3
Directed electives ⁶		4
Semester Credit Hours		13

Spring

SCSC 309	Water in Soils and Plants	3
Select one of the following:		3
GENE 301	Comprehensive Genetics	
GENE 310	Principles of Heredity	
SCSC 304	Plant Breeding and Genetics	
Directed elective ⁶		3
General elective		3
Semester Credit Hours		12

Fourth Year

Fall		Semester Credit Hours
SCSC 422	Soil Fertility and Plant Nutrient Management	
SCSC 432	Soil Fertility and Plant Nutrient Management Laboratory	1

SCSC 484	Internship	3
or SCSC 491	or Research	
Soils emphasis elective ⁴		3
Directed electives ⁶		6
Semester Credit Hours		16
Spring		
SCSC 481	Senior Seminar	2
Directed electives ⁶		9
General electives		5
Semester Credit Hours		16
Total Semester Credit Hours		120

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

² Select from BIOL 101, BIOL 111, BIOL 112, CHEM 119, CHEM 120, GEOL 101 and GEOL 102, HORT 201 and HORT 202, PHYS 201, PHYS 202.

³ Select from MATH 135, MATH 136, MATH 140, MATH 142, MATH 147, MATH 148, MATH 150, MATH 151, MATH 152, MATH 167, MATH 168, MATH 171, MATH 172.

⁴ Select from SCSC 310, SCSC 405, SCSC 424, SCSC 455, SCSC 458.

⁵ Select from CHEM 222, CHEM 227, CHEM 316, BIOL 206, ECCB 205.

⁶ In consultation with academic advisor select from the following AGCJ 404, AGECE 325, AGECE 340, AGSM 201, AGSM 335, AGSM 301, AGSM 310, AGSM 435, ALED 339, ANSC 107, ANSC 320, ATMO 210, BESC 320, BESC 367, BESC 401, BESC 403, BICH 303, BICH 409, BICH 431/GENE 431, BICH 432/GENE 432, BICH 450/BIOL 450, BIOL 111, BIOL 112, BIOL 113, BIOL 206, BIOL 350, CHEM 119, CHEM 120, CHEM 222, CHEM 227, CHEM 228, CHEM 237, CHEM 238, CHEM 257, CHEM 258, CHEM 316, CHEM 318, CHEM 327, CHEM 328, CHEM 362, CHEM 383, CHEM 415, CSCE 111, ENTO 201, ENTO 401, ENTO 402, ECCB 311, ECCB 351, ECCB 406/GEOG 462, ECCB 407, ECCB 444, ECCB 446, GENE 301, GENE 312, GENE 412, GEOG 390, GEOL 101, GEOL 102, GEOL 443/GEOG 443, MATH 140, MATH 142, MATH 147, MATH 148, MATH 150, MATH 151, MATH 152, MATH 167, MATH 168, MATH 171, MATH 172, MATH 251, MATH 253, MGMT 309, OCNG 469, PHYS 201, PHYS 202, PHYS 206, PHYS 207, PLPA 301, PLPA 303, PLPA 334, POSC 427, ECCB 205, RWFM 314, RWFM 317, RWFM 325, RWFM 440, SCSC 105-499 (<https://catalog.tamu.edu/undergraduate/course-descriptions/scsc/>), STAT 404. At least 6 hours must be 300-level or above.

⁷ Statistics course to be selected in consultation with academic advisor.