

Agricultural Education (BS): Animal Science Concentration

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

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 Animal 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/13/2017/06/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>).

Contact

Dr. Travis Park

Director of Undergraduate Programs
919.515.9441
tdpark@ncsu.edu

Plan Requirements

| Code | Title | Hours | Counts towards |
|-----------------------------|---|-------|----------------|
| Orientation | | | |
| AEE 103 | Fundamentals of Agricultural and Extension Education | 1 | |
| or ALS 103 | Freshman Transitions and Diversity in Agriculture & Life Sciences | | |
| or ALS 303 | Transfer Transitions and Diversity in Agriculture & Life Sciences | | |
| Writing and Speaking | | | |
| COM 110 | Public Speaking | 3 | |

Sciences

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|-----------------|--|---|
| 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

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|---------|--|---|
| EDP 304 | Educational Psychology ¹ | 3 |
| ELP 344 | School and Society 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

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|-------------------------------|--|---|
| 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 |

Select one of the following Economics Electives: 3

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|----------|---|--|
| ARE 201 | Introduction to Agricultural & Resource Economics | |
| ARE 201A | Introduction to Agricultural & Resource Economics | |
| EC 201 | Principles of Microeconomics | |
| EC 205 | Fundamentals of Economics | |

Animal Science Concentration

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|-------------------|---|---|
| ANS 150 & ANS 151 | Introduction to Animal Science and Introduction to Animal Science Lab | 4 |
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Select one of the following Evaluation of Farm Animals courses: 2

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|--------------------|---------------------------------|---|
| ANS 205 | Physiology of Domestic Animals | |
| ANS 303 | Principles of Equine Evaluation | |
| ANS 304 | Dairy Cattle Evaluation | |
| ANS 309 | Livestock Evaluation | |
| ANS 225 or ANS 230 | Principles of Animal Nutrition | 3 |

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| ANS 215 | Agricultural Genetics | 3 |
| or GN 301 | Genetics in Human Affairs | |

Animal Science Elective (p. 7) 2

ANS Restricted Elective (p. 9) 6

GEP Courses In The Major

ENG 101 Academic Writing and Research¹ 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)

Foreign Language Proficiency (<http://catalog.ncsu.edu/undergraduate/gep-category-requirements/foreign-language-proficiency/>) (verify requirement)

Free Electives 4

Total Hours 120

¹ A grade of C- or higher is required.

² Courses graded "S" for Satisfactory are allowed.

Plant Science Electives

| Code | Title | Hours | Counts towards |
|---------|---|-------|----------------|
| AEC 423 | Introduction to Fisheries Sciences Laboratory | 1 | |
| ALS 103 | Freshman Transitions and Diversity in Agriculture & Life Sciences | 1 | |

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|---------|---|---|----------|--|-----|
| ALS 303 | Transfer Transitions and Diversity in Agriculture & Life Sciences | 1 | CS 502 | Plant Disease: Methods & Diagnosis | 2 |
| ANS 215 | Agricultural Genetics | 3 | CS 518 | Introduction to Regulatory Science in Agriculture | 3 |
| CS 200 | Introduction to Turfgrass Management | 4 | CS 524 | Seed Physiology | 3 |
| CS 210 | Lawns and Sports Turf | 3 | CS 541 | Plant Breeding Methods | 3 |
| CS 211 | Plant Genetics | 3 | CS 565 | Turf Management Systems and Environmental Quality | 3 |
| CS 213 | Crop Science | 3 | CS 590 | Special Topics | 1-6 |
| CS 214 | Crop Science Laboratory | 1 | CS 591 | | 1-6 |
| CS 216 | Southern Row Crop Production - Cotton, Peanuts, and Tobacco | 3 | CSSC 290 | Professional Development in Crop & Soil Sciences | 1 |
| CS 218 | Southern Row Crop Production - Corn, Small Grains and Soybeans | 3 | CSSC 490 | Senior Seminar in Crop Science and Soil Science | 1 |
| CS 224 | Seeds, Biotechnology and Societies | 3 | CSSC 492 | Professional Internship Experience in Crop and Soil Sciences | 1-3 |
| CS 230 | Introduction to Agroecology | 3 | CSSC 493 | Research Experience in Crop and Soil Sciences | 1-3 |
| CS 312 | | 3 | CSSC 495 | Special Topics in Crop and Soil Sciences | 1-6 |
| CS 400 | Turf Cultural Systems | 3 | ENT 402 | Forest Entomology | 3 |
| CS 410 | Community Food Systems | 3 | ENT 470 | Advanced Turfgrass Pest Management | 2 |
| CS 411 | Crop Ecology | 3 | FOR 150 | Critical Thinking and Data Analysis | 2 |
| CS 413 | Plant Breeding | 2 | FOR 172 | Forest System Mapping and Mensuration I | 2 |
| CS 414 | Weed Science | 4 | FOR 204 | Silviculture | 2 |
| CS 415 | Integrated Pest Management | 3 | FOR 248 | Forest History, Technology and Society | 3 |
| CS 418 | Introduction to Regulatory Science in Agriculture | 3 | FOR 250 | Professional Development II: Communications in Natural Resources | 1 |
| CS 424 | Seed Physiology | 3 | FOR 252 | Introduction to Forest Science | 3 |
| CS 430 | Advanced Agroecology | 4 | FOR 260 | Forest Ecology | 4 |
| CS 465 | Turf Management Systems and Environmental Quality | 3 | | | |
| CS 470 | Advanced Turfgrass Pest Management | 2 | | | |
| CS 480 | Sustainable Food Production (capstone) | 1 | | | |

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|---------|---|-----|---------|--|-----|
| FOR 261 | Forest Communities | 2 | FOR 411 | Forest Tree Genetics and Biology | 3 |
| FOR 264 | Forest Wildlife | 1 | FOR 414 | World Forestry | 3 |
| FOR 265 | Fire Management | 1 | FOR 415 | World Forestry Study Tour | 1 |
| FOR 273 | Forest System Mapping and Mensuration II | 3 | FOR 420 | Watershed and Wetlands Hydrology | 4 |
| FOR 293 | Independent Study in Forest Management | 1-6 | FOR 422 | Consulting Forestry | 3 |
| FOR 294 | Independent Study in Forest Management | 1-6 | FOR 430 | Forest Health and Protection | 3 |
| FOR 295 | Special Topics in Forestry | 1-6 | FOR 434 | Forest Operations and Analysis | 3 |
| FOR 303 | Silvics and Forest Tree Physiology | 3 | FOR 472 | Forest Soils | 4 |
| FOR 304 | Theory of Silviculture | 4 | FOR 491 | Special Topics in Forestry and Related Natural Resources | 1-4 |
| FOR 318 | Forest Pathology | 3 | FOR 493 | Independent Study in Forest Management | 1-6 |
| FOR 319 | Forest Economics | 3 | FOR 494 | Independent Study in Forest Management | 1-6 |
| FOR 330 | North Carolina Forests | 3 | FOR 501 | Dendrology | 3 |
| FOR 334 | Operations Research Applications in Natural Resources | 1 | FOR 502 | Forest Measurements | 1 |
| FOR 339 | Dendrology | 4 | FOR 503 | Tree Physiology | 1 |
| FOR 350 | Professional Development III: Ethical Dilemmas in Natural Resource Management | 1 | FOR 504 | The Practice of Silviculture | 3 |
| FOR 353 | GIS and Remote Sensing for Environmental Analysis and Assessment | 3 | FOR 505 | Forest Management | 4 |
| FOR 374 | Forest Measurement, Modeling, and Inventory | 3 | FOR 506 | Silviculture Laboratory | 1 |
| FOR 402 | Forest Entomology | 3 | FOR 507 | Silviculture Mini Course | 1 |
| FOR 405 | Forest Management | 4 | FOR 508 | Applied Forest Ecology: Natural Forest Silviculture | 3 |
| FOR 406 | Forest Inventory, Analysis and Planning | 4 | FOR 509 | Forest Resource Policy | 1 |
| FOR 408 | Applied Forest Ecology: Natural Forest Silviculture | 3 | FOR 510 | Introduction to GPS | 1 |
| | | | FOR 513 | Silviculture for Intensively Managed Plantations | 3 |
| | | | FOR 514 | Woodland Stewardship | 3 |
| | | | FOR 519 | Forest Economics | 3 |

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| FOR 520 | Watershed and Wetlands Hydrology | 4 | HS 203 | Home Plant Propagation | 3 |
| FOR 522 | Consulting Forestry | 3 | HS 204 | Home Landscape Maintenance | 3 |
| FOR 531 | Wildland Fire Science | 3 | HS 205 | Home Food Production | 3 |
| FOR 532 | Wildland Firefighter | 3 | HS 215 | Agricultural Genetics | 3 |
| FOR 534 | Forest Operations and Analysis | 3 | HS 242 | Introduction to Small Scale Landscape Design | 3 |
| FOR 540 | Advanced Dendrology | 3 | HS 250 | Home Landscape Design: Creating Garden Spaces | 3 |
| FOR 561 | Forest Communities of the Southeastern Coastal Plain | 1 | HS 252 | Landscape Graphic Communication | 2 |
| FOR 562 | Forest Communities of the Southern Appalachians | 1 | HS 272 | Landscape Design/Build | 6 |
| FOR 565 | Plant Community Ecology | 4 | HS 280 | Hands-On-Horticulture | 3 |
| FOR 574 | Forest Mensuration and Modeling | 3 | HS 290 | Horticulture: Careers and Opportunities | 1 |
| FOR 575 | Advanced Terrestrial Ecosystem Ecology | 3 | HS 301 | Plant Propagation | 4 |
| FOR 583 | Tropical Forestry | 3 | HS 302 | Gardening with Herbaceous Perennials | 3 |
| FOR 595 | Special Topics | 1-6 | HS 303 | Ornamental Plant Identification I | 3 |
| FS 462 | Postharvest Physiology | 3 | HS 304 | Ornamental Plant Identification II | 3 |
| FS 562 | Postharvest Physiology | 3 | HS 357 | Landscape Grading and Drainage | 4 |
| FW 221 | Conservation of Natural Resources | 3 | HS 400 | Residential Landscaping | 6 |
| FW 404 | Wildlife Habitat Management | 3 | HS 410 | Community Food Systems | 3 |
| GIS 512 | Introduction to Environmental Remote Sensing | 3 | HS 411 | Nursery Management | 3 |
| HS 131 | Fruit & Vegetable Production | 3 | HS 416 | Planting Design | 4 |
| HS 144 | Weeds & Diseases of Ornamentals | 3 | HS 418 | Digital Media Graphic for Landscape Designers | 3 |
| HS 200 | Home Horticulture | 3 | HS 420 | Green Infrastructure | 3 |
| HS 201 | The World of Horticulture: Principles and Practices | 3 | HS 421 | Temperate-Zone Tree Fruits: Physiology and Culture | 3 |
| HS 202 | Home Plant Identification | 3 | HS 422 | Small Fruit Production | 3 |
| | | | HS 423 | | 3 |

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| HS 428 | Service-Learning in Urban Agriculture Systems | 1 | HS 532 | Introduction to Permaculture | 3 |
| HS 431 | Vegetable Production | 4 | HS 533 | Public Garden Administration | 3 |
| HS 432 | Introduction to Permaculture | 3 | HS 541 | Plant Breeding Methods | 3 |
| HS 433 | Public Garden Administration | 3 | HS 550 | Environmental Nursery Production | 3 |
| HS 440 | Greenhouse Management | 3 | HS 551 | Plant Nutrition | 3 |
| HS 442 | Floriculture Crop Production | 3 | HS 562 | Postharvest Physiology | 3 |
| HS 451 | Plant Nutrition | 3 | HS 576 | Crop Physiology and Production in Controlled Environments | 3 |
| HS 462 | Postharvest Physiology | 3 | HS 583 | | 3 |
| HS 471 | Landscape Ecosystem Management | 4 | HS 590 | Special Problems in Horticultural Science | 1-6 |
| HS 475 | Horticulture Entrepreneurship | 3 | NR 420 | Watershed and Wetlands Hydrology | 4 |
| HS 476 | Crop Physiology and Production in Controlled Environments | 3 | NR 460 | Renewable Natural Resource Management and Policy | 3 |
| HS 480 | Sustainable Food Production (capstone) | 1 | NR 491 | Special Topics in Forestry and Related Natural Resources | 1-4 |
| HS 491 | Sustainable Agriculture Entrepreneurship Study Abroad | 3 | NR 520 | Watershed and Wetlands Hydrology | 4 |
| HS 492 | Horticulture Internship | 1-3 | NR 560 | Renewable Natural Resource Management and Policy | 3 |
| HS 493 | Research Experience in Horticultural Science | 1-3 | PP 144 | Weeds & Diseases of Ornamentals | 3 |
| HS 494 | Teaching Experience in Horticultural Science | 1-3 | PP 318 | Forest Pathology | 3 |
| HS 495 | Experimental Courses in Horticultural Science | 1-6 | PP 470 | Advanced Turfgrass Pest Management | 2 |
| HS 502 | Plant Disease: Methods & Diagnosis | 2 | PP 502 | Plant Disease: Methods & Diagnosis | 2 |
| HS 516 | Planting Design | 4 | SMT 202 | Anatomy and Properties of Renewable Materials | 3 |
| HS 520 | Green Infrastructure | 3 | SSC 428 | Service-Learning in Urban Agriculture Systems | 1 |
| HS 521 | Temperate-Zone Tree Fruits: Physiology and Culture | 3 | | | |
| HS 523 | | 3 | | | |

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| 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 |

Animal Science Elective

| Code | Title | Hours | Counts towards |
|----------|---|-------|----------------|
| AEE 208 | Agricultural Biotechnology: Issues and Implications | 3 | |
| ANS 105 | Introduction to Companion Animal Science | 3 | |
| ANS 110 | Introduction to Equine Science | 3 | |
| ANS 150 | Introduction to Animal Science | 3 | |
| ANS 151 | Introduction to Animal Science Lab | 1 | |
| ANS 201 | Techniques of Animal Care | 2 | |
| ANS 205 | Physiology of Domestic Animals | 3 | |
| ANS 206 | Anatomy of Domestic Animals Lab | 1 | |
| ANS 208 | Agricultural Biotechnology: Issues and Implications | 3 | |
| ANS 215 | Agricultural Genetics | 3 | |
| ANS 220 | Reproductive Physiology | 3 | |
| ANS 221 | Reproductive Physiology Lab | 1 | |
| ANS 225 | Principles of Animal Nutrition | 3 | |
| ANS 230 | Animal Nutrition | 3 | |
| ANS 231 | Animal Nutrition Lab | 1 | |
| ANS 240 | Livestock Merchandising | 3 | |
| ANS 240A | Livestock Merchandising | 3 | |

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| ANS 260 | Basic Swine Science | 2 |
| ANS 261 | Swine Health and Biosecurity | 1 |
| ANS 262 | Swine Breeding and Gestation Management | 1 |
| ANS 263 | Farrowing Management | 1 |
| ANS 264 | Swine Nursery and Finishing Management | 1 |
| ANS 265 | Contemporary Issues in the Swine Industry | 1 |
| ANS 266 | Swine Environment Management | 1 |
| ANS 267 | Swine Manure and Nutrient Management | 1 |
| ANS 268 | Employee Management for the Swine Industry | 1 |
| ANS 269 | Internship in the Swine Industry | 1 |
| ANS 270 | Pork Export Markets from a Swine Production Perspective | 1 |
| ANS 271 | Swine Nutrition | 1 |
| ANS 281 | Professional Development of PreVeterinary Track Students | 1 |
| ANS 290 | Professional Development for Animal Science Careers | 2 |
| ANS 303 | Principles of Equine Evaluation | 2 |
| ANS 304 | Dairy Cattle Evaluation | 2 |
| ANS 309 | Livestock Evaluation | 3 |
| ANS 322 | Muscle Foods and Eggs | 3 |
| ANS 324 | Milk and Dairy Products | 3 |
| ANS 330 | Laboratory Animal Science | 3 |
| ANS 395 | Animal Science Study Abroad | 1-6 |
| ANS 400 | Companion Animal Management | 3 |

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| ANS 402 | Beef Cattle Management | 3 | ANS 552 | Comparative Reproductive Physiology and Biotechnology | 3 |
| ANS 403 | Swine Management | 3 | ANS 553 | Physiology and Genetics of Growth and Development | 3 |
| ANS 404 | Dairy Cattle Management | 3 | ANS 554 | Lactation, Milk and Nutrition | 3 |
| ANS 408 | Small Ruminant Management | 3 | ANS 561 | Equine Nutrition | 3 |
| ANS 410 | Equine Breeding Farm Management | 3 | ANS 571 | Regulation of Metabolism | 3 |
| ANS 411 | Management of Growing and Performance Horses | 3 | ANS 575 | | 3 |
| ANS 415 | Comparative Nutrition | 3 | ANS 590 | Topical Problems in Animal Science | 1-3 |
| ANS 425 | Feed Manufacturing Technology | 3 | BCH 571 | Regulation of Metabolism | 3 |
| ANS 440 | Animal Genetic Improvement | 3 | FM 425 | Feed Manufacturing Technology | 3 |
| ANS 452 | Comparative Reproductive Physiology and Biotechnology | 3 | FM 525 | Feed Manufacturing Technology | 3 |
| ANS 453 | Physiology and Genetics of Growth and Development | 3 | FS 301 | Introduction to Human Nutrition | 3 |
| ANS 454 | Lactation, Milk and Nutrition | 3 | FS 322 | Muscle Foods and Eggs | 3 |
| ANS 480 | Judging Team | 1 | FS 324 | Milk and Dairy Products | 3 |
| ANS 492 | Professional Internship Experience in the Animal Sciences | 1-3 | FS 435 | Food Safety Management Systems | 3 |
| ANS 493 | Research Experience in the Animal Sciences | 1-3 | FS 535 | Food Safety Management Systems | 3 |
| ANS 494 | Teaching Experience in the Animal Sciences | 1-3 | HS 215 | Agricultural Genetics | 3 |
| ANS 495 | Special Topics in Animal Science | 1-3 | NTR 301 | Introduction to Human Nutrition | 3 |
| ANS 515 | Comparative Nutrition | 3 | NTR 415 | Comparative Nutrition | 3 |
| ANS 525 | Feed Manufacturing Technology | 3 | NTR 419 | Human Nutrition and Chronic Disease | 3 |
| ANS 530 | | 3 | NTR 425 | Feed Manufacturing Technology | 3 |
| ANS 531 | | 1 | NTR 454 | Lactation, Milk and Nutrition | 3 |
| ANS 540 | Animal Genetic Improvement | 3 | NTR 515 | Comparative Nutrition | 3 |
| ANS 550 | Applied Ruminant Nutrition | 3 | NTR 525 | Feed Manufacturing Technology | 3 |

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| NTR 550 | Applied Ruminant Nutrition | 3 |
| NTR 561 | Equine Nutrition | 3 |
| PB 208 | Agricultural Biotechnology: Issues and Implications | 3 |
| PHY 452 | Comparative Reproductive Physiology and Biotechnology | 3 |
| PHY 552 | Comparative Reproductive Physiology and Biotechnology | 3 |
| PO 322 | Muscle Foods and Eggs | 3 |
| PO 415 | Comparative Nutrition | 3 |
| PO 425 | Feed Manufacturing Technology | 3 |
| PO 515 | Comparative Nutrition | 3 |
| PO 525 | Feed Manufacturing Technology | 3 |

ANS Restricted Elective

| Code | Title | Hours | Counts towards |
|---------|--|-------|----------------|
| ANS 400 | Companion Animal Management | 3 | |
| ANS 402 | Beef Cattle Management | 3 | |
| ANS 403 | Swine Management | 3 | |
| ANS 404 | Dairy Cattle Management | 3 | |
| ANS 408 | Small Ruminant Management | 3 | |
| ANS 410 | Equine Breeding Farm Management | 3 | |
| ANS 411 | Management of Growing and Performance Horses | 3 | |

Semester Sequence

This is a sample.

First Year

| Fall Semester | Hours |
|---|-------|
| AEE 101 Introduction to Career and Technical Education ¹ | 1 |

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|---|---|---|
| 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 | 3 |
| ANS 150 | Introduction to Animal Science | 3 |
| ANS 151 | Introduction to Animal Science Lab | 1 |
| 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 |
| ANS 225 | Principles of Animal Nutrition | 3 |
| or ANS 230 | or Animal Nutrition | |
| BAET 201 | Shop Processes and Management | 3 |
| or TDE 110 | or Materials & Processes Technology | |
| Economics Elective (p. 1) | | 3 |
| GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/) | | 3 |

Hours 15

Spring Semester

| | | |
|---|---------------------------------|---|
| CH 101 | Chemistry - A Molecular Science | 3 |
| CH 102 | General Chemistry Laboratory | 1 |
| Animal Science Elective (p. 7) | | 3 |
| GEP US Diversity, Equity, and Inclusion (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-usdei/) | | 3 |
| Plant Science Elective (p. 2) | | 3 |
| GEP Humanities (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-humanities/) | | 3 |

Hours 16

Third Year

Fall Semester

| | | |
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| AEE 322 | Experiential Learning in Agriculture ¹ | 3 |
| ANS 215 | Agricultural Genetics | 3 |
| or GN 301 | or Genetics in Human Affairs | |
| EDP 304 | Educational Psychology ¹ | 3 |
| SSC 200 | Soil Science | 3 |

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| SSC 201 | Soil Science Laboratory | 1 |
| GEP Interdisciplinary Perspectives (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/) | | 2 |
| Hours | | 15 |
| Spring Semester | | |
| AEE 303 | Administration and Supervision of Student Organizations ¹ | 3 |
| AEE 326 | Teaching Diverse Learners in AED ¹ | 3 |
| ELP 344 | School and Society ¹ | 3 |
| Animal Science Management Elective (p. 7) | | 3 |
| Animal Science Selection Elective (p. 9) | | 2 |
| Hours | | 14 |
| Fourth Year | | |
| Fall Semester | | |
| AEE 327 | Conducting Summer Programs in Agricultural Education | 1 |
| AEE 426 | Methods of Teaching Agriculture | 3 |
| Animal Science Management Elective (p. 7) | | 3 |
| GEP Interdisciplinary Perspectives (http://catalog.ncsu.edu/undergraduate/gep-category-requirements/gep-interdisciplinary-perspectives/) | | 3 |
| ED 311 | Classroom Assessment Principles and Practices ¹ | 2 |
| ED 312 | Classroom Assessment Principles and Practices Professional Learning Lab ¹ | 1 |
| Free Electives ³ | | 3 |
| Hours | | 16 |
| Spring Semester | | |
| AEE 424 | Planning Agricultural Educational Programs | 3 |
| AEE 427 | Student Teaching in Agriculture | 8 |
| AEE 491 | Seminar in Agricultural Education ¹ | 1 |
| Hours | | 12 |
| Total Hours | | 120 |

¹ 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 Freshman Transitions and Diversity in Agriculture & Life Sciences or ALS 303 Transfer Transitions and Diversity in Agriculture & Life Sciences.

³ Total hours of free electives vary in order to allow the minimum hours required for the degree to equal 120 credit hrs.