



Animal Sciences

College of Agriculture
and School of Human
Environmental Sciences

Animals have many important roles in human societies including the provision of food and fiber, draft power, recreational and athletic activities, and companionship. In addition, animals and their interactions with humans have environmental consequences. Processing, preservation, and quality of animal-derived foods significantly affect human health and economics. Animal Sciences involves studying and applying the basic principles of nutrition, reproduction, and genetics to the production and management of animals including horses, dairy and beef cattle, sheep, swine, poultry, and other domesticated species. Additional course work provides information on production and handling of animal-derived foods.

No one program fits all Animal Sciences students. Students come from varied backgrounds and their interests range from livestock and poultry production and management to marketing and public relations; from public education and extension to graduate training in research and teaching and veterinary medicine. No matter what species you have an interest in, the Animal Sciences major will allow you to combine your interest with your desire for an exciting and rewarding career.

As an Animal Sciences major, students have the opportunity to pursue specific interests by selecting one of three study options: Animal Industry, Food Industry or Pre-Professional. The Animal Industry option is for those students interested in animal production and management and allows specialization in one of three areas: livestock, equine, or dairy. The Food Industry option is designed to provide an emphasis on aspects of food processing, chemistry, and safety. The Pre-Professional option is a rigorous study program for students with interests in veterinary sciences, human medicine, and graduate research. Students must consult the pre-professional advisor or graduate school advisor of the university to which they intend on applying for additional or specific requirements.

Career Opportunities

To keep pace with the food, fiber, and recreation requirements of a growing world population, Animal Sciences graduates are needed in the livestock industry and closely related fields. The Animal Sciences major offers considerable flexibility in fulfilling specific career objectives, whether you are interested in working directly with livestock or indirectly in closely related areas such as agribusiness, research, government, or education.

Graduation Requirements

To earn the Bachelor of Science in Animal Sciences, the student must have a minimum of 120 credit hours with at least a 2.0 grade-point standing. A minimum of 45 credit hours must be from upper division courses (300 and above). Remedial courses may **not** be counted toward the total hours required for the degree. In addition to University Studies requirements, students must complete college, departmental and specialty support requirements.

Plan of Study

As an animal sciences major you are required to develop an acceptable **Plan of Study** during your sophomore year for your junior and senior years. The plan must be signed by your advisor and returned to the Office of Academic Programs.

If you are an upper division transfer student (from another university or from another UK college or department) then you will submit your plan during the first semester you are enrolled in the program. Consult your academic advisor in developing your Plan of Study.

Each student must complete the following:

College Required Hours

GEN 100 Issues in Agriculture	3
Subtotal: College Required Hours	3

University Studies Requirements

Hours

See "University Studies Program" on pages 83-87 of the 2009-2010 UK Bulletin for the complete University Studies requirements.

The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill University Studies areas. Students should work closely with their advisor to complete the University Studies Program requirements.

Courses marked with an asterisk (*) may also be used to satisfy University Studies requirements.

Inference-Logic

MA 123 Elementary Calculus and Its Applications	3
or	
MA 113 Calculus I	4

Natural Sciences

CHE 105 General College Chemistry I	3
CHE 107 General College Chemistry II	3

USP Electives

BIO 150 Principles of Biology I	3
BIO 152 Principles of Biology II	3

Premajor Requirements

Hours

*MA 123 Elementary Calculus and Its Applications	3
or	
*MA 113 Calculus I	4
*BIO 150 Principles of Biology I	3
*BIO 152 Principles of Biology II	3
*CHE 105 General College Chemistry I	3
*CHE 107 General College Chemistry II	3
*CHE 111 Laboratory to Accompany General Chemistry I	1
*CHE 113 Laboratory to Accompany General Chemistry II	2
**ENG 203 Business Writing	3

Subtotal: Premajor Hours	21-22
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**Satisfies the Graduation Writing Requirement.

Major Requirements

Hours

ASC 101 Domestic Animal Biology	3
ASC 102 Applications of Animal Science	3
ASC 205 Livestock, People and Their Interactions	1
ASC 325 Animal Physiology	3
ASC 362 Animal Genetics	4
ASC 364 Reproductive Physiology of Farm Animals	4
ASC 378 Animal Nutrition and Feeding	4
ASC 470 Capstone for Animal Agriculture	3

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plus at least **three** of the following courses:

ASC 340 Poultry Production	2
ASC 404G Sheep Science	4
ASC 406 Beef Cattle Science	4
ASC 408G Swine Production	2
ASC 410G Equine Science	3
ASC 420G Dairy Cattle Science	3
Subtotal: Major Hours	32-36

In addition to the Major Requirements, students choose **one** of three options:

Option A: Animal Industry

Students fulfilling the Major Requirements are eligible for the Animal Industry Option by taking certain required Specialty Support Courses (see below). In addition, students with more specific interests may, but are not required to, choose from three specializations available within this Option.

No Specialization

(required Specialty Support only; see below) 0

Livestock Specialization

ASC 300 Meat Science

and at least **two** from:

ASC 340 Poultry Production	2
ASC 404G Sheep Science	4
ASC 406 Beef Cattle Science	4
ASC 408G Swine Production	2

Equine Specialization

ASC 310 Equine Anatomy and Conformation	2
ASC 320 Equine Management	3
ASC 410G Equine Science	3

Dairy Specialization

ASC 420G Dairy Cattle Science	3
ASC 564 Milk Secretion	3

Subtotal: Option A Hours **0-5**

Option B: Food Industry

Students fulfilling the Major Requirements are eligible for the Food Industry Option by taking certain required Specialty Support Courses (see below) and:

ASC 300 Meat Science	4
FSC 107 Introduction to Food Science	3

Subtotal: Option B Hours **7**

Option C: Pre-Professional

Students fulfilling the Major Requirements are eligible for the Pre-Professional Option by taking certain Specialty Support Courses (see below). Students must consult the pre-professional advisor or graduate school advisor of the university to which they intend on applying for additional or specific requirements.

Specialty Support

Animal Industry Option

CHE 230 Organic Chemistry I	
or	
CHE 236 Survey of Organic Chemistry	3
Depending on the student's area of interest and subject to the advisor's approval, additional courses at the 200-level or above may be selected from biochemistry, biology, chemistry, physics, statistics, or any agriculture-related area other than Animal Sciences	15

Food Industry Option

CHE 230 Organic Chemistry I	
or	
CHE 236 Survey of Organic Chemistry	3
FSC 304 Animal Derived Foods	5
Depending on the student's area of interest and subject to the advisor's approval, additional courses at the 200-level or above may be selected from biochemistry, biology, chemistry, physics, statistics, or any agriculture-related area other than Animal Sciences	12

Pre-Professional Option*

BIO 304 Principles of Genetics	
or	
ABT/ENT 360 Genetics	3-4
CHE 230/231 Organic Chemistry and Laboratory I	5
CHE 232/233 Organic Chemistry and Laboratory II	5
PHY 211 General Physics	5
PHY 213 General Physics	5

**Students must consult the pre-professional advisor or graduate school advisor of the university to which they will apply for additional or specific requirements.*

Subtotal: Specialty Support **18-24**

Electives

Electives should be selected to complete the 120 hours required for graduation.

Subtotal: Electives **minimum of 17**

TOTAL HOURS: **120**