

# ANSC-ANIMAL SCIENCE (ANSC)

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## ANSC 1110. Animal Science Careers

### 1 Credit (1)

Introduction to scientific disciplines and career options in animal-agriculture career skill development, including resume preparation, networking, importance of internships, and leadership experiences in animal agriculture.

#### Learning Outcomes

1. Increasing the understanding of career opportunities in animal agriculture.
2. Gain a broad experience in the development of creative thinking about the career choices available in animal agriculture.
3. Apply the increased knowledge of career development in the career path and internship directions for each student.
4. Gain leadership experience that will be impactful for the student in their pursuit of a career in animal agriculture.

## ANSC 1120. Introduction to Animal Science

### 3 Credits (3)

This course is designed to provide an introduction to nutrients and their function in livestock animals. Basic feed identification, evaluation, and diet formulation will be discussed. The anatomy of the digestive tract of animals and their ability to utilize feedstuffs is presented. Classification, digestion, absorption, transport and metabolism of major nutrients required by animals are studied

#### Learning Outcomes

1. Identify conventional and non-conventional feedstuffs that are fed to livestock animals.
2. Describe various methods for feed processing and storage.
3. Assess the nutritional value of a ration or feed ingredients.
4. Interpret the NRC (Nutrient Requirement Council) guidelines for feeding livestock.
5. List the basic digestive anatomy for all classes of livestock.
6. Describe nutritional deficiencies and digestive disorders common to livestock animals

## ANSC 1120H. Introduction to Animal Science Honors

### 3 Credits (3)

This course is designed to provide an introduction to nutrients and their function in livestock animals. Basic feed identification, evaluation, and diet formulation will be discussed. The anatomy of the digestive tract of animals and their ability to utilize feedstuffs is presented. Classification, digestion, absorption, transport and metabolism of major nutrients required by animals are studied. Additional course work will be required. Restricted to Las Cruces campus only.

**Prerequisite(s):** Eligibility for membership in honors college.

#### Learning Outcomes

1. Identify conventional and non-conventional feedstuffs that are fed to livestock animals.
2. Describe various methods for feed processing and storage.
3. Assess the nutritional value of a ration or feed ingredients.
4. Interpret the NRC (Nutrient Requirement Council) guidelines for feeding livestock.
5. List the basic digestive anatomy for all classes of livestock.
6. Describe nutritional deficiencies and digestive disorders common to livestock animals

## ANSC 1120L. Introduction to Animal Science Lab

### 1 Credit (2P)

Students will observe and participate in activities related to farm animal management and will include areas of livestock selection, nutrition, reproductive physiology, animal ID and animal health. This lab is required for animal science majors.

**Prerequisite(s)/Corequisite(s):** ANSC 1120.

#### Learning Outcomes

1. To provide the students with an understanding of the principles, concepts and terminology of today's livestock industry

## ANSC 1130. Western Equitation I

### 2 Credits (4P)

Basic principles of Western riding, including care and management of the riding horse, equitation equipment, and development of riding skills.

## ANSC 1140. Introduction to Dairy Science

### 3 Credits (3)

Introduction to the basic aspects of dairy science and how to apply key concepts to the practical feeding and management of dairy cattle and production of dairy products. Students should also obtain an appreciation for the size and diversity of the dairy industry.

**Prerequisite(s)/Corequisite(s):** ANSC 1120. Restricted to Las Cruces campus only.

#### Learning Outcomes

1. Learn key concepts in dairy production and management
2. Be familiar with terms used in production of milk and milk products

**ANSC 1160. Introductory Horse Science****3 Credits (2+2P)**

The light horse industry; breeds; introduction to feeding, breeding, marketing and management; handling and selecting horses for breeding and performance.

**Learning Outcomes**

1. Describe and identify breeds of horses, their characteristics and their uses.
2. Demonstrate knowledge of basic physiology of horses by recalling parts of the horse, including bones, muscle, tendons and ligaments. Also, by ageing horses via teeth, body condition scoring and taking vital signs.
3. Demonstrate safe and proper handling of horses.
4. Demonstrate comprehension of basic nutrition and feedstuffs by formulating/correcting diets in clinical and non-clinical situations.
5. Recall aspects of basic reproduction by calculating a stallion book and recalling appropriate procedures for breeding.
6. Create informative articles that seek to educate the lay horse person about a topic covered in class.

**ANSC 1170. Introduction to Animal Metabolism****3 Credits (3)**

Principles underlying the mechanisms of animal metabolism as they relate to production, maintenance, and health of animals.

**Prerequisite:** CHEM 1215G.

**Learning Outcomes**

1. This course provides an introduction to the study of the physiology of life.
2. The first part of the course covers acids and bases and the chemical nature of organic compounds.
3. The second part of the course relates to the chemistry of biomolecules (nutrients) and summarizes the chemical reactions of life (metabolism).

**ANSC 1180. Companion Animal in Society****3 Credits (3)**

Examination of the historical, current, and potential future roles of companion animals in human society. Topics include animal domestication, breeds, exotic companion animals, the companion animal industry, and competitions and sports involving companion animals. Emphasis is on canine and feline species. May be repeated up to 3 credits. Restricted to Las Cruces campus only.

**Learning Outcomes**

1. Discuss the theories regarding why, how, and when companion animals became domesticated.
2. Describe how selective breeding has optimized certain physiological and behavioral traits of companion animals in order to fulfill the needs of individual people and society.
3. Explain the concept of human-companion animal interaction (HAI) and the influence this bond has on human behavior, health, society, and government policy/laws.
4. Understand the breadth and economic impact of the rapidly expanding companion animal industry and the recent expenditure trends of pet owners.
5. Discuss the past and present uses of companion animals and theorize regarding the future uses of companion animals in society
6. Be effective in searching for, and critically evaluating, scientific based resources.

**ANSC 2120. Equine Management****3 Credits (3)**

Introduction and application of the business skills necessary to effectively manage the equine operation. Students will learn how to use strategic thinking and sound business management practices to succeed in the demanding equine industry.

**Prerequisite:** ANSC 1160.

**Learning Outcomes**

1. Develop a working knowledge of the business principles needed to operate a successful entrepreneurial enterprise.
2. Increase the awareness of the need for business principles in the aggregate function of an equine operation.
3. Gain a greater perspective of accounting, economic and financial principles in an equine business operation.

**ANSC 2130. Western Equitation II****2 Credits (4P)**

Intermediate principles of Western riding, including reading horse behavior, limbering-up exercises, and developing riding skills. Introduction to rollbacks, turnarounds and stops.

**Prerequisite:** consent of instructor.

**Learning Outcomes**

1. Increasing the understanding of the student relative to equitation practices
2. Increase the students' ability to apply principles of Western Equitation to applied settings across a broad spectrum of outlets
3. Prepare the student to engage equine in a professional manner

**ANSC 2140. Introduction to Companion Animal Science****3 Credits (3)**

Introduction to the care of common companion animal species. Species specific housing and nutrition are covered in the context of maximizing animal health and well-being and reducing disease. May be repeated up to 3 credits.

**Learning Outcomes**

1. Accurately use scientific terminology common to the companion animal discipline.
2. Compare and contrast the physiological similarities and differences between the various companion animal species studied in class.
3. Create dietary plans based on the nutritional needs of different companion animal species to optimize animal health and lifespan.
4. Identify symptoms of disease/injury at the early stages of illness in order to obtain Veterinary care and treatment as quickly as possible.
5. Design and construct species specific cages/vivariums to maximize animal well-being and health.
6. Educate others regarding providing the best possible care for a variety of companion animal species.

**ANSC 2150. Management of Equine Operations****3 Credits (3)**

Introduction and application of business skills necessary to effectively manage the equine operation. Students will learn how to use strategic thinking and sound business management practices to succeed in the demanding equine industry.

**Prerequisite(s):** ANSC 1160.

**Learning Outcomes**

1. Acquire a working knowledge of different sectors of the equine industry, including business practices, management and marketing skills.

**ANSC 2310. Introduction to Meat Science****3 Credits (2+3P)**

Fundamental aspects of the red meat industry. Lecture topics and laboratory exercises include the nutrient value of meat, meat preservation, meat safety, muscle structure and contraction, slaughter and processing of beef, lamb and pork, sausage manufacture, meat curing, meat cookery, and muscle and bone anatomy.

**Learning Outcomes**

1. Increasing the understanding of meat science applications across animal agriculture.
2. Increase the students' ability to apply principles of production to the industry perspective.
3. Apply the increased knowledge of meat science in a global situation.
4. Gain an understanding of the components involved in the development and processing of the red meat industry.

**ANSC 2330. Animal Production****3 Credits (2+2P)**

Production and utilization of beef cattle, sheep, and swine; emphasis on feeding, breeding, management problems and marketing; selection of animals for breeding and market

**Learning Outcomes**

1. Increasing the understanding of meat animal production.
2. Increase the students' ability to apply principles of production to the industry perspective.
3. Apply the increased knowledge of meat animal production to global situations.
4. Gain a broader understanding of the importance of meat animals in the global food system.

**ANSC 2340. Genetics in Animal Science****3 Credits (3)**

Introduction to genetics and inheritance relative to livestock production. Introduction to procedures for collection and use of performance information in livestock improvement programs.

**Prerequisites:** BIOL 2610G.

**Learning Outcomes**

1. Gain a broader understanding of the role genetic impacts in the livestock industry.
2. Employ an increased knowledge of impact of genetics in the food animal industry and the production
3. and economic principles that apply.
4. Recognition of the global impacts of genetics in the food animal industry in a global setting.

**ANSC 2996. Special Topics****1-4 Credits**

Specific subjects and credits to be announced in the Schedule of Classes. Maximum of 4 credits per semester. No more than 9 credits toward a degree.

**Learning Outcomes**

1. Varies