

ALCORN STATE UNIVERSITY

**COLLEGE OF AGRICULTURE
AND APPLIED SCIENCES**



**“Where you gain knowledge and create a lifetime
of relationships, friendships, and family!”**

DEPARTMENT OF AGRICULTURE

VISION & OVERVIEW

Vision

Through vibrant teaching, research and outreach activities, the College of Agriculture and Applied Sciences empowers students and citizens educationally and socio-economically to enrich the quality of life for themselves and their communities.

Department Overview

Agriculture is the number one industry in Mississippi with the top production in poultry, forestry, cereal crops, horticultural crops, vegetables, cattle, and hogs. Accordingly, Alcorn State University's Department of Agriculture is dedicated to training students for successful careers. The department offers three degree programs: Agribusiness Management, Agricultural Economics, and Agricultural Science. The Agricultural Science degree program has the following concentration areas: Agricultural Biotechnology, Animal & Pre-Veterinary Science, General Agriculture, Agriculture Education, Natural Resources & Environmental Science, Plant, Soil & Horticultural Sciences. The department also offers a joint 3 + 1 degree program with MSU. Each program is tailored to provide a unique combination of courses which include lecture, lab, seminar, and internship courses. The Alcorn Agricultural Experiment Station spanning 1,456 acres where several food, feed, and fuel crops are cultivated under different agronomic practices, with access to modern facilities, greenhouses, and animal farms offer practical insights and complement classroom education. Morris Boykin Agricultural Building, Biotechnology Building, and Ecology Building house state-of-the-art equipment with spacious classrooms and teaching labs. The Department presently has 22 full-time faculty covering a spectrum of expertise, with 10 faculty having established research programs in their respective areas of expertise. Agriculture faculty regularly score competitive funding and routinely train and mentor undergraduate student researchers and advise master's students. Our programs are designed to offer the latest curriculum and best practices to meet the present and future needs of the agriculture industry.

Department's objectives:

1. To effectively prepare students for careers in agriculture, advanced education, and lifelong learning.
2. To provide opportunities for students to connect with the agricultural community through interaction with private industries, government agencies, and other industry professionals.
3. To prepare students for graduate and professional schools.

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AGRIBUSINESS MANAGEMENT

Program Overview

The Agribusiness degree program equips students with a well-rounded education that integrates economics, business, and management with agriculture. The program's bachelor's degree combines courses in management, accounting, finance, economics, statistics, and agricultural sciences, providing students with a unique blend of business, science, and technology education. Moreover, the Agribusiness minor helps students develop specific skills for careers in businesses that produce, process, or market agricultural products and commodities.

Program Learning Outcomes

By the end of the program, students should be able to:

- Students will be able to demonstrate knowledge of fundamental concepts in agriculture, including agriculture business/economics, animal science, plant and soil science, and statistics.
- Students will engage in professional development activities and reflect on their experiences to enhance their understanding of the agriculture profession.
- Students will communicate agricultural concepts effectively through written, oral, and digital formats for diverse audiences.
- Students will apply critical thinking to analyze agricultural problems and propose evidence-based solutions through research and fieldwork.

Career Opportunities

Agriculture Business majors can explore a diverse array of career paths in multiple industries. Opportunities include roles such as Commercial Lending, Branch Management, Bank Operations, Lending, Commodities (Stocks & Futures), Accounting, Risk Management, Appraisal, Real Estate, Insurance, Academia, among many others.

Job Outlook

According to the Economic Research Service, USDA (2022), market pressures are expected to drive consolidation into fewer, larger farms and ranches. However, strong opportunities will persist for those in agribusiness. In 2022, agribusiness-related industries in the U.S. supported 19.6 million jobs, with an average salary of \$87,687 per year. Entry-level positions start at \$54,853 per year, while experienced workers can make up to \$156,000 per year (ZipRecruiter).



AGRICULTURE ECONOMICS

Program Overview

The Agricultural Economics degree program delves into economic theory and explores various aspects of productivity, resource management, investments, and trends in both national and international markets. Through this program, students gain the skills to apply economic principles to real-world scenarios that impact the production, distribution, and sale of food.

Program Learning Outcomes

By the end of the program, students should be able to:

- Students should be able to communicate effectively, both written and orally, economic concepts, business decision-making, and agricultural and natural resource concepts.
- Students should have the skills to fit into a business, agency, or academic environment and use economic concepts to quantify and analyze issues related to their employer's issues.
- Students should be familiar with issues related to the agricultural sector, natural resource policies, and rural community development.

Career Opportunities

Agriculture Economics majors can explore a diverse array of career paths in multiple industries. Opportunities include roles such as Economic Development Coordinator, Banker, Account Executive, Investment Consultant, Marketing Director, Sales Representative, Economist, Environmental Protection Specialist, Business Owner, Business Analyst, Consultant, Economic Analyst, Environmental Manager, Environmental Planner, Chief Financial Officer, Business Manager, Academia, and so much more.

Job Outlook

The growth rate for agricultural economists is expected to be 7% over the next decade in the U.S., with approximately 2,000 new job openings annually (U.S. Bureau of Labor Statistics, 2022). Agricultural economists generally earn competitive salaries, with annual earnings typically ranging from \$60,000 to \$120,000. This range varies based on experience, education, and location (see ZipRecruiter).



AGRICULTURE EDUCATION

Program Overview

The BS in Agricultural Sciences with a concentration in Agricultural Education degree includes coursework in leadership, education, communication, and a variety of agricultural topics such as horticulture, animal and plant science, agricultural business and economics, and agricultural technology. Agriculture is an ever-evolving industry with a promising future. Graduates with this degree will be equipped to teach in public schools, colleges, universities, or adult and business education programs. For those not inclined to enter the classroom immediately, there are also opportunities in extension education or within the service sector of the agribusiness industry.

Program Learning Outcomes

By the end of the program, students should be able to:

- Plan and organize units of instruction for topics in agriculture.
- Develop teaching plans on agriculture topics for traditional and special needs students.
- Effectively manage a diverse student population.

Career Opportunities

Agriculture Education majors can explore a diverse array of career paths in multiple industries. Opportunities include roles such as K-12 Agriculture Educator or Science Teacher, Agriculture Literacy Coordinator, Post-Secondary Agriculture Education Professor, Farm Business Management Instructor, Adult Agriculture Educator, Extension Educator, Youth Farmer Instructor, as well as positions within USDA and government services, among many others.

Job Outlook

According to the Economic Research Service of the USDA (2022), market pressures are anticipated to lead to the consolidation of fewer, larger farms and ranches. Despite this trend, significant opportunities will continue to exist for those engaged in agribusiness. In the year 2022, agribusiness-related industries in the U.S. sustained 19.6 million jobs, with an average annual salary of \$87,687. Entry-level positions typically start at \$54,853 per year, while experienced workers have the potential to earn up to \$156,000 annually (ZipRecruiter).



AGRICULTURAL BIOTECHNOLOGY

Program Overview

The BS in Agricultural Sciences with a concentration in Agricultural Biotechnology equips students with essential academic knowledge and technical skills for careers in Agriculture, Food, and Natural Resources. Emphasizing hands-on learning, this program aligns student capabilities with the demands of contemporary agriculture and food industries. It also aims to boost undergraduate enrollment in agriculture and facilitate pathways to the MS Biotechnology program.

Program Learning Outcomes

By the end of the program, students will be able to:

- Demonstrate a strong understanding of agricultural biotechnology principles and techniques, including genetic engineering and bioinformatics, to address real-world agricultural issues.
- Master essential experimental skills and analysis methods for biotechnology research, enabling contributions to advancements in the field.
- Be well-prepared for interdisciplinary work in biotechnology and further education, equipped with both technical expertise and soft skills for success.

Career Opportunities

Agricultural Biotechnology majors have a diverse range of career opportunities across various industries. Here are some potential career paths for graduates in this field: Biotechnology Research Scientist, Agricultural Biotechnologist, Plant Breeder, Genetic Engineer, Bioinformatics Specialist, Agricultural Consultant, Regulatory Affairs Specialist, Environmental Scientist, Quality Control Analyst, Agricultural Policy Advisor, Academic Research/Professor, Technical Sales and Support Specialist, Biotech Entrepreneur, and so much more. Each of these roles offers unique challenges and the chance to contribute to advancements in agriculture and sustainability.

Job Outlook

According to recent data, the job outlook for individuals with a BS in Agricultural Biotechnology is promising, fueled by the demand for sustainable agricultural solutions. Graduates can anticipate opportunities in research and various roles within agricultural firms and government agencies. The field is growing due to innovations in crop management, providing diverse career paths. Salary ranges are approximately \$50,000 to \$80,000 for entry-level positions, \$80,000 to \$120,000 for mid-level roles, and \$120,000 and above for senior positions, varying by industry and location.



ANIMAL SCIENCE AND PRE-VETERINARY SCIENCE

Program Overview

The BS in Agricultural Sciences with a concentration in Animal Science and Pre-Veterinary Science is a program that explores the biology and management of domestic livestock and companion animals. It equips students with the practical methods and scientific principles necessary for caring for, improving, and managing these animals. The program also provides students with the course requirements essential for pursuing a career in veterinary medicine, preparing them for admission to the professional curriculum and giving them the foundational knowledge and expertise required to excel in the field of veterinary medicine.

Program Learning Outcomes

By the end of the program, students should be able to:

- Evaluate animal production and management systems by integrating knowledge of animal genetics, nutrition, and reproduction.
- Apply scientific principles to animal breeding, reproduction, feeding, growth and development, health management, housing, handling, and end-product safety.
- Communicate effectively about animal science to a range of audiences.

Career Opportunities

Animal Science majors have a wide range of career opportunities across various industries including veterinarian, veterinary technician/technologist, animal nutritionist, animal behaviorist, livestock manager, research scientist, animal production specialist, zoo/wildlife keeper, animal health inspector, companion animal care specialist, animal welfare advocate, agricultural extension agent, sales and marketing specialist, regulatory compliance officer, animal research technician, veterinary sales representative, academia, and so much more.

Job Outlook

According to the Bureau of Labor Statistics, the job market for animal scientists is expected to grow by 3.6% between 2022 and 2032 in the US. The Bureau projects a 19.7% employment growth for veterinarians within the same period, with an estimated 17,700 new jobs expected to open up. The average salary range for a veterinarian is \$82,000 to \$132,000, while the average salary range for a BSc in Animal Science is \$50,000 to \$115,000. Keep in mind that factors such as location, experience, education, and sector can influence these salaries.



GENERAL AGRICULTURE

Program Overview

The BS in Agricultural Sciences with a concentration in General Agriculture involves managing natural resources like soil, water, and pests to maximize production of products. If you're interested in studying agriculture and related disciplines, a concentration in General Agriculture could be a great option for you. You'll learn about various aspects of agriculture business, plant sciences, animal science, and more. Additionally, you'll develop skills such as agricultural technology and communication that can be valuable in various career paths.

Program Learning Outcomes

By the end of the program, students should be able to:

- Develop competent agricultural skills with ethical standards in their commitment to developing their respective agricultural sector.
- Demonstrate the ability to communicate effectively both orally and in writing.
- Demonstrate an understanding of and appreciation for the importance of the impact of globalization and diversity in modern agricultural organizations.

Career Opportunities

Agriculture Science majors can explore a diverse array of career paths in multiple industries. Opportunities include roles such as Agriculture Literacy Coordinator, Animal Management and Production, Farm Business Management Instructor, Livestock Production Management, Livestock Feedlot Operations, Extension Educator , Greenhouse and Nursery Management, USDA and Governmental Services, Housing and Environmental Quality, and so much more.

Job Outlook

A recent report from the USDA National Institute of Food and Agriculture highlights promising employment prospects. The authors of "Employment Opportunities for College Graduates in Food, Agriculture, Renewable Natural Resources and the Environment United States" predict a consistent and robust demand for graduates, along with job openings in agriculture, food, natural resources, and environmental sectors. According to payscale.com, the average salary for individuals holding a Bachelor of Science in Agriculture is \$72,000.



NATURAL RESOURCES & ENVIRONMENTAL SCIENCE

Program Overview

The BS in Agricultural Sciences with a concentration in Natural Resources and Environmental Science is a comprehensive degree program that integrates various scientific disciplines to study the impact of agricultural activities, economic growth, and human behavior on the environment. Students in this program will develop sustainable environmental and agricultural management practices and acquire the necessary skills to address current and future environmental challenges. Completion of the program will also prepare students for admission into graduate school for further studies in this field.

Program Learning Outcomes

Upon completion of the program, students will:

- Be effectively prepared for careers in agriculture, advanced education, and lifelong learning.
- Have opportunities to connect with the agricultural community through interaction with private industries, government agencies, and other industry professionals.
- Be prepared for graduate and professional schools.

Career Opportunities

Graduates of natural resources and environmental science programs can explore a wide range of career opportunities across various industries. They can find opportunities with Federal Government Agencies such as the U.S. Geological Survey and U.S. Army Corps of Engineers, State Agencies such as Fish and Game Offices and Health Departments, and in the private sector with companies like Exxon Mobil and The Nature Conservancy. Potential careers encompass roles such as Environmental Specialist, Climate Change Analyst, Environmental Consultant, and Conservationist.

Job Outlook

According to the Bureau of Labor Statistics, the job outlook for students in the natural resources and environmental science emphasis program anticipates faster than average growth. Environmental scientists and specialists expect a 7% growth, while environmental science and protection technicians anticipate a 6% growth from 2023-2033. Recent undergraduate salaries range from \$48,580 to \$80,000, while graduate degree holders earn between \$80,000 and \$130,000, depending on location, experience, and education level.



PLANT, SOIL, & HORTICULTURE SCIENCE

Program Overview

The BS in Agricultural Sciences with a concentration in Plant, Soil, and Horticulture Science program integrates disciplines such as soil science, biology, chemistry, plant breeding, and genetics to provide students with current and future agricultural industry needs. The curriculum covers crop plants, crop growth and production, sustainable soil productivity, and technology development. Hands-on training, diverse faculty research expertise, and a Master of Science in Agriculture degree with a concentration in Agronomy are also offered.

Program Learning Outcomes

By the end of the program, students should be able to:

- Apply relevant statistical concepts for on- and off-field agriculture experiments
- Demonstrate an understanding of crop production, breeding principles, and scientific writing
- Integrate environmental-friendly, human, and soil health strategies for sustainable crop production

Career Opportunities

Plant, soil, and horticulture sciences students have internship opportunities with various private and government agencies, including the US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). Upon completing the BS in Agricultural Sciences, students have diverse career options, including roles as an agronomist, plant breeder, plant geneticist, plant pathologist, plant physiologist, horticulturist, entomologist, soil scientist, soil conservationist, farmer/grower, crop consultant/advisor, extension specialist, agripreneur, research scientist, and academia.

Job Outlook

According to the Bureau of Labor Statistics (May 2023), there are an estimated 15,800 plant and soil scientists in the U.S., with a projected annual job market increase of 4-8% over the next few years. The mean annual wage for these professionals is \$77,080, with a median annual wage at the 50th percentile of \$68,240 and an annual salary range between \$43,790 and \$119,410.



ANIMAL/ POULTRY SCIENCE 3+1 PROGRAM WITH MSU

Program Overview

Poultry Science is a 3+1 Dual Degree Program where students earn a BS in Agriculture Science with a concentration in Animal/Pre-veterinarian Sciences from ASU plus a BS in Poultry Science from MSU. prepares students to raise and manage healthy chickens, turkeys, and ducks for eggs or meat, by applying principles of biology and chemistry to improve productivity. The program also covers animal nutrition and food science. Additionally, students can participate in a collaborative program with MSU (3+1), completing three years in the animal science program at Alcorn State University and one year in the poultry program at MSU, earning a degree in animal science from ASU and a degree in poultry science from MSU. This program also prepares students for professional and advanced degree programs.

Program Learning Outcomes

By the end of the program, students should be able to:

- Students will demonstrate an understanding of basic poultry management.
- Students will apply knowledge to address challenges associated with different poultry production systems.
- Students will demonstrate effective communication through written reports, oral presentations, and discussion

Career Opportunities

There are numerous job opportunities within the poultry science industry. Some positions include poultry plant manager, marketing specialist, quality control manager, nutritionist, flock service technician, feed mill manager, poultry scientist, agricultural engineer, hatchery manager, poultry veterinarian, geneticist, academic positions, Extension agents, quality control specialists, and regulatory compliance officers.

Job Outlook

A recent report shows a promising career outlook for professionals in poultry science. The salary for poultry scientists in the United States is competitive, with an average gross salary of \$71,888 and an equivalent hourly rate of \$35, along with an average bonus of \$1,359. The job outlook for poultry science careers is positive, as the demand for poultry products continues to rise globally. This field offers opportunities in agriculture, food production, research, and academia, and is expected to provide stable employment prospects with potential for growth.



STUDENT CLUBS

Agriculture Economics Club

Mr. Tedrick Hargrave

Animal Science Club

Dr. Melissa Mason, Advisor

FFA (Future Farmers of America)

Dr. Avis Joseph- Advisor

MANRRS (Minorities in Agriculture, Natural Resources, and Related Sciences)

Dr. Monica Burr, Advisor

Plants and Soil Science Club

Dr. Bed Bhatta

STUDY ABROAD

Dr. Victor Njiti, Coordinator

The department provides a range of study abroad opportunities designed to immerse students in hands-on, experiential learning within the field of agriculture. Through these programs, students have the chance to explore agricultural practices in diverse cultural contexts, enhancing their understanding of global farming techniques and sustainability initiatives.

By participating in international internships, field research projects, and collaborative workshops with local farmers, students not only apply their theoretical knowledge in real-world settings but also develop critical skills such as problem-solving, adaptability, and cross-cultural communication. These experiences empower students to gain valuable insights into the complexities of global agriculture, preparing them to become innovative leaders in the industry.

Moreover, studying abroad fosters a deeper appreciation for global agricultural challenges and solutions, as students engage with communities and environments that differ significantly from their own. This unique blend of experiential learning and international exposure enriches their educational journey, equipping them to contribute meaningfully to the future of agriculture on a global scale. Below are photos from our students learning in both Rwanda and Costa Rica.



DEPARTMENT OF AGRICULTURE

FACULTY

DEXTER B. WAKEFILED, I, DEAN AND DIRECTOR OF LAND GRANT PROGRAMS
 SHAKEBRA YOUNG, INTERIM ASSOCIATE DEAN FOR ACADEMIC PROGRAMS & DIRECTOR OF STUDENT SERVICES
 DR. VICTOR NJITI, DEPARTMENT CHAIR

Last Name	First Name	Title	Telephone number/Rm number
Abolude	Abosede	Assistant Prof. of Animal Science	601-877-6378 Extension Research Complex, Office 201S
Adu	Derick	Assistant Professor of Agricultural Economics and Agribusiness Management	601-877-6532 MBAS; Office 204E
Ali	Emran	Assistant Professor of Horticulture	601-877-6129 Extension Research Complex, Office 201P
Atoloye	Idowu	Assistant Professor of Soil Science	601-877-6534 Ecology Building; Office 225
Bequette	Barry	Professor of Horticulture	601-877-6714 MBAS 204D
Bhatta	Bed Prakash	Assistant Professor of Agronomy	601-877-6576 MBAS; Office 104
Burr	Monica	Assistant Professor of Environmental Science	601-877-3368 Ecology & Natural Resource Bldg; Office 208
Collins	Daniel	Professor of Plant Pathology	601-877-6527 MBAS Office 204B
Hargrave	Teddrick	Instructor of Agriculture Economics	601-877-3990 MBAS; Office 204A
Joseph	Avis	Associate Professor of Ag Education	601-877-4055 MBAS; Office 107
Mason	Melissa	Director of Biotechnology; Assistant Professor of Animal Science	601-877-4006 Biotechnology Building; Office 1106
Meng	Yan	Assistant Professor of Plant Genetics	601-877-2402 Biotechnology Building; Office 2108
Mrema	Frank	Assistant Professor of Forestry	601-877-6596 MBAS; Office 103
Njiti	Victor	Chairperson and Professor of Plant Breeding and Genetics	601-877-6572 MBAS; Office 101
Panicker	Girish	Director for Conservation Research and Professor of Horticulture	601-877-3373 Ecology & Natural Resource Building; Office 223
Rashid	Tahir	Associate Professor of Entomology	662-402-9845 MBAS; Office 101
Shili	Cedrick	Assistant Professor of Animal Science	601-877-3391 Biotechnology Building; Office 1108
Sobhan	Abdus	Assistant Professor/Extension Specialist of Food Science	601-877-6541 MBAS; Office 106
Zhang	Chunquan	Associate Dean for Research, Director of Experiment Station, & Associate Professor of Plant Pathology	601-877-6655 Extension Research Complex; Office 201U
Yisau	Juliet	Assistant Professor of Forestry	601-877-2446 Extension Research Complex; Office 201N
Zhang	Jingfang	Assistant Professor of Agricultural Economics	601-877-6532 MBAS; Office 204C

Meet our Leadership



Dr. Dexter B. Wakefield, I

Dean and Director of Land Grant Programs



Dr. Archie Williams

Associate Dean for Academic Programs



Dr. Chunquan Zhang

*Associate Dean for Research,
Director of Experiment Station, &
Associate Professor of Plant Pathology*



Dr. Victor Njiti

Department Chair and Professor of Agronomy

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