



# College of Agricultural & Environmental Sciences UNIVERSITY OF GEORGIA

*One College · Three Campuses*  
*CAES Programs in Athens, Griffin, and Tifton*

## I. Undergraduate Majors

### Bachelor of Science in Agriculture

#### **Agribusiness (Athens, Griffin, Tifton)**

The Agribusiness major prepares students for professional careers in agribusiness marketing, management, and finance through combining in-depth business concepts with real world application to the food and fiber industry. Agribusinesses process and market food and fiber products, supply inputs to agricultural production, and manage agricultural production. Agribusiness majors learn economic principles and strategies for agribusiness marketing and management.

*Possible job titles include Chief Personnel and Policy Officer, Digital Sales Resiliency Services Specialist, Farm Management and Leadership, Financial Advisor, Future Operations Leader, Paralegal, and Credit Analyst*

#### **Agricultural and Applied Economics (Athens)**

Agricultural and Applied Economics integrates economic principles with food and fiber production, natural resource management, community and regional economic development, environmental policy, and international trade. The degree provides a strong theoretical background for those entering graduate schools in agricultural economics and economics as well as professional schools in law and business administration.

*Possible job titles include Agricultural Economist, Crop Protection Representative, Manager of Outreach and Recruitment, Monitoring and Evaluation Specialist, and Research Analyst*

## **Agricultural Communication (Athens)**

Agricultural Communication professionals tell the story of agriculture and the environment to consumers, legislators, and other key stakeholders. The Agricultural Communication degree prepares students to understand and communicate specialized agricultural science and information through journalism, advertising, public relations, graphic design, and telecommunications. Students are given hands-on opportunities in classes and outside organizations to practice key skills and prepare them for a professional career.

*Possible job titles include Communications Specialist, Legislative Correspondent, Management Trainee, Media Development Assistant, and Project Coordinator*

## **Agricultural Education (Athens, Tifton)**

The Agricultural Education major provides students with the tools needed to succeed in the teaching profession and related careers. There is instruction provided in teaching methods, curriculum planning, leadership development, and community study. Students also choose technical agriculture courses that fit individual interests as well as complete school practicums under the direction of a cooperating teacher.

*Possible job titles include Agriculture Teacher, FFA Advisor, and Extension Agent*

## **Agriscience and Environmental Systems (Athens, Tifton)**

Agriscience and Environmental Systems students learn to apply knowledge of basic sciences to solve agricultural problems. In addition to studying the biology of plants and animals, students also learn about new technologies that can be applied to plant and animal production systems, the fundamentals of water quality and resource management, the application of technologies to add value to agricultural commodities, and the fundamentals of business management and marketing.

*Possible job titles include Environmental Specialist, Biosecurity Monitor, Farm Manager, Polysomnographic Technician, and Research Associate*

## **Animal Health (Athens)**

Animal Health majors have the opportunity to apply to veterinary school after their third year of study. If the student is not accepted, then they continue on the traditional four-year track and earn a baccalaureate degree in Animal Science, Avian Biology, Poultry Science, Biological Science, or

Dairy Science as a pathway to re-apply to vet school or pursue other career opportunities. Animal Health students must declare a co-major after the completion of 60 hours of credit.

### **Animal Science (Athens)**

The Animal Science curriculum provides technical and applied instruction in the biological, physical, technical, and economic aspects of beef, horse, sheep, and swine production. The program of study includes application of basic principles of selection, animal breeding, animal nutrition, reproduction, feeding, and management of livestock for the production of meat, milk, and wool. The equine program of study also applies basic and applied sciences to equine production for horses used as work or companion animals.

*Possible job titles include Animal Care Taker, Client Service Coordinator, Management Trainer, Marketing Associate, Mechanical Engineer, Owner, PPU Technician, Veterinarian, and Veterinary Technician*

### **Avian Biology (Athens)**

Students in the Avian Biology major will receive broad training in applied avian sciences and a strong grounding in the biological sciences paired with hands-on learning experiences as preparation for careers in education, environmental protection, resource conservation, wildlife recovery programs, biomedical research, veterinary medicine, avian publishing, and ecotourism.

*Possible job titles include Animal Health Technician, Assistant Care Taker, and Veterinary Technician*

### **Biological Science (Athens, Griffin, Tifton)**

This major provides a flexible program of study integrating both biological and agricultural sciences. Students are prepared for professional programs in medicine, pharmacy, veterinary medicine, and dentistry, as well as for advanced degrees (Master of Science and Doctor of Philosophy) in any of the biological sciences. Graduates with a degree in Biological Sciences are equipped for careers in industry, business, and government dealing with food, fiber, health care, and environmental stewardship.

*Possible job titles include Biomedical Technician, Emergency Department Medical Scribe, Master Tech One, Medical Assistant, Physician's Assistant, Plant Genome Mapping Lab Research Assistant, Teacher, Unit Leader, and Waterfront Director*

## Dairy Science (Athens)

The Dairy Science curriculum couples an understanding of animal health and management with knowledge of lactation physiology. Dairy Science students gain understanding of the business, economics, basic sciences, and management of dairy production facilities as well as take traditional dairy science classes in nutrition, feeding, selection, genetics, and reproduction. Dairy Science majors graduate with the knowledge and hands-on learning experiences that prepare them for careers in the dairy industry as well as graduate programs or professional degrees including veterinary medicine.

*Possible job titles include Dairy Nutritionist, Reproductive Technician, and Veterinarian*

## Food Industry Marketing and Administration (Athens)

Food Industry Marketing and Administration majors receive training in business and general economics as well as an in-depth understanding of the food industry. Graduates are knowledgeable of the processes and standard operations involved in the food processing, restaurant, and food retailing sectors. Approximately 15 percent of jobs in Georgia and nationally are in the food industry. By combining courses in agricultural economics, agribusiness, and food science, graduates of this program will be uniquely qualified for food industry management jobs in this large and growing sector of the economy.

*Possible job titles include Food Processing Facility Manager, Wholesale Food Manager, Specialty Food Operations, Restaurant Manager, Marketing/Sales Representative, Production Manager, and Market Analyst*

## Food Science (Athens)

Food Science students complete coursework in microbiology, chemistry, and engineering – areas of study necessary to understand the nature of foods and the underlying principles of food processing and preservation. This knowledge is used by food scientists to make food safer, healthier, more pleasing to consumers, and minimize spoilage.

*Possible job titles include Product Development Scientist, Sensory Scientist, Process Engineer, Food Microbiologist, Food Chemist, Quality Assurance Director, and Public Health Official*

## Horticulture (Athens)

Horticulture is a vast industry focused on the art and science of growing fruits, vegetables, nuts, ornamentals, herbs, spices, and medicinal plants. Horticulture majors are trained in many aspects of plant science, including physiology, nutrition, identification, soils, pest control, and design. Students in the Horticulture Department reap the benefits of small class sizes, teaching and research greenhouses, modern laboratories, nearby horticulture enterprises, and instruction from renowned faculty, many of whom are authors of widely-adopted textbooks.

*Possible job titles include Landscape Contractor, Extension Agent, Horticulture Vocational Agriculture Teacher, Research Technician, Plant and Chemical Sales Representative, Nursery Grower, and Golf Course Superintendent*

## Hospitality and Food Industry Management (Athens)

The tourism industry is the fifth largest employer in the state of Georgia with a total economic impact in the state of over \$50 billion. This major prepares students for jobs in the tourism, hospitality, and food industry across a broad spectrum. Students take classes in hospitality human resource, financial, and facilities management; hospitality law; hotel operations; food and beverage operations; and more. There are plenty of opportunities for experiential learning through laboratory settings at the Georgia Center for Continuing Education and Hotel as well as a minimum of two internships.

*Possible job titles include Director of Food and Beverage, Sales Manager, Catering Manager, Front Desk Supervisor, Director of Housekeeping, Event Planner, and Conference Services Manager*

## Poultry Science (Athens)

Poultry Science majors receive broad training in the science and business of poultry production. Students take traditional poultry classes dealing with production, management, breeding, nutrition, anatomy and physiology, processing, and diseases. Students can also choose to supplement their degree with additional agribusiness and science courses to prepare them for the wide variety of positions available in the poultry industry.

*Possible job titles include Hatchery Manager, Breeding Manager, Breeding Service Representative, Broiler Flock Supervisor, Complex Compliance Officer, Feed Inspector, Poultry Scientist, Production Manager, Quality Assurance Management Trainee, and Turkey Grower*

## **Turfgrass Management (Athens)**

Increasing interest in outdoor recreational activities as well as aesthetically appealing landscaped areas has created a demand for professional turfgrass managers. The curriculum is designed for maximum flexibility to allow students the opportunity to select one of two paths depending on their interest and future goals. Both pathways prepare students to secure a multitude of jobs or enter graduate school. Students completing the turfgrass management curriculum are knowledgeable in all aspects of plant and soil science. Particular emphasis is placed on learning environmentally sound strategies for controlling common turfgrass pests such as weeds, insects, and diseases. A careful balance of applied and basic sciences with courses in economic, business management, and accounting combined with on-the-job training opportunities prepares students for an exciting career in the turfgrass/landscape industry.

*Possible job titles include Golf Course Superintendent, Athletic Field Manager, Sod Producer, Private Consultant/Contractor, Industry Sales Agent, and Turfgrass Researcher/Educator*

## **Bachelor of Science in Applied Biotechnology**

### **Applied Biotechnology (Athens)**

Students in the Applied Biotechnology major gain scientific background and laboratory experience through coursework in molecular biology, molecular genetics, and DNA extraction in their first two years. A third-year student then chooses an area of concentration in animal science, applied economics, food science, or plant science.

*Possible job titles include Analytical Chemist, Biochemist, Biomedical Engineer, Biostatistician, Clinical Coordinator, Environmental Health and Safety Specialist, and Research Technician*

## **Bachelor of Science in Environmental Science**

### **Entomology (Athens)**

Entomology is a flexible major that serves as an excellent base for an advanced degree in many other fields such as environmental health, public health, and environmental engineering. The curriculum also satisfies the admission requirements for professional degree programs like medicine, veterinary medicine, dentistry, optometry, and pharmacy. Students acquire a basic knowledge of agricultural production principles and how insects influence crop production.

*Possible job titles include Educator, Entomologist, Environmental Operations Specialist, Staff Scientist, and Research Technician*

## **Environmental Economics and Management (Athens)**

The Environmental Economic and Management major prepares students for public and private positions in natural and environmental resource analysis and management. Students in this major receive training in resource economics, environmental economics, economic theory, and quantitative decision making techniques. Students may choose to specialize in a particular area of natural and environmental resource management, including water resource management, conservation, regional or community development, or management of public or private resources. The courses within this major provide students with the necessary background to work effectively with professionals in many fields.

*Possible job titles include Analyst, Buyer, Consultant, Environmental Consultant, and Purchasing Trainee*

## **Environmental Resource Science (Athens, Griffin)**

The Environmental Resource Science major builds a strong foundation in basic and applied sciences. Students learn about the impact of collaboration of sciences on the environment and urban areas. Graduates of this program obtain problem-solving skills and practical knowledge in preparation for career opportunities in environmental research laboratories, environmental consulting firms, government, environmental horticulture production, and management positions.

Environmental Chemistry is the scientific study of chemical phenomena in natural systems. Building on students' passion for the environment, the Environmental Chemistry area of emphasis combines rigorous training in quantitative chemistry with a natural science curriculum. Throughout their program, students may create an environmental chemistry program focused on biogeochemistry, contaminant mitigation/remediation, or pursue a dual degree in Chemistry. In all cases, students are exposed to hands-on laboratory and field training in analyzing and interpreting samples. Students gain interdisciplinary education and experiences to prepare them for a career in a constantly developing field. The environmental chemistry discipline encompasses soil chemistry, water chemistry, atmospheric chemistry, and ecotoxicology and is essential to many other disciplines.

*Possible job titles include Conservation Scientist, Ecologists, County Extension Agent, Field Sampling Supervisor, Soil Conservationist, Water Pollution Investigator, Research Assistant, Lab Analyst, Laboratory Helper, and State Specialist*

## Water and Soil Resources (Athens)

Water and Soil Resources majors take courses in the College of Agricultural and Environmental Science Department of Crop and Soil Sciences and the Warnell School of Forestry and Natural Resources. Students complete classes that emphasize the biological, ecological, chemical, and physical processes that impact the management of water and soil resources. Students trained in the area of water and soil resources are hired by the private sector as technical, research, and information specialists. Regional and local agricultural firms also employ graduates trained as water and soil resource specialists as land use experts, quality control specialists, and information and computer analysts. Many graduates are self-employed consultants or are hired by environmental consulting firms to assess environmental conditions, monitor soil and water pollutants, reclaim disturbed lands, and prepare environmental policy.

*Possible job titles include Water Resource Planner, Hydrologist, Wetlands Ecologist, Erosion Control Specialist, Soil Scientist/Conservationist, Environmental Consultant, and Extension Agent*

## II. Entrance Requirements

The College of Agricultural and Environmental Sciences does not have additional entrance requirements for any of its majors beyond the admissions standards for entering first-year and transfer students. Students admitted to the University of Georgia who have listed a CAES major on their application are automatically admitted to the college.

## III. Critical Courses & College Requirements

Students must complete the following requirements in addition to the university requirements to receive a bachelor's degree from the College of Agricultural and Environmental Sciences:

- Pre-calculus: Students must take or exempt MATH 1113 or a higher level math course that has MATH 1113 as a prerequisite.
- Chemistry or Calculus: Students must take or have credit in CHEM 1211 and CHEM 1211L, CHEM 1311H and CHEM 1311L, CHEM 1411 and CHEM 1411L, MATH 2200, MATH 2250, or MATH 2300H.

- Biology or Botany: Students must take or have credit in BIOL 1107 and BIOL 1107L, BIOL 2107H and BIOL 2107L, or PBIO 1210 and PBIO 1210L.
- Speech Proficiency: Students must demonstrate proficiency in speech communication and delivery by completing AGCM 1200, COMM 1110, or COMM 2150H. Students majoring in Applied Biotechnology may satisfy the requirement by taking BTEC 3000.

#### IV. Course Options Prior to Transfer

Students transferring to UGA from another University System of Georgia institution are encouraged to complete the core curriculum prior to transferring. Transferring to UGA with the core curriculum for a comparable major complete will increase the transferring student's likelihood of completing a CAES degree within a four-year timeline as a full-time student.

Students transferring to UGA from a private or out-of-state institution should refer to the [Transfer Equivalency Search](#) to determine if and how courses will transfer.

Students who complete chemistry courses at a non-USG institution will be required to satisfactorily pass the American Chemical Society test before equivalent CHEM transfer credit is awarded. If the student's prior institution utilized the ACS test, the student may request the ACS test score be forwarded to UGA for evaluation.

In the event a student must transfer to UGA before the core is complete, it is recommended, at minimum, the following courses are completed prior to transferring in order to prevent delays:

- BIOL 1107 and BIOL 1107L
- BIOL 1108 and BIOL 1108L
- CHEM 1211 and CHEM 1211L
- CHEM 1212 and CHEM 1212L
- COMM 1110
- ENGL 1101
- ENGL 1102
- HIST 2111 or HIST 2112
- MATH 1113
- POLS 1101

(BIOL 1107 and BIOL 1107L) and (BIOL 1108 and BIOL 1108L), biology courses for science majors, are important for all majors in the college. Prospective CAES majors are encouraged to verify biology courses at prior institution are equivalent to BIOL 1107 and BIOL 1108. Completion of biology courses for non-science majors (BIOL 1103 and BIOL 1104) is not advised.

When possible, science sequences should be completed at the institution where the first course in the sequence was taken in order to ensure consistency of course content.

## **V. Transferring to an Extended Campus (Griffin or Tifton)**

The undergraduate degree programs offered at the Griffin and Tifton Campus are degree-completion programs intended for transfer students and students seeking a second undergraduate degree. To apply to UGA Griffin or Tifton, use the [UGA Off-Site Application](#). To be eligible for transfer admission consideration at one of the extended campuses, the following admission requirements must be satisfied:

- 60 or more completed semester hours of transferable credit by matriculation to UGA
- Graduated from high school at least 12 months prior to the term of intended enrollment
- A 2.8 or higher cumulative GPA as calculated by the Undergraduate Admissions Office

Undergraduate programs available through UGA at the Tifton campus include: Agribusiness, Agricultural Education, Agriscience and Environmental Systems, and Biological Science.

Undergraduate programs available through UGA at the Griffin campus include: Agribusiness, Biological Science, and Environmental Resource Science. If a student is interested in applying to an extended campus or transferring from the Athens campus, contact Kathleen Freeman at UGA Griffin or Katie Murray at UGA Tifton as early as possible to help ease the transition. These contacts can assist with developing a pathway to degree options at the extended campuses and work with prospective students from the high school level and beyond.

## VI. Student Organizations

AGHON (Agriculture Honors Society)  
Ag Hill Council  
Agricultural and Environmental Economics  
Alpha Gamma Rho Fraternity  
Avian Biology Club  
Block and Bridle  
CAES Ambassadors  
Cattlemen's Association at UGA  
Collegiate 4-H  
Collegiate FFA  
Dairy Judging Team  
Dairy Science Club  
Food Science  
H.O. Lund Entomology Club  
Horse Judging Team  
Horticulture Club  
Livestock Judging Team  
Meat Animal Evaluation Judging Team  
Minorities in Agriculture, Natural Resources and Related Sciences  
Pi Alpha Xi (Honorary)  
Poultry Science Club  
Pre-Vet Club  
Sigma Alpha Sorority  
Society of Aspiring Plant Pathologists  
Turf Club

## VII. Contact Information

Prospective students are encouraged to [Schedule a Visit](#) and [Request a Transfer Plan](#) through our website. Please contact the following with additional questions:

Dr. Doug Bailey, Assistant Dean for Academic Affairs

Email: [dabailey@uga.edu](mailto:dabailey@uga.edu)

Phone: 706-542-1611

Kelly King, Director of Advising and Curriculum

Email: [ksking@uga.edu](mailto:ksking@uga.edu)

Phone: 706-542-0725

Kathleen Freeman, CAES Program Coordinator at Griffin Campus

Email: [knicole@uga.edu](mailto:knicole@uga.edu)

Phone: 770-228-7314

Katie Murray, Admissions Counselor at Tifton Campus

Email: [katie76@uga.edu](mailto:katie76@uga.edu)

Phone: 229-386-3077