EQSCI 60 Course Outline as of Fall 2024

CATALOG INFORMATION

Dept and Nbr: EQSCI 60 Title: EQUINE ANATOMY/PHYS
Full Title: Equine Anatomy and Physiology
Last Reviewed: 8/28/2017

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	6	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00 Total Student Learning Hours: 157.50

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

Catalog Description:
This course investigates the gross anatomy and physiology of the horse. All the major body organs will be studied in relation to their function in the horse.

Prerequisites/Corequisites:

Recommended Preparation:
Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Schedule of Classes Information:
Description: This course investigates the gross anatomy and physiology of the horse. All the major body organs will be studied in relation to their function in the horse. (Grade or P/NP)
Prerequisites/Corequisites:
Recommended: Eligibility for ENGL 100 or ESL 100
Limits on Enrollment:
Transfer Credit: CSU;
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:	Transferable	Effective:	Spring 2011	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. Explain and analyze the structure and function of the horse's body.
2. Relate the physiological functions to the anatomical structures.
3. Explain the biomechanics and behavior of the horse.
4. Relate the ideal conformational characteristics of a horse.

Objectives:
At the conclusion of this course, the student should be able to:
1. Explain the anatomy and physiology of the skeletal system.
2. Evaluate the anatomy and physiology of the muscular system.
3. Examine the anatomy and physiology of the cardiovascular system.
4. Summarize the anatomy and physiology of the respiratory system.
5. Appraise the anatomy and physiology of the digestive system.
6. Evaluate the anatomy and physiology of the urinary system.
7. Explain the anatomy and physiology of the reproductive system.
8. Explain the anatomy and physiology of the endocrine system.
9. Identify the anatomy and physiology of the nervous system.
10. Explain the anatomy and physiology of the immune system.
11. Explain the anatomy and physiology of the integumentary system.
12. Produce examples of basic unsoundnesses and based on the anatomy and/or physiology, predict the possible lameness that will result from poor conformation.

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. Anatomy and Physiology of the cell
II. Anatomy and Physiology of the Skeletal system

A. Bone topographical anatomy
B. Bone Physiology
C. Joint Structure
D. Soft Tissues in Support of the Skeletal System
E. Specific Bone, Ligament Names and Locations

III. Anatomy and Physiology of the Muscular System
A. Types of Muscles, Microscopic Structure
B. Neuromuscular Junctions of Skeletal Muscles
C. Supportive Structures of the Muscular System
D. Specific Anatomy of Major Muscle Groups
E. Physiology of Muscle Conditioning and Metabolism

IV. Equine Conformation and Unsoundness
A. Ideal Conformation
B. Acceptable Conformation
C. Gait Analysis
D. Lameness as a Result of Poor Conformation
E. Management of Conformation Related Disorders

V. Anatomy and Physiology of the Cardiovascular System
A. Cardiac Structure of the Horse
B. Vascular Structure of the Horse
C. Electrophysiology of the Heart
D. Identification of the Vascular Anatomy of the Horse's Major Vessels
E. Physiology of Cardiovascular Conditioning
F. Components of Blood

VI. Anatomy and Physiology of the Respiratory System
A. Anatomy of the Upper and Lower Airways of the Horse
B. Anatomy of the Lung of the Horse
C. Physiology of Gas Exchange in Horses
D. Physiology of Pulmonary Conditioning in Horses
E. Physiology of the Syndrome of "Bleeders" in Racehorses

VII. Anatomy and Physiology of the Digestive System
A. Anatomy of the Chewing and Swallowing Mechanisms of the Horse
B. Anatomy of the Alimentary Tract of the Horse
C. Physiology of each Segment of the Alimentary Tract
D. Anatomy and Physiology of the Liver and Pancreas of the Horse

VIII. Anatomy and Physiology of the Urinary System
A. Anatomy of the Kidney, Ureters, Bladder, Urethra
B. Basic Physiology of Fluid and Electrolyte Balance
C. Importance of Water Supply in Renal Function
D. Basic Mechanisms of Urine Formation

IX. Anatomy and Physiology of the Reproductive System
A. Anatomy of the Stallion
B. Physiology of the Stallion Reproductive System
C. Anatomy of the Mare
D. Physiology of the Mare

X. Anatomy and Physiology of the Endocrine System
A. Name and Location of the Endocrine Organs
B. Hormones of the Hypothalamus: Origin, Stimulus, Target, Effect
C. Hormones of the Pituitary: Origin, Stimulus, Target, Effect
D. Hormones of the Thyroid: Origin, Stimulus, Target, Effect
E. Hormones of the Pancreas: Origin, Stimulus, Target, Effect
F. Hormones of the Adrenal Cortex and Medulla: Origin, Stimulus, Target, Effect

G. Hormones of the Gonads: Origin, Stimulus, Target, Effect
H. Hormone of the Pineal: Origin, Stimulus, Target, Effect
XI. Anatomy and Physiology of the Nervous System
A. Anatomy of the Brain and Spinal Cord
B. Physiology of Nerve Conduction
C. Anatomy of the Peripheral Nerves
D. Anatomy and Physiology of the Autonomic Nervous System
XII. Anatomy and Physiology of the Immune System
A. Immune Cells
1. Origin
2. Types
3. Functions
B. Cell-Mediated Immunity
XIII. Anatomy and Physiology of the Integumentary System
A. Layers of the Horse's Skin
B. Physiology of the Intradermal Structures
C. Hooves
1. Form
2. Function

Assignment:

1. Reading in text and handouts, averaging 20-30 pages per week
2. Writing assignments: 2-5 reading reports, 10-15 worksheets
3. Quizzes (2-6), midterms and final
4. Practical application assignments, applying concepts and terminology to live horses
5. Anatomical diagram identification

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.

Reading reports, worksheets, study guides	Writing 10 - 20%

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

Practical applications, anatomical diagram identification	Problem solving 20 - 30%

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

None	Skill Demonstrations 0 - 0%

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

Quizzes, midterms, final exam: Multiple choice, true/false, matching items	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:
Color Atlas of Veterinary Anatomy, Volume 2, The Horse. 2nd ed. Ashdown, Raymond and Done, Stanley. Mosby. 2011 (classic)
Functional Anatomy and Physiology of Domestic Animals. 4th ed. Reece, William. Wiley-Blackwell. 2009 (classic)