

Department of Animal and Dairy Sciences

Major Advisor: Instructor Jessica Graves

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Animal and Dairy Sciences is a multidisciplinary science that focuses on livestock and companion animal growth, health and safety, as well as food and fiber production. Professionals in the diverse fields of animal and dairy sciences strive to provide healthy and wholesome food as well as quality fiber products to support the growing population. Students in Animal and Dairy Sciences will learn about the newest technologies and experience progressive management strategies that will prepare them to be leaders in agriculture.

Joining Animal and Dairy Sciences will give students hands-on education and experience needed to be successful in areas such as breeding, feeding and nutrition, growth and development, reproductive and lactation physiology, biotechnology, marketing, management, and evaluation as it relates to livestock species. The curriculum is designed to provide students with academic and experiential learning while also allowing them flexibility to tailor their program by taking courses that best prepare and support their professional goals. Students of the Animal and Dairy Sciences will be challenged to think critically and exercise knowledge of discipline content through scientific writing and presentation. Students pursuing veterinary medicine or graduate studies will find the academic setting of the Animal and Dairy Sciences is an ideal fit.

Concentrations:

Pre-Vet Science

Business and Industry

Production Management

BS in Animal and Dairy Sciences (ADS)

Degree Requirements

English Composition

EN 1103 or EN 1163	English Composition I Accelerated Composition I	3
EN 1113 or EN 1173	English Composition II Accelerated Composition II	3

Mathematics

MA 1323 or MA 1713	Trigonometry Calculus I	3
MA 2113	Introduction to Statistics	3

Science

See Concentration Requirements

Humanities

Choose from General Education courses 6

Fine Arts

Choose from General Education courses 3

Social Sciences

AEC 2713 or EC 2113 or EC 2123	Introduction to Food and Resource Economics Principles of Macroeconomics Principles of Microeconomics	3
Choose from General Education courses		3

Major Core

ADS 1111	Orientation in Animal Science	1
ADS 1113	Animal Science	3
ADS 1121	Animal Science Laboratory	1
ADS 2111	Animal Science Career Planning	1
ADS 3014	Anatomy and Physiology	4
ADS 3314	Introduction to Meat Science	4
ADS 4114	Animal Nutrition	4
ADS 4124	Animal Breeding	4
ADS 4213	Feeds and Feeding	3

ADS 4613	Physiology of Reproduction	3
ADS 4611	Practices in Physiology of Reproduction	1
ADS 4221	Capstone in Animal and Dairy Science	1
Experiential Learning		3
ADS 4420 or ADS 4440 or ADS 4520	Animal and Dairy Science Internship Research Experience Practicum Livestock Extension Experience	
PO /GNS /BIO 3103	Genetics I	3
Plant and Soil Science Elective	Consult advisor	3

Choose one of the following concentrations:

Pre-Vet/Science Concentration

Chemistry Sequence

CH 1213 & CH 1211	Chemistry I and Investigations in Chemistry I *	4
CH 1223 & CH 1221	Chemistry II and Investigations in Chemistry II *	4

Organic Chemistry & Lab

CH 2503 & CH 2501 or CH 4513 & CH 4511	Elementary Organic Chemistry and Elementary Organic Chemistry Laboratory Organic Chemistry I and Organic Chemistry Laboratory I	4
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Biology

BIO 1134	Biology I *	4
BIO 1144	Biology II	4
BIO 3304	General Microbiology	4

Biochemistry

BCH 4013 or BCH 4603	Principles of Biochemistry General Biochemistry I	3
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Oral Communication

CO 1003 or CO 1013	Fundamentals of Public Speaking Introduction to Communication	3
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Electives

Evaluation & Management Elective		2
Production Electives		8
Science Electives		12
Free Electives		6

*See academic advisor for list of approved elective courses

Total Hours		124
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* Satisfies General Education Requirements.

Business and Industry Concentration

Inorganic Chemistry Sequence

CH 1043 & CH 1053 & CH 1051 or CH 1213 & CH 1211 & CH 1223 & CH 1211	Survey of Chemistry I and Survey of Chemistry II and Experimental Chemistry * Chemistry I and Investigations in Chemistry I and Chemistry II and Investigations in Chemistry I	7-8
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Organic Chemistry

CH 2503 & CH 2501	Elementary Organic Chemistry and Elementary Organic Chemistry Laboratory	4
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or CH 4513 & CH 4511	Organic Chemistry I and Organic Chemistry Laboratory I	
Biology		
BIO 1134 or BIO 1144	Biology I * Biology II	4
Electives		
Evaluation & Management Electives		4
Production Electives		8
Business Electives		12
General Agriculture Electives		12
Free Electives		7
*See academic advisor for list of approved elective courses		
Writing Requirement		
Satisfied by the successful completion of ADS 1113, ADS 2111, ADS 4213, ADS 4613, ADS 4221, and ONE of: ADS 2102, ADS 2122, ADS 3213, ADS 4212, ADS 4420, ADS 4440, ADS 4520, or ADS 4623.		
Oral Communication Requirement		
Satisfied by the successful completion of ADS 4613, ADS 4221, and TWO of the following: ADS 2102, ADS 2122, ADS 2223, ADS 3812, ADS 4212, ADS 4412, ADS 4420, ADS 4440, ADS 4520, ADS 4623, or ADS 4813.		
Computer Literacy Requirement		
Satisfied by the successful completion of ADS 3312, ADS 4420, ADS 4440, ADS 4520, ADS 4813, or ADS 4523		
Total Hours		124

* Satisfies General Education Requirements.

Production Management Concentration

Inorganic Chemistry Sequence

CH 1043 & CH 1053 & CH 1051 or CH 1213 & CH 1211 & CH 1223 & CH 1221	Survey of Chemistry I and Survey of Chemistry II and Experimental Chemistry * Chemistry I and Investigations in Chemistry I and Chemistry II and Investigations in Chemistry II	7-8
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Organic Chemistry & Lab

CH 2503 & CH 2501 or CH 4513 & CH 4511	Elementary Organic Chemistry and Elementary Organic Chemistry Laboratory Organic Chemistry I and Organic Chemistry Laboratory I	4
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Biology

BIO 1134 or BIO 1144	Biology I * Biology II	4
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Electives

Evaluation & Management Electives		4
Production Electives		16
Business Electives		6
General Agriculture Electives		12
Free Electives		5

***See academic advisor for list of approved elective courses.**

Writing Requirement

Satisfied by the successful completion of ADS 1113, ADS 2111, ADS 4213, ADS 4613, ADS 4221, and ONE of: ADS 2102, ADS 2122, ADS 3213, ADS 4212, ADS 4420, ADS 4440, ADS 4520, or ADS 4623.

Oral Communication Requirement

Satisfied by the successful completion of ADS 4613, ADS 4221, and TWO of the following: ADS 2102, ADS 2122, ADS 2223, ADS 3812, ADS 4212, ADS 4412, ADS 4420, ADS 4440, ADS 4520, ADS 4623, or ADS 4813.

Computer Literacy Requirement

Satisfied by the successful completion of ADS 3312, ADS 4420, ADS 4440, ADS 4520, ADS 4813, or ADS 4523

Total Hours

124

* Satisfies General Education Requirements.

Course requirements for Pre-Veterinary students (3 + 1 program) to obtain a B.S. degree in Animal and Dairy Sciences

Because

1. the entrance requirements for the College of Veterinary Medicine satisfy a portion of the course requirements for the Animal and Dairy Sciences curriculum
2. a number of students are enrolled in Animal and Dairy Sciences while satisfying their pre-veterinary requirements and
3. an Animal and Dairy Sciences degree will be especially helpful to a practicing veterinarian,

the following requirements for those electing to apply for a Bachelor of Science degree in Animal and Dairy Sciences after successfully completing the first year of Veterinary Medicine are listed.

General Education Requirements	27
Dept Core	39
Science/Veterinary Medicine Concentration (excl. Science Electives and Free Electives)	40

To qualify for the Bachelor of Science degree in ADS, a student in the 3+1 program must successfully complete the 3 years of above listed undergraduate course work (115-118 hours) and the first year of the Veterinary Medicine curriculum.

ADS Minor Requirements

Obtaining a minor in Animal and Dairy Sciences will serve to complement other Bachelor of Science studies at Mississippi State University through multidisciplinary science coursework aimed to provide a deeper understanding of livestock.

Requirements

ADS 1113 & ADS 1121	Animal Science and Animal Science Laboratory	4
Production Courses (choose from the following)		3
ADS 3214	Livestock Growth and Development	
ADS 3223	Horse Management	
ADS 4113	Swine Science	
ADS 4223	Goat and Sheep Production	
ADS 4323	Beef Cattle Science	
ADS 4813	Dairy Farm Management	
Evaluation Course (choose from the following)		2
ADS 2102	Equine Conformation and Performance Evaluation	
ADS 2122	Advanced Equine Evaluation	
ADS 3812	Dairy Cattle Appraisal	
ADS 4212	Livestock Evaluation	
ADS 4232	Advanced Livestock Evaluation	
Upper Level Courses (choose from the following)		9
ADS 3014	Anatomy and Physiology	
ADS 3314	Introduction to Meat Science	
ADS 4114	Animal Nutrition	
ADS 4124	Animal Breeding	
ADS 4213	Feeds and Feeding	
ADS 4333	Equine Exercise Physiology	
ADS 4543	Applied Animal Biotechnology	
ADS 4613	Physiology of Reproduction	
ADS 4623	Physiology of Lactation	

ADS 4633

Immunology and Disease in Large Livestock Species

Minimum Hours Required

18