

# Agroecology & Sustainable Food Systems (BS): Community Food Systems Concentration

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 Agroecology and Sustainable Food Systems is offered jointly through the Departments of Crop and Soil Sciences and Horticultural Science. This multidisciplinary major offers students diverse courses, hands-on learning, community engagement opportunities, internships, and research experiences to address the grand challenges of agriculture and food systems. Students can choose from three career path concentrations – Agroecology Research and Production, Community Food Systems, and Urban Horticulture.

The Agroecology Research and Production concentration is for students interested in the deeper science of sustainable agriculture production practices, research, and graduate school opportunities in agriculture, entomology, horticulture, soil sciences and related sciences. Students will have the opportunity to learn from a wide diversity of faculty leading cutting edge sustainable agriculture research, many at the Center for Environmental Farming Systems (CEFS), a national recognized sustainable agriculture research, education and extension facility.

Community Food Systems is a broad concentration for students interested in connecting production with issues in the greater food system, such as food security, policy, community education or extension. Students can also participate in social science, agricultural economics, agriculture education research and others with food system with researchers at CEFS and NC State that support this concentration.

The Urban Horticulture concentration integrates horticulture production and agriculture business education for students interested in starting or managing their own sustainable horticultural farm, working with community gardens, and more. There are many focused horticulture classes, research and internship opportunities as well for this concentration.

## Program Highlights:

- Students in our program gain valuable hands-on experience in sustainable and organic production in our hands-on Agroecology Education Farm, a student farm near campus where all the food produced goes back into NC State Dining cafeterias and the food pantry on campus.
- Students interested in Agroecology can also join the Agroecology Student Club at NC State who organize various sustainable agriculture and food system activities each semester.
- As a required part of the curriculum, students will complete either an internship program or research experience to gain practical and professional development experience. Students will have no problems finding an opportunity with the numerous sustainable agriculture researchers and community stakeholders that collaborate with NC State focused in sustainable agriculture and food systems.

- Seniors will complete a Senior Capstone Project through which they draw on both their major courses and their concentration to address a problem or issue that they identify.
- Agroecology and Sustainable Food System students have the opportunity to student abroad with the various global food and sustainable agriculture focused study abroad programs in Ireland, Scotland, England, Mexico and others.

For more information about our program, visit our website (<https://cals.ncsu.edu/crop-and-soil-sciences/agroecology-and-sustainable-agriculture/>).

## Contact

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## Plan Requirements

Code	Title	Hours	Counts towards
<b>Orientation</b>			
ALS 103	Freshman Transitions and Diversity in Agriculture & Life Sciences	1	
or ALS 303	Transfer Transitions and Diversity in Agriculture & Life Sciences		
<b>Mathematics &amp; Natural Sciences</b>			
MA 107	Precalculus I	3	
Select one of the following:		3	
MA 121	Elements of Calculus		
MA 131	Calculus for Life and Management Sciences A		
MA 141	Calculus I		
BIO 181	Introductory Biology: Ecology, Evolution, and Biodiversity	4	
BIO 183	Introductory Biology: Cellular and Molecular Biology	4	
or PB 200	Plant Life		
CH 101 & CH 102	Chemistry - A Molecular Science and General Chemistry Laboratory	4	
AEC 360	Ecology	4	
<b>Communication/Advanced Writing</b>			

COM 110 or COM 112	Public Speaking Interpersonal Communication	3
Select one of the following:		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	
<b>Major Requirements</b>		
CS 230	Introduction to Agroecology	3
CS 415	Integrated Pest Management	3
CS 430	Advanced Agroecology	4
HS 410	Community Food Systems	3
HS 480	Sustainable Food Production (capstone)	1
ARE 201	Introduction to Agricultural & Resource Economics	3
SSC 200	Soil Science	3
SSC 201	Soil Science Laboratory	1
STS 323	World Population and Food Prospects	3
SSC 427 or SSC 332	Biological Approaches to Sustainable Soil Systems Environmental Soil Microbiology	3
SOC 241	Sociology of Agriculture and Rural Society	3
SSC 428	Service-Learning in Urban Agriculture Systems	1
Select one of the following:		3
IDS 201	Environmental Ethics	
IDS 211	Eating through American History	
IDS 303	Humans and the Environment	
Select one of the following:		3

CSSC 492	Professional Internship Experience in Crop and Soil Sciences	
CSSC 493	Research Experience in Crop and Soil Sciences	
HS 492	Horticulture Internship	
HS 493	Research Experience in Horticultural Science	
CSSC 290	Professional Development in Crop & Soil Sciences	1
<b>Concentration Electives</b>		
Foundational Electives (p. 3)		11
Restricted Electives (p. 3)		21
<b>GEP Courses</b>		
ENG 101	Academic Writing and Research <sup>1</sup>	4
GEP Humanities ( <a href="http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/">http:// catalog.ncsu.edu/undergraduate/ gep-category-requirements/gep- humanities/</a> )		6
GEP Health and Exercise Studies ( <a href="http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/">http://catalog.ncsu.edu/ undergraduate/gep-category- requirements/gep-health-exercise- studies/</a> )		2
GEP Additional Breadth ( <a href="http://catalog.ncsu.edu/undergraduate/gep-category-requirements/">http:// catalog.ncsu.edu/undergraduate/ gep-category-requirements/</a> ) (Humanities/Social Sciences/Visual and Performing Arts)		3
GEP U.S. Diversity ( <a href="http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-us-diversity/">http:// catalog.ncsu.edu/undergraduate/ gep-category-requirements/gep- us-diversity/</a> ) (verify requirement)		
GEP Global Knowledge ( <a href="http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-global-knowledge/">http:// catalog.ncsu.edu/undergraduate/ gep-category-requirements/ gep-global-knowledge/</a> ) (verify requirement)		
Foreign Language Proficiency ( <a href="http://catalog.ncsu.edu/undergraduate/gep-category-requirements/foreign-language-proficiency/">http://catalog.ncsu.edu/ undergraduate/gep-category- requirements/foreign-language- proficiency/</a> ) (verify requirement)		
<b>Free Electives</b>		
Free Electives (12 Hr S/U Lmt)		6
<b>Total Hours</b>		<b>120</b>

- <sup>1</sup> A grade of C- or higher is required.  
<sup>2</sup> Students should consult their academic advisors to determine which courses fill this requirement.

## Foundational Electives

Code	Title	Hours	Counts towards
<b>Group I (Max: 4 Units )</b>			
NTR 220	Food and Culture		
NTR 420	Applied Nutrition Education		
SOC 311	Community Relationships		
<b>Group II (Max: 4 Units )</b>			
FS 301	Introduction to Human Nutrition		
GPH 201	Fundamentals of Global Public Health		
NTR 301	Introduction to Human Nutrition		
STS 214	Introduction to Science, Technology, and Society		
<b>Group III (Max: 4 Units )</b>			
AEE 206	Introduction to Teaching Agriculture		
AEE 230	Introduction to Cooperative Extension		
AEE 311	Communication Methods and Media		
NPS 340	Fundamentals of Grant Development for Nonprofits		
<b>Restricted Electives</b>			
Code	Title	Hours	Counts towards
AEE 311	Communication Methods and Media		
AEE 323	Leadership Development in Agriculture and Life Sciences		
AEE 325	Planning and Delivering Non-Formal Education		
ARE 301	Intermediate Microeconomics		
ARE 433	U.S. Agricultural Policy		

EC 301	Intermediate Microeconomics
HS 431	Vegetable Production
HS 432	Introduction to Permaculture
HS 532	Introduction to Permaculture
IDS 303	Humans and the Environment
NR 303	Humans and the Environment
PB 321	Introduction to Whole Plant Physiology
PB 345	Economic Botany
PB 346	Economic Botany Lab
SOC 342	International Development
SOC 350	Food and Society
SOC 402	Urban Sociology

## Semester Sequence

### First Year

Fall Semester	Hours
BIO 181 Introductory Biology: Ecology, Evolution, and Biodiversity	4
ALS 103 or ALS 303 Freshman Transitions and Diversity in Agriculture & Life Sciences or Transfer Transitions and Diversity in Agriculture & Life Sciences	1
ENG 101 Academic Writing and Research	4
MA 107 Precalculus I	3
Foundation Elective (p. )	3
<b>Hours</b>	<b>15</b>

### Spring Semester

BIO 183 or PB 200 Introductory Biology: Cellular and Molecular Biology or Plant Life	4
Select one of the following:	3-4
MA 121 Elements of Calculus	
MA 131 Calculus for Life and Management Sciences A	
MA 141 Calculus I	
GEP Humanities ( <a href="http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/">http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/</a> )	3
COM 110 Public Speaking or COM 112 or Interpersonal Communication	3
GEP Health and Exercise Studies ( <a href="http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/">http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/</a> )	1
<b>Hours</b>	<b>14</b>

**Second Year****Fall Semester**

CSSC 290	Professional Development in Crop & Soil Sciences	
CH 101	Chemistry - A Molecular Science	3
CH 102	General Chemistry Laboratory	1
CS 230	Introduction to Agroecology	3
Select one of the following:		3
IDS 201	Environmental Ethics	
IDS 211	Eating through American History	
IDS 303	Humans and the Environment	
GEP Humanities ( <a href="http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/">http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/</a> )		3
GEP Health and Exercise Studies ( <a href="http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/">http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/</a> )		1
<b>Hours</b>		<b>14</b>

**Spring Semester**

ARE 201	Introduction to Agricultural & Resource Economics	3
AEC/PB 360	Ecology	4
SSC 200	Soil Science	3
SSC 201	Soil Science Laboratory	1
Foundation Elective (p. )		4
<b>Hours</b>		<b>15</b>

**Third Year****Fall Semester**

SOC 241	Sociology of Agriculture and Rural Society	3
SSC 427 or SSC 332	Biological Approaches to Sustainable Soil Systems or Environmental Soil Microbiology	3
CS/HS 410	Community Food Systems	3
Foundation Elective (p. )		4
Select one of the following:		3
ENG 331	Communication for Engineering and Technology	
ENG 332	Communication for Business and Management	
ENG 333	Communication for Science and Research	
AEE 311	Communication Methods and Media	
<b>Hours</b>		<b>16</b>

**Spring Semester**

CS 430	Advanced Agroecology	4
SSC/HS 428	Service-Learning in Urban Agriculture Systems	1
STS 323	World Population and Food Prospects	3
Restricted Elective (p. 3)		3
Restricted Elective (p. 3)		3
<b>Hours</b>		<b>14</b>

**Fourth Year****Fall Semester**

CS/HS 480	Sustainable Food Production (capstone)	1
Restricted Elective (p. 3)		3
Restricted Elective (p. 3)		3

Restricted Elective (p. 3)		3
Free Elective		3
CSSC 492 or CSSC 493	Professional Internship Experience in Crop and Soil Sciences or Research Experience in Crop and Soil Sciences	3

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**Hours 16**

**Spring Semester**

CS 415	Integrated Pest Management	3
GEP Additional Breadth ( <a href="http://catalog.ncsu.edu/undergraduate/gep-category-requirements/">http://catalog.ncsu.edu/undergraduate/gep-category-requirements/</a> )		3
Restricted Elective (p. 3)		3
Restricted Elective (p. 3)		3
Free Elective		3

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**Hours 15**

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**Total Hours 119**

**Career Opportunities**

Interested in food policy and education, nutrition, food security, community impacts, and graduate school opportunities in sociology, economics, education and other disciplines related to food? Then Community Food Systems is for you. Career tracks include:

- Agricultural Educator
- Agriculture Extension Agent
- Community Education Specialist
- Community Garden Manager
- Local Food Procurement Professional
- Food Policy Specialist
- Food Security Professional
- Food Educator
- Community Garden Director
- Farmer/farm worker advocacy professional