

Crop and Soil Sciences (BS): Agronomy

To see more about what you will learn in this program, visit the Learning Outcomes website (<https://apps.oirp.ncsu.edu/pgas/>)!

The Bachelor of Science in *Crop and Soil Sciences* degree with a concentration in *Agronomy* is a flexible program that allows students to choose from a wide range of courses, based on their personal interests and career goals. Students gain understanding of how plants grow, how the environment impacts crop productivity, and how management and marketing decisions affect profits. Graduates of this program will feed and clothe a growing global population.

Plan Requirements

Code	Title	Hours	Counts towards
Orientation			
ALS 103	Freshman Transitions and Diversity in Agriculture & Life Sciences	1	
or ALS 303	Transfer Transitions and Diversity in Agriculture & Life Sciences		
Mathematics & Natural Sciences			
MA 121	Elements of Calculus	3	
ST 311	Introduction to Statistics	3	
BIO 181	Introductory Biology: Ecology, Evolution, and Biodiversity	4	
CH 101	Chemistry - A Molecular Science	3	
CH 102	General Chemistry Laboratory	1	
CH 220	Introductory Organic Chemistry	3	
CH 222	Organic Chemistry I Lab	1	
PB 321	Introduction to Whole Plant Physiology	3	
PY 131	Conceptual Physics	4	
BIO 183	Introductory Biology: Cellular and Molecular Biology	4	
or PB 200	Plant Life		
Communication/Advanced Writing			

COM 110	Public Speaking	3
or COM 112	Interpersonal Communication	
Select one:		3
AEE 311	Communication Methods and Media	
ENG 331	Communication for Engineering and Technology	
ENG 332	Communication for Business and Management	
ENG 333	Communication for Science and Research	
Required Courses within Major		
ARE 201	Introduction to Agricultural & Resource Economics	3
CSSC 290	Professional Development in Crop & Soil Sciences	1
CS 211	Plant Genetics	3
CS 213	Crop Science ¹	3
CS 214	Crop Science Laboratory ¹	1
CS 414	Weed Science	4
CS 415	Integrated Pest Management	3
SSC 200	Soil Science ¹	3
SSC 201	Soil Science Laboratory ¹	1
SSC 341	Soil Fertility and Nutrient Management	3
SSC 342	Soil and Plant Nutrient Analysis	1
SSC 462	Soil-Crop Management Systems	3
Electives		
Foundation Elective (select one):		3
CS 224	Seeds, Biotechnology and Societies	
CS 230	Introduction to Agroecology	
SSC 185	Land and Life	
Crop Production Electives (select two):		6
CS 216	Southern Row Crop Production - Cotton, Peanuts, and Tobacco	

CS 218	Southern Row Crop Production - Corn, Small Grains and Soybeans	
CS 251	Production of Forage Crops	
Experiential Learning (select one):		3
CSSC 492	Professional Internship Experience in Crop and Soil Sciences	
CSSC 493	Research Experience in Crop and Soil Sciences	
Restricted Electives (p. 2)		17
General Education Program (GEP) Courses		
ENG 101	Academic Writing and Research ¹	4
GEP Humanities (http:// catalog.ncsu.edu/undergraduate/ gep-category-requirements/gep- humanities/)		6
GEP Social Sciences (http:// catalog.ncsu.edu/undergraduate/ gep-category-requirements/gep- social-sciences/)		3
GEP Health and Exercise Studies (http://catalog.ncsu.edu/ undergraduate/gep-category- requirements/gep-health-exercise- studies/)		2
GEP Additional Breadth (http:// catalog.ncsu.edu/undergraduate/ gep-category-requirements/) (Humanities/Social Sciences/Visual and Performing Arts)		3
GEP Interdisciplinary Perspectives (http://catalog.ncsu.edu/ undergraduate/gep-category- requirements/gep-interdisciplinary- perspectives/)		2
GEP U.S. Diversity (http:// catalog.ncsu.edu/undergraduate/ gep-category-requirements/gep-us- diversity/) (verify requirement)		
GEP Global Knowledge (http:// catalog.ncsu.edu/undergraduate/ gep-category-requirements/ gep-global-knowledge/) (verify requirement)		
Foreign Language Proficiency (http://catalog.ncsu.edu/ undergraduate/gep-category- requirements/foreign-language- proficiency/) (verify requirement)		

Free Electives

Free Electives (12 Hr S/U Lmt) ²	6
Total Hours	120

¹ A grade of C- or higher is required.

² Students should consult their academic advisors to determine which courses fill this requirement.

Restricted Electives

Code	Title	Hours	Counts towards
ACC 280	Survey of Financial and Managerial Accounting	3	
ARE 215	Small Business Accounting	3	
ARE 303	Farm Management	3	
ARE 304	Agribusiness Management	3	
ARE 306	Agricultural Law	3	
ARE 309	Environmental Law & Economic Policy	3	
ARE 311	Agricultural Markets	3	
ARE 312	Agribusiness Marketing	3	
ARE 323	Agribusiness Finance	3	
ARE 332	Human Resource Management for Agribusiness	3	
ARE 336	Introduction to Resource and Environmental Economics	3	
BAE 325	Introductory Geomatics	3	
BAE 435/535	Precision Agriculture Technology	3	
BAET 323	Water Management	3	
CS 216	Southern Row Crop Production - Cotton, Peanuts, and Tobacco	3	
CS 218	Southern Row Crop Production - Corn, Small Grains and Soybeans	3	
CS 224	Seeds, Biotechnology and Societies	3	

CS 230	Introduction to Agroecology	3
CS 251	Production of Forage Crops	3
CS 411	Crop Ecology	3
CS 413	Plant Breeding	2
CS 418/518	Introduction to Regulatory Science in Agriculture	3
CS 428/528	Advanced Regulatory Science in Agriculture	3
CS 424/524	Seed Physiology	3
CS 430/530	Advanced Agroecology	4
ENT 425	General Entomology	3
GIS 280	Introduction to GIS	3
PP 315	Principles of Plant Pathology	4
SSC 185	Land and Life	3
SSC 332	Environmental Soil Microbiology	3
SSC 440/540	Geographic Information Systems (GIS) in Soil Science and Agriculture	3
SSC 427	Biological Approaches to Sustainable Soil Systems	3
SSC 410	Soil Judging for Land Evaluation	1
SSC 442	Soil and Environmental Biogeochemistry	3
SSC 452	Soil Classification	4
SSC 455	Soils, Environmental Quality and Global Challenges	3
SSC 461	Soil Physical Properties and Plant Growth	3
SSC 545	Remote Sensing Applications in Soil Science and Agriculture	3

Semester Sequence

This is a sample.

First Year

Fall Semester		Hours
ALS 103 or ALS 303	Freshman Transitions and Diversity in Agriculture & Life Sciences or Transfer Transitions and Diversity in Agriculture & Life Sciences	1
BIO 181	Introductory Biology: Ecology, Evolution, and Biodiversity	4
ENG 101	Academic Writing and Research	4
MA 121	Elements of Calculus	3
Foundation Elective (select one):		3
CS 224	Seeds, Biotechnology and Societies (Select one of the following Foundation electives:)	
CS 230	Introduction to Agroecology	
SSC 185	Land and Life	
CSSC 290	Professional Development in Crop & Soil Sciences	1

Hours 16

Spring Semester

CH 101	Chemistry - A Molecular Science	3
CH 102	General Chemistry Laboratory	1
COM 110 or COM 112	Public Speaking or Interpersonal Communication	3
BIO 183 or PB 200	Introductory Biology: Cellular and Molecular Biology or Plant Life	4
Restricted Electives (p. 2)		3
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1

Hours 15

Second Year

Fall Semester		Hours
ARE 201	Introduction to Agricultural & Resource Economics	3
CS 213	Crop Science	3
CS 214	Crop Science Laboratory	1
ST 311	Introduction to Statistics	3
GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		3
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)		1

Hours 14

Spring Semester

CH 220	Introductory Organic Chemistry	3
CH 222	Organic Chemistry I Lab	1
SSC 200	Soil Science	3
SSC 201	Soil Science Laboratory	1
PB 321	Introduction to Whole Plant Physiology	3
GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		3

GEP Interdisciplinary Perspectives (<http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/>) 2

Hours **16**

Third Year**Fall Semester**

CS 414 Weed Science (Fall only) 4

SSC 341 Soil Fertility and Nutrient Management 3

Crop Production Electives (select one): 3

CS 216 Southern Row Crop Production - Cotton, Peanuts, and Tobacco

CS 218 Southern Row Crop Production - Corn, Small Grains and Soybeans

CS 251 Production of Forage Crops

Restricted Electives (p. 2) 6

Hours **16**

Spring Semester

CS 211 Plant Genetics 3

Select one: 3

AEE 311 Communication Methods and Media

ENG 331 Communication for Engineering and Technology

ENG 332 Communication for Business and Management

ENG 333 Communication for Science and Research

SSC 342 Soil and Plant Nutrient Analysis 1

Crop Production Electives (select one): 3

CS 216 Southern Row Crop Production - Cotton, Peanuts, and Tobacco

CS 218 Southern Row Crop Production - Corn, Small Grains and Soybeans

CS 251 Production of Forage Crops

Restricted Electives (p. 2) 6

Hours **16**

Fourth Year**Fall Semester**

PY 131 Conceptual Physics 4

Experiential Learning (select one): 3

CSSC 492 Professional Internship Experience in Crop and Soil Sciences

CSSC 493 Research Experience in Crop and Soil Sciences

Restricted Electives (p. 2) 2

GEP Social Sciences (<http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-social-sciences/>) 3

Free Elective 3

Hours **15**

Spring Semester

CS 415 Integrated Pest Management 3

SSC 462 Soil-Crop Management Systems (Spring only) 3

GEP Additional Breadth (<http://catalog.ncsu.edu/undergraduate/gep-category-requirements/>) 3

Free Elective 3

Hours **12**

Total Hours **120**

Career Opportunities

The breadth and depth of education and experiences you will gain from our department will set you on a path toward a rewarding career in one of the following specialties:

- Agronomist
- Agronomy Sales and Management
- Crop Advisor
- Crops Systems Specialist
- Extension Agent
- Nutrient Management/ Waste Management Specialist
- Precision Agriculture Specialist
- Research Station Manager
- Seed Production Agronomist

Learn more about future job prospects, representative salaries, and major employers for each of the above listed careers at go.ncsu.edu/careers (<http://go.ncsu.edu/careers/>)