A land-grant college or university is an institution designated to receive the benefits of the Morrill Acts of 1862 and 1890. The original mission of these institutions was to teach agriculture, military tactics and the mechanical arts in addition to classical studies so members of the working classes could obtain an education.

The Beginning
During the Civil War, President Abraham Lincoln signed the first Morrill Act, establishing the land-grant university system and initiating what could be defined as “The Education Revolution” that thrives to this day. Some of the most highly regarded universities in the nation are land-grant institutions.

The Land-Grant Vision at UF
UF is one of only six universities in the country with colleges of law, medicine, engineering, agriculture and veterinary medicine on one central campus. UF is also one of only 17 universities in the country to share the distinction of land-grant, sea-grant and space-grant status.

The UF/IFAS Tradition
The University of Florida's Institute of Food and Agricultural Sciences (UF/IFAS) is a federal-state-county partnership dedicated to developing knowledge in agriculture, human and natural resources, and the life sciences, and enhancing and sustaining the quality of human life by making that information accessible.

The College of Agricultural and Life Sciences (CALS) administers the degree programs of UF/IFAS, preparing students to address the world's critical challenges related to agriculture, food systems, human wellbeing, natural resources and sustainable communities.
Historic UF Moments

1853
The East Florida Seminary in Ocala is created in response to public funds being used to support higher education. UF traces its founding to this date.

1884
The Florida Agricultural College at Lake City is established under the Morrill Act, becoming the first land-grant institution in the state. In 1903, the Florida Legislature changed the school's name to the "University of Florida."

1887
The Hatch Act provides for the establishment of an agricultural experiment station at each of the land-grant colleges. The Florida Agricultural Experiment Station was established in 1886 as a part of the Florida Agricultural College at Lake City.

1906
The University of Florida in Gainesville opens its doors. Under the Buckman Act of 1905, Florida consolidated its higher education institutions segregated by race and gender into what are now known as UF, FSU, FAMU and the Florida School for the Deaf and Blind.

1911
The alligator is selected as the University of Florida mascot. The orange and blue colors are believed to be a combination of the colors from the former Lake City and Ocala schools.

1914
The Smith-Lever Act passes, providing federal support for land-grant institutions to offer educational programs for the public through cooperative extension efforts. Each of Florida's 67 counties is served by a dedicated UF/IFAS Extension office.

1924
The Florida Legislature permits women to enroll during regular semesters at UF for programs unavailable at the Florida State College for Women (now FSU).

Lassie Goodbread-Black became the first women to enroll at UF in 1925 in the College of Agriculture, now College of Agricultural and Life Sciences.

1944
The G.I. Bill is introduced, providing for the higher education of veterans. In the 1950s, the university underwent rapid expansion of campus buildings due to the large influx of students.

1958
UF integrates and allows African-American students to enroll.

2001
UF is labeled a "Public Ivy League" and continues to rise in U.S. News & World Report college and university rankings. Currently, UF is ranked as a Top 10 public university, according to U.S. News & World Report.

1985
UF becomes a member of the Association of American Universities, an organization made up of the top 62 public and private research universities.

TODAY
UF has seized the land-grant opportunity and established itself as the state's flagship university. Those who graduate from the University of Florida enjoy greater opportunities than their peers at many other universities.

UF/IFAS alone has 12 Research and Education Centers in 20 locations throughout Florida, 14 departments, two schools, portions of the College of Veterinary Medicine, the Florida Sea Grant program, international programs, and the College of Agricultural and Life Sciences.
MAJORS
- Agricultural Education and Communication
- Agricultural Operations Management
- Animal Sciences*
- Biology*
- Botany
- Dietetics
- Entomology and Nematology*
- Environmental Management in Agriculture and Natural Resources
- Environmental Science
- Family, Youth and Community Sciences
- Food and Resources Economics
- Food Science
- Forest Resources and Conservation
- Geomatics
- Horticultural Science
- Marine Sciences
- Microbiology and Cell Science*
- Natural Resource Conservation
- Nutritional Sciences*
- Plant Science
- Soil and Water Science
- Wildlife Ecology and Conservation*

* Pre-professional majors

ENRICHMENT OPPORTUNITIES
CAREER RESOURCES
- Hands-on experience in your field
- Financial assistance for legislative internships
- Annual CALS Career Expo

RESEARCH
- Create and apply knowledge
- Available for freshmen to seniors
- Funding available
- Opportunities to publish and present

INTERNATIONAL EXPERIENCES
- CALS offers programs in 15 different countries
- Study abroad for a week, a semester or a year
- Minor in International Studies in Agricultural and Life Sciences

SCHOLARSHIPS
CALS awards more than $400,000 in scholarships each year! Many CALS departments also offer scholarships.

LEADERSHIP
- More than 50 CALS student organizations
- CALS Ambassador Program
- CALS Leadership Institute
- Minors in Leadership and Nonprofit Organizational Leadership
- Global Leadership and Change Certificate

FOR MORE INFORMATION CONTACT:
H. Charlotte Emerson | Director, Student Development and Recruitment
PO Box 110270, Gainesville, FL 32611
352-392-1963 | cemer@ufl.edu
www.cals.ufl.edu | @UFSCALS
REQUIRED COURSEWORK
The College of Agricultural and Life Sciences (CALS) requires three specific courses of all students:

- Economics (AEB 2014 or ECO 2013 or ECO 2023)
- Public Speaking (AEC 3030C or SPC 2608)
- Advanced Writing (AEC 3033C or ENC 2210 or ENC 3254)

In addition, all CALS students will complete a minimum of 10 credits of physical and biological sciences, including 1 credit of laboratory science. For most majors, specific courses in science are required.

SHARED MAJORS
The College of Agricultural and Life Sciences “shares” four degree programs with the College of Liberal Arts and Sciences (CLAS):

- Biology
- Botany
- Marine Sciences
- Microbiology and Cell Science

The main difference between CALS and CLAS majors is college requirements. CALS requirements are listed above. CLAS requires all students to complete 2 semesters of foreign language or otherwise demonstrate proficiency in a foreign language.

There are also some differences in the specializations that are available for Biology and Botany. Students interested in these majors should look at the semester plans in the Guide to Majors to see where they differ.

Biology

**Biology Specializations in CALS**

- Pre-Professional
- Applied Biology
- Biotechnology
- Natural Science

**Biology Specializations in CLAS**

- Pre-Professional
- Integrative Biology
- Secondary Education (B.A.)

Botany

**Biology Specializations in CALS**

- Basic Botany
- Pre-professional Botany

**Biology Specializations in CLAS**

- Basic Botany
- Pre-professional Botnay
- Plant Molecular and Cellular Biology (PMCB)*

*CALS has a Plant Molecular and Cellular Biology (PMCB) specialization in the Horticultural Science B.S. program

Marine Sciences
The foundational courses are the same for both colleges. Through upper-division required and elective courses, CALS majors focus on marine ecology and resource management while CLAS majors integrate marine biology with marine geology and geochemistry.
The following CALS majors include the prerequisite courses for professional schools, such as medicine, dentistry, pharmacy and veterinary medicine:

**ANIMAL SCIENCES**
*Animal Biology Specialization*
Many pre-vet students select this major because of the practical experiences offered through laboratory courses. Courses include:
- Principles of Animal Nutrition
- Reproductive Physiology and Endocrinology
- Growth and Development

**BIOLOGY**
*Pre-Professional Specialization*
This major develops fundamental knowledge of animals, plants and microorganisms. Life sciences electives allow students to explore their interests. Courses include:
- Biochemistry and Molecular Biology
- Physiology
- Genetics

**ENTOMOLOGY AND NEMATOLOGY**
*Pre-Professional Specialization*
This biological sciences major focuses on insects and nematodes while giving students flexibility with electives. Courses include:
- Ecology
- Vertebrate Biodiversity
- Medical and Veterinary Entomology

**MICROBIOLOGY AND CELL SCIENCE**
Students gain an understanding of the biological world at the cellular and molecular level. Courses include:
- Molecular Genetics
- Bacterial and Viral Pathogens
- Biochemistry

**NUTRITIONAL SCIENCES**
If you have ever wondered if you really are what you eat, this is the major for you. It emphasizes the role of nutrition in health and disease. Courses include:
- Nutrition and Disease
- Nutrition Through the Life Cycle
- Nutrition and Metabolism

**WILDLIFE ECOLOGY AND CONSERVATION**
*Pre-Professional Specialization*
This major applies biological, social, physical and management sciences to wildlife and natural resources. Courses include:
- Wildlife Ecology and Management
- Genetics
- Conservation Biology

**FOR MORE INFORMATION CONTACT:**
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352-392-1963 | cemer@ufl.edu
www.cals.ufl.edu | @UFCALS
MEDICAL HONORS PROGRAM

mhp.med.ufl.edu

Students apply for this highly competitive program in the second semester of their second year of undergraduate study. If selected, students begin medical school coursework in their third year, and then enter the M.D. program in their fourth year. After completion of the first year of medical school, students earn their bachelor's degree. Although students can start out in any major before applying to the Medical Honors Program, if accepted, students must change their major to Nutritional Sciences (CALS), Biology (CALS or CLAS), or Interdisciplinary Studies (CLAS) to complete the program.

“CALS offered me a major that met requirements and has so many opportunities to set me apart from other applicants. I highly recommend CALS is you are looking for an individual college experience.”

Nina Guba
BSA ’11 Microbiology and Cell Science
3rd year student, UF College of Dentistry

“I recommend the College of Agricultural and Life Sciences for all students who wish to pursue a career in medicine because it builds such an applicable foundation. I utilize the knowledge that I obtained from my bachelor's and master's degrees on almost a daily basis with my patients. I am forever indebted to CALS.”

Rahim Remtulla
BSA ’02, MS ’03 Food Science and Human Nutrition
Staff Physician, Office of the Attending Physician, U.S. Capitol

HONORS COMBINED BS/DMD PROGRAM

Qualified students may be conditionally admitted to the UF College of Dentistry after their freshman year in this program offered only through CALS. Interested students major in Nutritional Sciences or Microbiology and Cell Science. Selected students complete the majority of the required courses for their major in three years and enter the DMD degree program in their fourth year. After completing the first year of dental school, students earn their bachelor’s degree.
CALS elective and introductory courses help students explore interests, meet requirements for their individual degrees and decide on a potential major or minor.

For a complete list of courses, visit www.cals.ufl.edu/students/courses.php

AGRICULTURAL OPERATIONS MANAGEMENT
AOM 2520 Global Sustainable Energy: Past, Present and Future
3 credits Fall (online)
Students will explore the global history of energy sources. New energy sources are investigated and international solutions to future needs are analyzed.

AGRICULTURE AND LIFE SCIENCES
ALS 2410 Challenge 2050: Global Uncertainty
3 credits Fall
Explores questions in human well-being and sustainability building a foundation for addressing global challenges associated with global population. Transdisciplinary experts lead diverse and innovative discussions, complex adaptive problem solving; and the integration of economic, environmental, food, health, and social system perspectives.

AGRONOMY
PCB 2441 Biological Invaders
3 credits (B) Fall
Introduces plants and animals that are invading Florida and the U.S. Why biological invaders are second only to habitat destruction as threats to natural ecosystems, what makes some species invasive, how to control or prevent invasions, where international commerce may be regulated, and who is affected by such issues.

PLS 2003C Plants That Feed the World
3 credits (B) Fall
Introduces 25 of mankind’s most important food crop plants with emphasis on soil and climatic adaptations, major producers and consumers, nutritional attributes, processing needs and types of products. Students will see the plants and seeds, and the food and industrial products of the crop plants under study. This is an introductory course for majors and non-majors who have no previous academic experience with food crop plants.

ANIMAL SCIENCES
ANS 2002 The Meat We Eat
3 credits (B) Fall, Spring
Consumer-oriented elective covering meat as a food, its inspection for wholesomeness, meat grading, identification, processing, selection, preparation and serving. Emphasizes preparation of economical, nutritious and palatable meals centered on meat.

ENTOMOLOGY AND NEMATOLOGY
ENY 1001 Bugs and People
3 credits (B), Summer B, Fall Spring
Introduction for lower-division students who want to learn popular information about insects and associated organisms.

ENY 2040 The Insects
3 credits (B) Summer B, Fall (online)
Introduces insect biology, insect-organism interaction and insect association with man. Features discussion of basic biological principles using insects as examples.

ENVIRONMENTAL HORTICULTURE
ORH 1030 Plants, Gardening and You
1 credit Summer B, Fall Spring
A non-majors overview of environmental horticulture that emphasizes the art and science of growing, installing and maintaining plants used to enhance and improve the human environment indoors and outdoors. Gain familiarity with the science and the industries associated with environmental horticulture.

ENVIRONMENTAL SCIENCE
EVR 2001 Introduction to Environmental Science
3 credits (P, B and N) Fall, Spring
Delivered from a systems perspective, an interdisciplinary approach explores contemporary environments that are comprised of both human and non-human elements. Explores physical, chemical, and biological processes to understand pressing environmental challenges and cultural values, attitudes, and norms expressed by individuals and populations around the globe.

FOOD AND RESOURCE ECONOMICS
AEB 2014 Economic Issues, Food and You
3 credits (S) Summer B, Fall, Spring (online)
This course emphasizes the role of agriculture and economics: the how's and why's of their influence on food prices and the world food situation, the environment, natural resources and policy, and economic issues, including inflation and money.
AEB 2451 Economics of Resource Use
3 credits (S) Fall
Introduces how economists value the environment and regulations designed to protect our natural resources from overuse and degradation.

FOOD SCIENCE AND HUMAN NUTRITION

FOS 2001 Man's Food
3 credits (B) Summer B, Fall, Spring (online)
Discussion of current nutrition and food science topics concerning nutritional quality and safety of foods as they relate to one’s health. For science and nonscience students.

HUN 2201 Fundamentals of Human Nutrition
3 credits (B) Summer H, Summer C, Fall Spring
Prereq: BSC 2007 or BSC 2005 or BSC 2010 or CHM 1015 or CHM 2045 or APK 2100C or APK 2105C or CHM 1030
The properties, functions, requirements, interrelationships and metabolism of nutrients.

FOREST RESOURCES AND CONSERVATION

FAS 2024 Global and Regional Perspectives in Fisheries
3 credits (B) Spring
Fish biology, ecology and habitats relevant to fisheries on both a global and regional (Florida) scale. Follows the fisheries occurring from cold mountain rivers to the depths of the oceans, with special topics (e.g., artificial reefs, fisheries by catch and aquaculture). Intended for non-science and science majors.

FOR 2662 Forests for the Future
3 credits (S) Fall, Spring
Examines current environmental issues that impact individual, community, and institutional decisions about North American forest resources. Each issue will be reviewed with a framework that uses human behavior, policy options, and media messages. Students are expected to understand the issues and to discuss and analyze the major social and ecological variables affecting each issue.

PEN 1136 Openwater Scuba Diving
2 credits: Summer C, Fall, Spring; Prereq: Swim test
Beginning scuba diving including compass navigation, openwater diving environment, dive preparation and five openwater dives. Payment of required additional course fees and successful completion results in national certification as Openwater Scuba Diver.

HORTICULTURAL SCIENCES

FRC 1010 Growing Fruit for Fun and Profit
1 credit Spring
Especially for non-majors who desire a concise mini-course in fruit growing and marketing. Fruit crops include citrus, pecan, blueberry, strawberry, peach, grape, apple, mango and avocado.

HOS 1014 Vegetable Gardening
1 credit Fall
Primarily for non-majors who desire to learn the basic principles of vegetable gardening. A garden is required of each student.

VEC 2100 World Herbs and Vegetables
3 credits (B) Fall
Introduces a variety of vegetables and culinary herbs. Emphasizes genetic, phytochemical and botanical diversity and importance of food phytochemicals and role of vegetables in nutrition.

MICROBIOLOGY AND CELL SCIENCE

MCB 2000/2000L Microbiology and Laboratory
4 credits (B) Summer A, Fall, Spring
The role of microorganisms in chemical transformations, disease, public health and agriculture. Fundamental concepts are discussed, followed by beneficial and harmful actions of microorganisms as they affect our lives. Suitable as a general education science course, but not acceptable for admission to advanced microbiology courses nor for the preprofessional curricula required for the medical/veterinary sciences.

PCB 1051 Exploring Your Genome
3 credits Fall (online)
The genome sequence, how it is analyzed, and its implications on human health. The course promotes genetic literacy.

PLANT PATHOLOGY

PLP 2000 Plants, Plagues and People
3 credits (B or H) Summer C, Spring (online)
Biology and history of the human species for non-science majors. A chronological presentation from the origin of life to the present with emphasis on the impact that plants, animals and diseases have had and are having on human civilization.

PLP 2060 Fungus Among Us: Mushrooms, Molds and Civilization
3 credits (B) Spring
Role of fungi in human affairs, including their historical use as food or medicine or in religious activities. Also includes their current impact on society as pathogens of plants and animals, in the deterioration of food and fabric, and in the synthesis of important drugs.

SOIL AND WATER SCIENCE

ALS 3133 Agriculture and Environmental Quality
3 credits (P) Fall, Spring, Summer B
Analysis of the effects of agriculture on environmental quality with emphasis on agricultural wastes and practices, the potential for using agricultural systems for disposal of other wastes and the effects of pollution on the agricultural environment.

SWS 2007 The World of Water
3 credits (P) Fall, Spring
The full range of water issues including abundance and quality of water in the environment, water policy and conflict.

WILDLIFE ECOLOGY AND CONSERVATION

WIS 2040 Wildlife Issues in a Changing World
3 credits (B) Summer A, Summer B, Fall, Spring (online option)
The biological and ecological basis of wildlife issues and the pathways humans use to resolve these issues. Topics include: major animal phyla; evolutionary history of vertebrates; state, federal and international agencies that manage wildlife; and the impacts of human activities on wildlife.

WIS 2552 Biodiversity Conservation: Global Perspectives
3 credits (B and N) Summer A, Summer B, Fall, Spring (online)
The relationship between humans and the global biotic environment that supports them. This course explores human patterns of resource use and population biology that determine the status of the earth’s biodiversity resources.
In a university of more than 52,000 students, it can be a challenge navigating how to stand out and differentiate your college experience from your peers. Here’s where we can help. Consider the following ways to enhance your resume and become involved outside the classroom.

**STUDY ABROAD**

Students who study abroad explore new nations, gaining an appreciation of another culture while discovering themselves in the immersion process. The College of Agricultural and Life Sciences (CALS) offers several study abroad programs designed specifically for students in agriculture, life sciences, forestry, ecology and related majors. Students may wish to check opportunities in colleges outside of CALS, or at other institutions. Consider international internships, and apply for CALS and UF study abroad scholarships.

**INTERNSHIPS & RESEARCH**

While experiential learning activities inside CALS classrooms are abundant, increasing practical knowledge of a career path through an internship or research project will contribute to a student’s individual success. Apply for a paid internship with UF/IFAS Extension offices or paid research position with UF/IFAS Research. If you land a government internship at the state or federal level, apply for the CALS Loop Legislative Internship Program. Discover more opportunities through the UF Center for Undergraduate Research at cur.aa.ufl.edu. Make an appointment with Cathy Carr, CALS Director of Alumni and Career Services, to learn about additional prospects.

**CALS LEADERSHIP INSTITUTE**

A unique leadership development program for undergraduates enrolled in CALS, the Leadership Institute provides an international service learning experience, a mentoring relationship, community service, guest speakers and introduction to leadership modules over the course of three semesters. The experience prepares students for positions in business, communications, science, natural resources and pre-professional studies. Learn more at bit.ly/CALS_LI.
CALS AMBASSADORS
The CALS Ambassadors are a select group of students who have demonstrated outstanding achievement in academics and student leadership. The students create awareness of the academic programs and career opportunities in food, agriculture and natural resources among students, teachers, advisers and the general public in the state of Florida. CALS Ambassadors are seasoned speakers who regularly address diverse audiences throughout Florida. Learn more at bit.ly/CALSambassadors.

MINOR(S)
A minor can be a great asset in portraying interest in a certain field, placing students in a specific niche that can help them stand out. Minors give students the opportunity to explore something new to supplement a major course of study. Adding a second major or a certificate are great alternatives to a minor, and more than one minor can be declared. Learn more about the minors offered within CALS by visiting bit.ly/CALSminors.

CALS HONORS SCHOLAR CERTIFICATE PROGRAM
The CALS Honors Scholar Certificate Program is the only formal upper division honors certificate program at the University of Florida. Honors scholars complete nine credits of honors coursework and an undergraduate honors thesis under a designated adviser. The certificate appears on a student's final transcript. Students who complete the CALS Honors Program will graduate from UF with magna cum laude or summa cum laude honors automatically. Learn more about the requirements at bit.ly/CALShonors.

JOIN A STUDENT GROUP
CALS offers more than 50 student organizations that help develop leadership skills and build a student's network. Attend the CALS Kickoff in the fall semester to learn more about involvement opportunities and identify student organizations or volunteer activities that will help you explore interests and gain experience. Visit bit.ly/CALSorgs to learn more. In addition, UF offers more than 900 student organizations with a list available at bit.ly/UFinvolvement.

EXPLORE FELLOWSHIPS & PART-TIME JOBS
Attend the annual CALS Career Expo held during the spring semester to learn about part-time and full-time job and internship opportunities geared for CALS majors. Consider investigating fellowships and other programs, such as the Peace Corps or Fulbright Scholarships. Several CALS students have created their own career paths by crafting their dream careers through a fellowship program. These experiences show future employers the dedication a student has for his or her chosen career field and enhances a student's knowledge of a particular job.
Employment Opportunities
for College Graduates
in Food, Agriculture, Renewable Natural Resources, and the Environment
United States, 2015–2020

Employment Opportunities
During the next five years, U.S. college graduates will find good employment opportunities if they have expertise in food, agriculture, renewable natural resources, or the environment. Between 2015 and 2020, we expect to see 57,900 average annual openings for graduates with bachelor’s or higher degrees in those areas. According to our projections, almost half of the opportunities will be in management and business. Another 27% will be in science, technology, engineering, and mathematics (STEM). Jobs in sustainable food and biomaterials production will make up 15%, while 12% of the openings will be in education, communication, and governmental services.

The projections in this report are based on data from several sources. The Bureau of Labor Statistics forecasts a 10.8% increase in the U.S. labor force between 2012 and 2022 due to job growth and openings from retirement or other replacements. We expect employment opportunities in food, agriculture, renewable natural resources, and environment occupations to grow more than 5% between 2015 and 2020 for college graduates with bachelor’s or higher degrees.

Graduates
An average of 35,400 new U.S. graduates with expertise in food, agriculture, renewable natural resources, or the environment are expected to fill 61% of the expected 57,900 average annual openings. Most employers prefer to hire graduates with this expertise. However, because we anticipate more annual job openings than can be filled by these graduates, employers will need to look to other areas such as biology, business administration, engineering, education, communication, and consumer sciences to fill the remaining 39% of openings.

College graduates with expertise in food, agriculture, renewable natural resources, and the environment are essential to our ability to address the U.S. priorities of food security, sustainable energy, and environmental quality. Graduates in these professional specialties not only are expected to provide answers and leadership to meet these growing challenges in the United States, but they also must exert global leadership in providing sustainable food systems, adequate water resources, and renewable energy in a world of population growth and climate change.

Look to graduates of food, agriculture, renewable natural resources, and environment higher education programs if you are seeking to hire female graduates with STEM degrees. While other U.S. higher education programs have encountered challenges enrolling women in STEM specialties, women make up more than half of the food, agriculture, renewable natural resources, and environment higher education graduates.

Many food, agriculture, renewable natural resources, and environment graduates will have interests, skills, and experiences that lead them to employment in other industries. This will further widen the gap between numbers of graduates with expertise in these areas and the growing number of employment opportunities.

https://www.purdue.edu/usda/employment
MANAGEMENT AND BUSINESS
Between 2015 and 2020, expect an average of 26,700 annual job openings in management and business in the United States for new college graduates with expertise in food, agriculture, renewable natural resources, and the environment. This represents almost half of the annual job openings. Graduates with the best prospects have a strong background in life sciences and business, excellent communication skills, and work experience.

Selected Occupations
- Sales and Service Representative
- Forest Products Manager
- Land Use Manager
- Farm Labor Specialist
- Forest Ecosystem Manager
- E-commerce Specialist
- Financial Analyst
- Agricultural Economist
- Agricultural Loan Officer
- Landscape Contractor
- Marketing Specialist
- Grain Merchandiser

SCIENCE AND ENGINEERING
Food, agriculture, renewable natural resources, and environment higher education programs will continue to produce a growing number of graduates in science, technology, engineering, and mathematics (STEM) disciplines in the next five years. About half of these graduates will be women. Expect 15,500 annual job openings in these areas as demand for these graduates grows in many areas.

Selected Occupations
- Food Scientist
- Veterinarian
- Biological Engineer
- Environmental Scientist
- Insect Biologist
- Fisheries Biologist
- Plant Scientist
- Watershed Scientist
- Dietitian
- Irrigation Engineer
- Animal Scientist
- Soil Scientist

FOOD AND BIOMATERIALS PRODUCTION
Expect 8,500 annual job openings in food and biomaterials production between 2015 and 2020. More individuals filling these jobs will have bachelor's degrees, but production experiences will still be very important. Some growing job opportunities will be available in production of fresh and locally grown foods, poultry and swine production, crop production, forest management, and precision agriculture.

Selected Occupations
- Farmer
- Rancher
- Poultry Production Manager
- Range Manager
- Precision Agricultural Specialist
- Fruit and Vegetable Grower
- Forest Manager
- Crop Management Consultant
- Organic Crops Grower
- Viticulturist
- Swine Production Manager
- Aquaculturist

EDUCATION, COMMUNICATION, AND GOVERNMENTAL SERVICES
Anticipate 7,200 annual job openings in education, communication, and governmental services in the next five years for graduates with expertise in food, agriculture, renewable natural resources, and the environment. Graduates will find opportunities in agriscience education at all levels, government service, forest recreation, and agritourism. They will also find opportunities in marketing, event planning, and public relations.

Selected Occupations
- High School Agriscience Teacher
- Rural Development Specialist
- Plant and Animal Inspector
- Agricultural Extension Educator
- Farm Services Agent
- Natural Resources Conservation Specialist
- Technical Writer
- Social Media Specialist
- Outdoor Recreation Manager
- Environmental Science Teacher
- Food and Agricultural Science Editor
- Event and Meeting Planner

Project Consultants: Antoine J. Alston, North Carolina Agricultural and Technical State University; Kirby Barrick, University of Florida; Richard A. Cavalletto, California Polytechnic State University–San Luis Obispo; Cameron Faustman, University of Connecticut; John C. Foltz, University of Idaho; Michael C. Gaul, Iowa State University; Terry L. Sharik, Michigan Technological University; Susan Sumner, Virginia Tech University

For more details, log on to:
https://www.purdue.edu/usda/employment

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UNDERGRADUATE RESEARCH INTERNSHIPS

The Undergraduate Summer Research Internship Program is implemented by the UF/IFAS Office of Research to introduce students to research at UF/IFAS, improve their research skills, and help support faculty in their research programs. Students are able to view and apply for specific projects that contribute to the research portfolio of the Florida Agricultural Experiment Station.

Since 2004, more than 600 student interns have assisted faculty and graduate students by learning new research skills such as collecting and analyzing data that contribute to specific research projects' goals and objectives. While many internship projects are located on campus in Gainesville, several students work at UF/IFAS research stations across Florida. Interns are compensated $14 per hour for 240 hours of work during summer semester. Many go on to work in paid student positions or begin graduate programs related to their internship.

Intern Data

In 2017, for every available faculty project,

four students applied to the program.

200K+ invested in fiscal year 2017

23% of 2017 student applicants funded

96% of alumni would recommend internship*

*based on a survey with 38% response rate
MARKETING ANALYTICS

After completing a Food and Resource Economics (FRE) data analytics course, Glen Gold knew he was passionate about solving problems using big data, so he secured a research internship with FRE professor Sherry Larkin. He learned to work with specialized software known as SAS to compile large amounts of data into decipherable analytics to track and predict trends. Throughout his internship, Gold was applying SAS to real-world retail sales data collected by The Nielsen Corporation. He focused on seafood products purchased by households in the southeastern U.S. The outcome was a multivariate pricing model that estimated price premiums and discounts associated with value-added products. Food manufacturers are able to use the model to predict retail prices and demand by segments of customers in each market area. The Home Shopping Network (HSN) in Tampa hired Gold specifically for his experience in working with retail scanner data using SAS. He was promoted to manager, where he leads a team in conducting market analytics on current and potential consumers of HSN products and providing daily “forecasts” to the management and marketing teams.

GOLF COURSE SUSTAINABILITY

There are more than 1,100 golf courses in Florida, most of which have managed turfgrass, providing very little biodiversity. In summer of 2017, Grace Cope helped Adam Dale and his research team determine whether golf courses can serve as viable conservation habitats for native pollinators. Dale, an assistant professor in Entomology and Nematology, hypothesized that cultivating wildflowers in out-of-play areas of golf courses would increase native pollinator abundance and diversity. They cooperated with three local golf courses, and Cope traveled to each regularly to set up traps, build nesting boxes, and bring specimens back to the lab for analysis. Results showed that abundance of pollinators did increase with the presence of wildflowers, and that golf course wildflower habitats provide conservation benefits that could support pollinator communities in urban ecosystems. Cope considers herself a “professional dabbler,” and strives to have an interdisciplinary education. She is currently majoring in Visual Arts and minoring in Entomology and Nematology. This internship experience made Cope realize that her passion lies in science, and she plans to attend graduate school for entomology.

CIVIL ENGINEERING

Lauren Coe was pursuing a Land and Water Resources Engineering degree when her advisor recommended that she consider an undergraduate research internship to broaden her real-world experience. Coe was matched with Michael Dukes, an Agricultural and Biological Engineering professor, to help conduct off-site testing of storm water drainage on different soil types. She used soil-moisture sensor data to help determine how different soil conditions affected growth of green peppers and other vegetables. The experience made her competitive enough to receive a Science, Mathematics and Research for Transformation (SMART) Scholarship in her final semester as an undergraduate - an award typically given to graduate students with a strong research background. Besides the technical skills learned, Coe credits this internship for her ability to successfully work in team environments with a high regard for research integrity. The SMART Scholarship guaranteed her a position in a military research lab; following graduation, Coe worked in the Coastal Hydraulics Lab of the U.S. Army Corps of Engineers.
NavigATORing CALS: Campus Tours
College of Agricultural and Life Sciences (CALS)

This program provides high school juniors and seniors the opportunity to experience what it's like to be a student at the University of Florida in CALS.

Shadow a CALS Student | Learn About the UF Admissions Process
Attend Classes | Discover Extracurricular Activities
Explore Majors, Minors, and More!

SPRING DATES:
• January 24, 2020
• January 31, 2020
TIME: 8:30 a.m. - 4 p.m.
REGISTRATION:
cals.ufl.edu/prospective/navigatingcals/

"I loved getting exposure to UF classrooms and previewing what a typical day would look like in the CALS majors I’m interested in."
- Lauren, NaviGATORing CALS Participant
# Undergraduate Coordinators and Student Services Coordinators

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Update 5/9/19