

Agricultural Education (BS): Poultry Science Concentration

The Agricultural Education major within the Department of Agricultural and Human Sciences prepares graduates to teach agriculture, serve as FFA advisors, and supervise agricultural experiences (SAE) in public and private schools.

The Poultry Science concentration is one of seven concentrations offered for the Bachelor of Science in Agricultural Education.

- Students interested in Agricultural Education may be eligible to apply for the North Carolina Teaching Fellows Program at NC State.
- Student teachers of agriculture may apply for Ed Scholars through NC State.
- Many alumni pursue careers in middle and high schools, universities and community colleges, county extension offices, and in the agricultural industry

Teacher Licensure

Completion of the B.S. program in Agricultural Education leads to teacher licensure in North Carolina for grades 6-12. Because of North Carolina's reciprocity agreements, graduates also can pursue certification in about 35 states. Download the Teacher Licensure Checklist (<https://cals.ncsu.edu/agricultural-and-human-sciences/wp-content/uploads/sites/34/2017/06/Teacher-Licensure-Checklist.pdf>) to review the requirements for admissions to teacher education candidacy and help you stay on course.

For more information about this program, including contact information, visit our website (<https://cals.ncsu.edu/agricultural-and-human-sciences/undergraduate/#agricultural-education-major>).

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Plan Requirements

Code	Title	Hours
Orientation		
AEE 103	Fundamentals of Agricultural and Extension Education	1
or ALS 103	First-year Success in Agriculture and Life Sciences	
or ALS 303	Transfer Success in Agriculture and Life Sciences	
Writing and Speaking		
COM 110	Public Speaking	3
Sciences		

BIO 181	Introductory Biology: Ecology, Evolution, and Biodiversity	4
BIO 183	Introductory Biology: Cellular and Molecular Biology	4
CH 101 & CH 102	Chemistry - A Molecular Science and General Chemistry Laboratory	4

Agricultural Education

AEE 101	Introduction to Career and Technical Education ¹	1
AEE 206	Introduction to Teaching Agriculture ¹	3
AEE 226	Computer Applications and Information Technology in Agricultural & Extension Ed ¹	3
AEE 303	Administration and Supervision of Student Organizations ¹	3
AEE 322	Experiential Learning in Agriculture ¹	3
AEE 326	Teaching Diverse Learners in AED ¹	3
AEE 327	Conducting Summer Programs in Agricultural Education	1
AEE 424	Planning Agricultural Educational Programs ¹	3
AEE 426	Methods of Teaching Agriculture ¹	3
AEE 427	Student Teaching in Agriculture ¹	8
AEE 491	Seminar in Agricultural Education	1

Other Professional Education

ELP 344	School and Society ¹	3
EDP 304	Educational Psychology ¹	3
ED 311	Classroom Assessment Principles and Practices ¹	2
ED 312	Classroom Assessment Principles and Practices Professional Learning Lab ¹	1

Teaching Content Courses

BAET 201	Shop Processes and Management	3
or TDE 110	Materials & Processes Technology	
Plant Science Elective (p. 2)		3
SSC 200 & SSC 201	Soil Science and Soil Science Laboratory	4
ANS 150 & ANS 151	Introduction to Animal Science and Introduction to Animal Science Lab	4
Select one of the following Economics Electives:		3
ARE 201	Introduction to Agricultural & Resource Economics	
ARE 201A	Introduction to Agricultural & Resource Economics	
EC 201	Principles of Microeconomics	
EC 205	Fundamentals of Economics	

Poultry Science Concentration

PO 201 & PO 202	Poultry Science and Production and Poultry Science and Production Laboratory	4
PO 290	Exploring Opportunities in Poultry Science	1
PO 340	Live Poultry and Poultry Product Evaluation, Grading, and Inspection	3
PO 421	Commercial Egg Production	2
PO 424	Poultry Meat Production	3
PO 435	Poultry Incubation & Breeding	4
Poultry Science Elective (p. 4)		3

GEP Courses In The Major

ENG 101	Academic Writing and Research ¹	4
GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		6

GEP Mathematical Sciences (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-mathematical-sciences/)	6
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)	2
GEP US Diversity, Equity, and Inclusion (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-usdei/)	3
GEP Interdisciplinary Perspectives (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/)	5
GEP Global Knowledge (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-global-knowledge/) (verify requirement)	
World Language Proficiency (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/world-language-proficiency/) (verify requirement)	
Total Hours	120

¹ A grade of C- or higher is required.

Plant Science Electives

Code	Title	Hours
AEC 423	Introduction to Fisheries Sciences Laboratory	1
ALS 103	First-year Success in Agriculture and Life Sciences	1
ALS 303	Transfer Success in Agriculture and Life Sciences	1
ANS 215	Agricultural Genetics	3
CS 200	Introduction to Turfgrass Management	4
CS 211	Plant Genetics	3
CS 213	Crop Science	3
CS 214	Crop Science Laboratory	1
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 312		3
CS 400	Turf Cultural Systems	3
CS 410	Community Food Systems	3
CS 411		3
CS 413	Plant Breeding	2
CS 414	Weed Science	4
CS 415	Integrated Pest Management	3
CS 418	Introduction to Regulatory Science in Agriculture	3
CS 424	Seed Physiology	3
CS 430	Advanced Agroecology	4
CS 465	Turf Management Systems and Environmental Quality	3
CS 470	Advanced Turfgrass Pest Management	2
CS 480	Sustainable Food Production (capstone)	1
CS 502	Plant Disease: Methods & Diagnosis	2
CS 524	Seed Physiology	3
CS 541	Plant Breeding Methods	3
CS 565	Turf Management Systems and Environmental Quality	3

CS 590	Special Topics	1-6
CS 591		1-6
CSSC 290	Professional Development in Crop & Soil Sciences	1
CSSC 490	Senior Seminar in Crop Science and Soil Science	1
CSSC 492	Professional Internship Experience in Crop and Soil Sciences	1-3
CSSC 493	Research Experience in Crop and Soil Sciences	1-3
CSSC 495	Special Topics in Crop and Soil Sciences	1-6
ENT 402	Forest Entomology	3
ENT 470	Advanced Turfgrass Pest Management	2
FOR 150	Critical Thinking and Data Analysis	2
FOR 172	Forest System Mapping and Mensuration I	2
FOR 204	Silviculture	2
FOR 248	Forest History, Technology and Society	3
FOR 250	Professional Development II: Communications in Natural Resources	1
FOR 252	Introduction to Forest Science	3
FOR 260	Forest Ecology	4
FOR 261	Forest Communities	2
FOR 264	Forest Wildlife	1
FOR 265	Fire Management	1
FOR 273	Forest System Mapping and Mensuration II	3
FOR 293	Independent Study in Forest Management	1-6
FOR 294	Independent Study in Forest Management	1-6
FOR 295	Special Topics in Forestry	1-6
FOR 303	Silvics and Forest Tree Physiology	3
FOR 304	Theory of Silviculture	4
FOR 318	Forest Pathology	3
FOR 319	Forest Economics	3
FOR 330	North Carolina Forests	3
FOR 334	Operations Research Applications in Natural Resources	1
FOR 339		4
FOR 350	Professional Development III: Ethical Dilemmas in Natural Resource Management	1
FOR 353	GIS and Remote Sensing for Environmental Analysis and Assessment	3
FOR 374	Forest Measurement, Modeling, and Inventory	3
FOR 402	Forest Entomology	3
FOR 405	Forest Management	4
FOR 406	Forest Inventory, Analysis and Planning	4
FOR 408	Hardwood Management: Natural Forest Silviculture	3
FOR 411	Forest Genetics	3
FOR 414	World Forestry	3
FOR 415	World Forestry Study Tour	1
FOR 420	Watershed and Wetlands Hydrology	4
FOR 422	Consulting Forestry	3
FOR 430	Forest Health and Protection	3
FOR 434	Forest Operations and Analysis	3
FOR 472	Forest Soils	4
FOR 491	Special Topics in Forestry and Related Natural Resources	1-4

FOR 493	Independent Study in Forest Management	1-6	HS 303	Ornamental Plant Identification I	3
FOR 494	Independent Study in Forest Management	1-6	HS 304	Ornamental Plant Identification II	3
FOR 501	Dendrology	3	HS 357	Landscape Design Grading and Drainage	4
FOR 502	Forest Measurements	1	HS 400	Residential Landscaping	6
FOR 503	Silvics and Forest Tree Physiology	1	HS 410	Community Food Systems	3
FOR 504	The Practice of Silviculture	3	HS 411	Nursery Management	3
FOR 505	Forest Management	4	HS 416	Landscape Planting Design	4
FOR 506	Silviculture Laboratory	1	HS 418	Landscape Design Digital Media Graphics	3
FOR 507	Silviculture Mini Course	1	HS 420	Green Infrastructure	3
FOR 508	Hardwood Management: Natural Forest Silviculture	3	HS 421	Temperate-Zone Tree Fruits: Physiology and Culture	3
FOR 509	Forest Resource Policy	1	HS 422	Small Fruit Production	3
FOR 510	Introduction to GPS	1	HS 423		3
FOR 513	Silviculture for Intensively Managed Plantations	3	HS 428	Soil Management Principles for Sustainable Agriculture	1
FOR 514	Woodland Stewardship	3	HS 431	Vegetable Production	4
FOR 519	Forest Economics	3	HS 432	Introduction to Permaculture	3
FOR 520	Watershed and Wetlands Hydrology	4	HS 433	Public Garden Administration	3
FOR 522	Consulting Forestry	3	HS 440	Greenhouse Management	3
FOR 531	Wildland Fire Science	3	HS 442	Floriculture Crop Production	3
FOR 532	Wildland Firefighter	3	HS 451	Plant Nutrition	3
FOR 534	Forest Operations and Analysis	3	HS 462	Postharvest Physiology	3
FOR 540	Advanced Dendrology	3	HS 471	Landscape Ecosystem Management	4
FOR 561	Forest Communities of the Southeastern Coastal Plain	1	HS 475		3
FOR 562	Forest Communities of the Southern Appalachians	1	HS 476	Crop Physiology and Production in Controlled Environments	3
FOR 565	Plant Community Ecology	4	HS 480	Sustainable Food Production (capstone)	1
FOR 574		3	HS 491	Sustainable Agriculture Entrepreneurship Study Abroad	3
FOR 575	Advanced Terrestrial Ecosystem Ecology	3	HS 492	Horticulture Internship	1-3
FOR 583	Tropical Forestry	3	HS 493	Research Experience in Horticultural Science	1-3
FOR 595	Special Topics	1-6	HS 494	Teaching Experience in Horticultural Science	1-3
FS 462	Postharvest Physiology	3	HS 495	Experimental Courses in Horticultural Science	1-6
FS 562	Postharvest Physiology	3	HS 502	Plant Disease: Methods & Diagnosis	2
FW 221	Conservation of Natural Resources	3	HS 516	Landscape Planting Design	4
FW 404	Wildlife Habitat Management	3	HS 520	Green Infrastructure	3
GIS 512	Introduction to Environmental Remote Sensing	3	HS 521	Temperate-Zone Tree Fruits: Physiology and Culture	3
HS 131	Fruit & Vegetable Production	3	HS 523		3
HS 144	Weeds & Diseases of Ornamentals	3	HS 532	Introduction to Permaculture	3
HS 200	Home Horticulture	3	HS 533	Public Garden Administration	3
HS 201	The World of Horticulture: Principles and Practices	3	HS 541	Plant Breeding Methods	3
HS 202	Home Plant Identification	3	HS 550	Environmental Nursery Production	3
HS 203	Home Plant Propagation	3	HS 551	Plant Nutrition	3
HS 204	Home Landscape Maintenance	3	HS 562	Postharvest Physiology	3
HS 205	Home Food Production	3	HS 576	Crop Physiology and Production in Controlled Environments	3
HS 215	Agricultural Genetics	3	HS 583		3
HS 242	Landscape Design Introduction	3	HS 590	Special Problems in Horticultural Science	1-6
HS 250	Home Landscape Design: Creating Garden Spaces	3	NR 420	Watershed and Wetlands Hydrology	4
HS 252	Landscape Design Graphic Communication	2	NR 460	Renewable Natural Resource Management and Policy	3
HS 272	Landscape Design/Build	6			
HS 280	Hands-On-Horticulture	3			
HS 290	Horticulture: Careers and Opportunities	1			
HS 301	Plant Propagation	4			
HS 302	Gardening with Herbaceous Perennials	3			

NR 491	Special Topics in Forestry and Related Natural Resources	1-4
NR 520	Watershed and Wetlands Hydrology	4
NR 560	Renewable Natural Resource Management and Policy	3
PP 144	Weeds & Diseases of Ornamentals	3
PP 318	Forest Pathology	3
PP 470	Advanced Turfgrass Pest Management	2
PP 502	Plant Disease: Methods & Diagnosis	2
SMT 202	Anatomy and Properties of Renewable Materials	3
SSC 428	Soil Management Principles for Sustainable Agriculture	1
SSC 440	Geographic Information Systems (GIS) in Soil Science and Agriculture	3
SSC 462	Soil-Crop Management Systems	3
SSC 540	Geographic Information Systems (GIS) in Soil Science and Agriculture	3

Poultry Science Electives

Code	Title	Hours
ANS 425	Feed Manufacturing Technology	3
ANS 525	Feed Manufacturing Technology	3
FM 425	Feed Manufacturing Technology	3
FM 525	Feed Manufacturing Technology	3
NTR 425	Feed Manufacturing Technology	3
NTR 525	Feed Manufacturing Technology	3
PO 406	Physiological Aspects of Poultry Management	3
PO 410	Production and Management of Game Birds in Confinement	3
PO 411	Agrosecurity	3
PO 425	Feed Manufacturing Technology	3
PO 506	Physiological Aspects of Poultry Management	3
PO 525	Feed Manufacturing Technology	3

Semester Sequence

This is a sample.

First Year

Fall Semester	Hours
AEE 101 Introduction to Career and Technical Education ¹	1
AEE 103 Fundamentals of Agricultural and Extension Education ²	1
BIO 181 Introductory Biology: Ecology, Evolution, and Biodiversity	4
COM 110 Public Speaking	3
ENG 101 Academic Writing and Research	4
GEP Mathematical Sciences (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-mathematical-sciences/)	3
GEP Health and Exercise Studies (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-health-exercise-studies/)	1
Hours	17

Spring Semester

AEE 226	Computer Applications and Information Technology in Agricultural & Extension Ed ¹	3
PO 201 & PO 202	Poultry Science and Production and Poultry Science and Production Laboratory	4
BIO 183	Introductory Biology: Cellular and Molecular Biology	4
GEP Mathematical Sciences (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-mathematical-sciences/)		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

AEE 206	Introduction to Teaching Agriculture ¹	3
CH 101 & CH 102	Chemistry - A Molecular Science and General Chemistry Laboratory	4
BAET 201 or TDE 110	Shop Processes and Management or Materials & Processes Technology	3
Economics Elective (p. 1)		3
PO 290	Exploring Opportunities in Poultry Science	1
PO 340	Live Poultry and Poultry Product Evaluation, Grading, and Inspection	3
Hours		17

Spring Semester

ANS 150 & ANS 151	Introduction to Animal Science and Introduction to Animal Science Lab	4
PO 424	Poultry Meat Production	3
GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/)		3
Plant Science Elective (p. 2)		3
GEP Interdisciplinary Perspectives (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/)		3
Hours		16

Third Year

Fall Semester

AEE 322	Experiential Learning in Agriculture	3
EDP 304	Educational Psychology	3
Poultry Science Elective (p. 4)		3
PO 421	Commercial Egg Production	3
SSC 200 & SSC 201	Soil Science and Soil Science Laboratory	4
Hours		16

Spring Semester

AEE 303	Administration and Supervision of Student Organizations	3
AEE 326	Teaching Diverse Learners in AED	3
ED 311	Classroom Assessment Principles and Practices ¹	2

ED 312	Classroom Assessment Principles and Practices Professional Learning Lab ¹	1
ELP 344	School and Society ¹	3
PO 435	Poultry Incubation & Breeding	4
Hours		16
Fourth Year		
Fall Semester		
AEE 327	Conducting Summer Programs in Agricultural Education	1
AEE 426	Methods of Teaching Agriculture	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
GEP US Diversity, Equity, and Inclusion (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-usdei/)		3
Hours		12
Spring Semester		
AEE 424	Planning Agricultural Educational Programs	3
AEE 427	Student Teaching in Agriculture	8
AEE 491	Seminar in Agricultural Education	1
Hours		12
Total Hours		121

¹ A minimum grade of C- is required for graduation. A minimum grade of C is required for teacher licensure.

² Incoming freshmen complete AEE 103 Fundamentals of Agricultural and Extension Education. Transfer students may complete ALS 103 First-year Success in Agriculture and Life Sciences or ALS 303 Transfer Success in Agriculture and Life Sciences.

Career Opportunities

The Agricultural Business Management Program prepares graduates for careers in management, marketing, sales, finance, supply chain, entrepreneurship, and related fields. The program has sufficient flexibility to provide more extensive course work in science and math for those students desiring to prepare for advanced graduate study. The concentration in biological sciences prepares graduates for management, marketing, and sales careers in fields such as biotechnology, pharmaceuticals, health care, environmental protection, and food processing. Graduates specializing in agribusiness entrepreneurship are trained in value creation and prepared to address the strong demand in agtech, biotech, and foodtech.

Career Titles

- Agricultural Inspector
- Agricultural Technician
- Aquaculture Specialist
- Bank and Branch Managers
- Buyer
- Farm and Ranch Manager
- Farm Management Advisor
- Farm Product Buyer
- Farm Products Purchasing Agent

- Farmers and Ranchers
- Financial Analyst
- Food & Drug Inspector
- Greenhouse and Nursery Manager
- Insurance Agent
- Loan Officer
- Market Research Analyst
- Purchasing Manager
- Real Estate Broker
- Sales Representative (Agricultural Products)
- Winemaker / Vintner

Learn More About Careers

NCcareers.org (<https://nccareers.org/>)

Explore North Carolina's central online resource for students, parents, educators, job seekers and career counselors looking for high quality job and career information.

Occupational Outlook Handbook (<https://www.bls.gov/ooh/>)

Browse the Occupational Outlook Handbook published by the Bureau of Labor Statistics to view state and area employment and wage statistics. You can also identify and compare similar occupations based on your interests.

Career One Stop Videos (<https://www.careeronestop.org/>)

View videos that provide career details and information on wages, employment trends, skills needed, and more for any occupation. Sponsored by the U.S. Department of Labor.

Focus 2 Career Assessment (<https://careers.dasa.ncsu.edu/explore-careers/career-assessments/>) (NC State student email address required)

This career, major and education planning system is available to current NC State students to learn about how your values, interests, competencies, and personality fit into the NC State majors and your future career. An NC State email address is required to create an account. Make an appointment with your career counselor (<https://careers.dasa.ncsu.edu/about/hours-appointments/>) to discuss the results.

Focus 2 Apply Assessment (<https://www.focus2career.com/Portal/Register.cfm?SID=1929>) (Available to prospective students)

A career assessment tool designed to support prospective students in exploring and choosing the right major and career path based on your unique personality, interests, skills and values. Get started with Focus 2 Apply and see how it can guide your journey at NC State.

Agricultural and Applied Economics Association (<https://www.aaea.org/employmenttopps/>)

AgCareers.com (<https://www.agcareers.com/newsletters/>)

AgCareers.com-Electronic-Internship-Flyer.htm)

National Agri-Marketing Association (<https://www.nama.org/>)