

# College of Agriculture and Life Sciences

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## General Information

The College of Agriculture and Life Sciences (CALS) at Mississippi State University is one of the leading colleges of agriculture, life sciences, and human ecology in the southeast. Student enrollment, degree offerings, and student placement have increased steadily each year.

As a land-grant institution, Mississippi State's College of Agriculture and Life Sciences offers excellent academic programs related to basic life sciences, environmental issues, agricultural production, food and fiber processing, agribusiness, agricultural information science, and the conservative and sustainable use of natural resources. With the establishment of MSU's Institute for Genomics, Biocomputing and Biotechnology (IGBB), the College will continue to enhance the study of the life sciences, including biotechnological applications that will have a tremendous impact on education, agriculture production, food, fibers, human and animal health, the environment and bio-based industrial products.

Students may choose from 16 undergraduate curricula in the College of Agriculture and Life Sciences. Each degree program will prepare students for career opportunities in the multi-billion dollar agricultural and life sciences' industry. These programs will also prepare students for graduate and/or professional school study.

**Organization:** The College of Agriculture and Life Sciences is one of five major units of the Division of Agriculture, Forestry and Veterinary Medicine. The others are the Mississippi Agricultural and Forestry Experiment Station (MAFES), Mississippi State University Extension Service (MSU-ES), the College of Forest Resources (CFR), the Forest and Wildlife Research Center (FWRC), and the College of Veterinary Medicine (CVM).

**Faculty and Facilities:** The level of education of the faculty of the College of Agriculture and Life Sciences, as measured by advanced degrees and by the diversity of the institutions from which these degrees were earned, is exceptionally high. The teaching faculty includes resident staff of the MAFES and MSU-ES, which offer valuable opportunities for students on the undergraduate and graduate (See MSU Graduate Bulletin) levels. The sharing of faculty and facilities between the College of Agriculture and Life Sciences, MAFES, and MSU-ES keeps the instructional program current and meaningful to students.

## Policies

**Graduation Requirements:** The minimum requirements for graduation with a Bachelor of Science degree in the College of Agriculture and Life Sciences include the following:

1. Fulfillment of all university academic requirements as published in this Bulletin.
2. Completion of the General Education requirements as published in this Bulletin. (See Listing of Approved General Education Courses)
3. Completion of all program requirements in the major of choice with an average of "C" or better (2.00 on a 4.00 scale).
4. Completion of sufficient upper level credit hours to satisfy the university requirement of twenty-five percent of degree hours in upper level courses.

All students should consult with their assigned departmental advisor who will review and approve course schedules and provide information and answer questions regarding progress toward degree, career opportunities, and campus resources.

**Computer Requirements:** The College of Agriculture and Life Sciences requires all entering freshmen and transfer students to own or lease a personal computer. This college-wide requirement is a proactive measure to insure that students will develop the computer skills necessary for success in agriculture and life sciences professions. CALS requirements match the requirements for MSU (<http://www.its.msstate.edu/support/desktop/specsstudent/>) except for Landscape Architecture students and Human Sciences students. Please see departmental websites for specific requirements for those programs.

**Pre-Professional Programs:** The College of Agriculture and Life Sciences offers a number of programs of study that lead to professional and graduate degree programs including:

- Pre-Veterinary Medicine
- Pre-Law
- Pre-Medicine
- Pre-MBA
- Pre-Pharmacy

- Pre-Dental
- Pre-Optometry

Pre-professional programs of study within CALS enable students to have completed all requirements necessary for admission to the graduate and professional programs of their choice. See listed majors for the specific requirements for each of these areas and contact departmental representatives for additional information.

## Degree Programs

Students may choose from the following degree programs and concentrations in the College of Agriculture and Life Sciences:

- Agribusiness
  - Management
  - Policy and Law
  - Production
- Agricultural Engineering Technology and Business
  - Enterprise Management
  - Natural Resources and Environmental Management
  - Precision Agriculture
  - Surveying and Geomatics
- Agricultural Information Science
  - Agricultural Leadership
  - Teaching
- Agricultural Science
- Agronomy
  - Agricultural and Environmental Soil Science
  - Golf and Sports Turf Management
  - Integrated Crop Management
  - Integrated Pest Management
- Animal and Dairy Sciences
  - Business and Industry
  - Production Management
  - Science/Veterinary Science
- Biochemistry
  - Bioinformatics
  - Entomology
  - Forensic Sciences
  - Plant Pathology
  - Pre-Dental
  - Pre-MBA
  - Pre-Medicine
  - Pre-Optometry
  - Pre-Pharmacy
  - Pre-Veterinary Medicine
  - Science
- Culinology
- Environmental Economics and Management
- Environmental Science in Agricultural Systems
- Food Science, Nutrition and Health Promotion
  - Culinology®
  - Food Safety/Pre-Veterinary Medicine
  - Food/Nutrition
  - Food Processing/Business
  - Food Science
- Horticulture

- Floral Management
- Floriculture and Ornamental Horticulture
- Fruit and Vegetable Production
- Human Sciences
  - Fashion Design and Merchandising
  - Human Development and Family Science
  - Gerontology Certificate
- Landscape Architecture
- Landscape Contracting and Management
- Poultry Science
  - Business Management
  - Pre-Veterinary Medicine
  - Processed Products
  - Production Systems

Minors are available in a number of these programs. See the appropriate degree program in this Bulletin for additional information or call departmental representatives.

## Emphasis in International Agriculture

An emphasis in International Agriculture is available to students majoring in any curriculum in the College of Agriculture and Life Sciences. This emphasis is intended to prepare students for possible careers in agricultural production or marketing on an international scale.

Students interested in this emphasis will take the following in addition to requirements for their majors. The specific courses included will be determined by the department involved and the student's interest, but will include the following minimums.

Subject Matter	Required Semester Hours
Production Agriculture (outside student's major)	6-9
Agricultural Economics	6-9
World Geography/Political Science and/or Sociology	3-6
Foreign Language	6-9

## Five-Year, Two-Degree Curricula in Agriculture and Business and in Agriculture and Liberal Arts

Five-year, two-degree curricula leading to Bachelor of Science degrees in both Agriculture and Business and Agriculture and Liberal Arts are available. Such curricula may be designed with a major in any field of agriculture or human sciences combined with a major in any field of business or liberal arts. These programs must meet the minimum requirements of 124 semester hours with a C average or better for a degree in Agriculture including

1. a minimum of 54 semester hours with a C average or better in business approved by the College of Business and Industry, or
2. a minimum of 48 hours with a C average or better in the liberal arts field approved by the College of Arts and Sciences.

Students desiring to follow a five-year, two-degree curriculum will develop a detailed program by consultation with advisors in the College of Agriculture and Life Sciences and the College of Business and Industry or the College of Arts and Sciences. The two degrees are conferred simultaneously at the end of the fifth year. Students should declare their intentions of pursuing the two-degree program as early as possible, generally not later than the end of the sophomore year.

## Pre-Veterinary Medicine

The College of Agriculture and Life Sciences does not offer a degree in Pre-Veterinary Medicine; therefore, students should select a major that includes Pre-Veterinary courses. These requirements are included in the following degree programs: Animal and Dairy Sciences; Poultry Science; Food Science, Nutrition and Health Promotion; Biochemistry and Molecular Biology; Microbiology; and Biological Sciences (the latter two degree programs are located in the College of Arts and Sciences). Each of the four degree programs within the College of Agriculture and Life Sciences (CALS) allows the student to complete the necessary requirements for entry to the College of Veterinary Medicine and a Bachelor of Science simultaneously. To receive a Bachelor of Science degree, each student must meet the curriculum requirements set forth by the respective department provided through the Pre-Veterinary Medicine Concentration (Example: See Animal and Dairy Sciences). Upon the successful completion of the undergraduate degree program through the junior year and the pre-veterinary medicine course requirements, a student may apply to the College of Veterinary Medicine (CVM). Upon the successful completion of the first year of CVM courses (approximately 40-42 hrs.), a student may apply these hours toward the bachelor's degree. This course work can serve as the senior year of the undergraduate curriculum. This "three plus one" program is offered by the College of Agriculture and Life Sciences for Pre-Veterinary students.

Address inquiries concerning the Pre-Veterinary medicine concentrations available to desired degree program and advisor listed below:

**Animal and Dairy Sciences Pre-Veterinary Medicine Program**

Department of Animal and Dairy Sciences

Jessica Graves, Pre-Veterinary Advisor

4017 Wise Center

Box 9815

Mississippi State, MS 39762

Phone: (662) 325-2936

**Biochemistry and Molecular Biology**

Pre-Veterinary Medicine Program

Department of Biochemistry, Molecular Biology, Entomology & Plant Pathology

Dr. Darrell Sparks, Pre-Veterinary Advisor

402 Dorman Hall

Box 9540

Mississippi State, MS 39762

Phone: (662) 325-7733

**Food Science Pre-Veterinary Medicine Program**

Department of Food Science, Nutrition and Health Promotion

Dr. Wes Schilling, Pre-Veterinary Advisor

105 Herzer Dairy Science Building

Box 9805

Mississippi State, MS 39762

Phone: (662) 325-3200

**Poultry Science Pre-Veterinary Medicine Program**

Department of Poultry Science

114 Hill Poultry Science Building

Box 9665

Mississippi State, MS 39762

Phone: (662) 325-3416

## Pre-Veterinary Requirements for entry into The College of Veterinary Medicine

Writing/Composition	6
Public Speaking or Technical Writing	3
CO 1003                      Fundamentals of Public Speaking	
or AIS 3203                Professional Writing in Agriculture, Natural Resources, and Human Sciences	
Mathematics	6
Microbiology with lab	4
Biological Science with lab	8
BIO 1134                    Biology I	
BIO 1144                    Biology II	
General/Inorganic Chemistry with lab	8
Organic Chemistry with lab	8
CH 4513                    Organic Chemistry I	
CH 4511                    Organic Chemistry Laboratory I	
CH 4523                    Organic Chemistry II	
CH 4521                    Organic Chemistry Laboratory II	
Biochemistry	3
Physics with lab (can be trig-based)	6
Advanced Science Electives	12
Fine Arts	3
Humanities	6
Social/Behavioral Science	6
<b>Total Hours</b>	<b>79</b>

**Electives will be needed from requirements toward the student's alternate major to complete the minimum 124 hour degree.**