ANSCI 51 Course Outline as of Fall 2023

CATALOG INFORMATION

Dept and Nbr: ANSCI 51 Title: ANAT & PHYS FARM ANIMALS
Full Title: Anatomy and Physiology of Farm Animals
Last Reviewed: 5/8/2017

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.50	17.5	Lecture Scheduled	43.75
Minimum	3.00	Lab Scheduled	1.50	8	Lab Scheduled	26.25
		Contact DHR	0		Contact DHR	0
		Contact Total	4.00		Contact Total	70.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 87.50 Total Student Learning Hours: 157.50

Title 5 Category:	AA Degree Applicable
Grading:	Grade Only
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	

Catalog Description:
An introduction to the fundamental structure and function of four-legged farm animals. Emphasis is placed on the practical aspects of anatomy and physiology of different farm animal species. Discussion will include tissues, organs, and body systems that make up the farm animal so the information can be applied to their daily care and management.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Schedule of Classes Information:
Description: An introduction to the fundamental structure and function of four-legged farm animals. Emphasis is placed on the practical aspects of anatomy and physiology of different farm animal species. Discussion will include tissues, organs, and body systems that make up the farm animal so the information can be applied to their daily care and management. (Grade Only)
Prerequisites/Corequisites:

Recommended: Eligibility for ENGL 100 or ESL 100
Limits on Enrollment:
Transfer Credit:
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**	Effective:	Inactive:
CSU GE:	**Transfer Area**	Effective:	Inactive:
IGETC:	**Transfer Area**	Effective:	Inactive:

CSU Transfer:	Effective:	Inactive:
UC Transfer:	Effective:	Inactive:

CID:

Certificate/Major Applicable:
Both Certificate and Major Applicable

COURSE CONTENT

Student Learning Outcomes:
At the conclusion of this course, the student should be able to:
1. Identify major body systems and describe their function
2. Discuss how the cardiovascular, endocrine and excretory systems work together to maintain homeostasis
3. Compare ruminant and monogastric digestive anatomy and physiology

Objectives:
Upon completion of the course, students will be able to:
1. Explain basic cell biology
2. Define terminology used in large animal veterinary practice
3. Identify normal anatomy and physiology of farm animals
4. Describe the function of the major organ systems
5. Recognize and identify various tissues and bones when presented with them

Topics and Scope:

I. Introduction
   A. Word structure, roots, prefixes, suffixes, and combinations
   B. Body planes and cavities and application of directional terms
   C. Overview of body structure and organization defined in terms of anatomy and physiology of the tissues, organs, and organ systems
   D. Animal Health Careers
II. Biology of the Cell
   A. Organelles
   B. Cell membranes and osmosis
III. Support and Movement
   A. Integument

- B. The Skeletal System
  1. Function of bones
  2. Microscopic anatomy and formation of bone
  3. Axial skeletal bones
  4. Appendicular skeletal bones
  5. Ossification
  6. Fractures and fracture healing
  7. Other pathological conditions
- C. The Joints
  1. Joints structure
  2. Classification of joints
  3. Pathology of joints and related structures
- D. The Muscular System
  1. Microscopic anatomy of muscle cells
  2. Major types of muscle in the body
     i) Skeletal muscle
     ii) Smooth muscle
     iii) Cardiac muscle
  3. Major flexor and extensor muscle groups in the body
  4. Muscle Contraction

IV. Cardiovascular System
- A. Heart
  1. Anatomy
  2. Regulation of cardiac function
- B. Major arteries and veins
- C. Major lymph nodes

V. The Respiratory System
- A. Thoracic cavity and lungs
- B. Structures and functions
- C. Respiratory gases
- D. Regulation of respiration

VI. The Digestive System
- A. Dental anatomy
- B. Accessory glands
- C. Gastro Intestinal (GI) Tracts
  1. Simple stomached animals
  2. Hind gut fermenters
  3. Ruminants
- D. Regulation of metabolism

VII. The Urinary System
- A. Kidneys
- B. Ureters, urinary bladder and urethra
- C. Micturation
- D. Regulation of acid-base balance

VIII. Endocrine System
- A. Hormones
  1. Origin
  2. Function
  3. Receptors
- B. Positive and negative feedback mechanisms

IX. Immune System
- A. Organs, tissues, and cells

B. Inflammation
C. Specific immune system responses
D. Allergic reactions

X. The Reproductive System
A. Male reproductive structures and function
B. Female reproductive structures and functions
C. Process by which ova and sperm are made
D. Gestation, parturition and lactation
1. Length
2. Placental types
3. Udder
E. Heat cycles

XI. Eye
A. Anatomy
B. Physiology of the visual pathway

XII. Ear
A. Anatomy
B. Physiology of the auditory pathway

XIII. The Nervous System
A. Neurons and synapses
B. Central nervous system
1. Anatomy of the brain
2. Anatomy of the spinal column
C. Peripheral nervous system
D. Autonomic nervous system
E. Enteric nervous system

Laboratory Activities: All topics are covered in both the lecture and lab parts of the course. Laboratory activities will include:
1. Dissections
2. Case studies

Assignment:

Lecture Related Assignments:
1. Reading in text and handouts
2. Writing assignments: reading reports, worksheets, study guide, class notes
3. Quizzes (2-6), midterms and final

Lab Related Assignments:
1. Laboratory dissection and accompanying reports

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Writing assignments, lab reports	Writing 10 - 20%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Laboratory dissection reports	Problem solving 10 - 20%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Laboratory dissection performances	Skill Demonstrations 10 - 20%

Exams: All forms of formal testing, other than skill performance exams.

Quizzes, midterm, and final	Exams 60 - 70%

Other: Includes any assessment tools that do not logically fit into the above categories.

Attendance and participation	Other Category 0 - 5%

Representative Textbooks and Materials:

McCurnin's Clinical Textbook for Veterinary Technicians. 8th ed. Basset, Joanna and Thomas, John. Saunders. 2013

Workbook for McCurnin's Clinical Textbook for Veterinary Technicians. 8th ed. Basset, Joanna and Thomas, John. M.Saunders. 2013

Anatomy and Physiology of Farm Animals. 7th ed. Frandson, Rowen and Wilke, W. and Fails, Anna. Wiley-Blackwell. 2009 (classic)

Anatomy of Domestic Animals, 11th ed. Pasquini, Chris and Spurgeon, Tom and Pasquini, Susan. Sudz Publishing. 2007 (classic)

Spurgeon's Color Atlas of Large Animal Anatomy: The Essentials. McCracken, Thomas and Kainer, Robert and Spurgeon, Thomas. Wiley-Blackwell. 1999 (classic)