

ANSC 2315
Equine Exercise Physiology
MWF 1:00-1:50pm RAS 137

Instructor:

Dr. Rebecca K. Splan

RAS 105

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Office hours: Please email to schedule appointment

Course Description: An exploration of physiological and environmental factors associated with equine athletic performance. The course will cover adaptation of the respiratory, cardiovascular, musculoskeletal, thermoregulatory, and support systems to training and exercise. Common athletic injuries encountered in conditioning programs will also be discussed.

Course Learning Objectives:

Upon completion of this course, students should be able to:

- 1) Describe physiological changes that occur as a response to exercise and training,
- 2) Analyze conformation related to potential athletic ability and risk of injury,
- 3) Recognize metabolic and mechanical disorders associated with decreased performance,
- 4) Evaluate feeding and management programs for equine athletes, and
- 5) Design conditioning programs and measure their ability to improve athletic performance.

Program Learning Outcomes, Department of Animal Science:

Students will be able to:

- 1) Demonstrate the basic skills of analyzing and interpreting information gathered in a research setting,
- 2) Apply critical thinking skills to deal with potential challenges in diverse animal sciences and related industries, and,
- 3) Communicate through written, spoken, and graphical methods.

Reference Textbooks (not required):

Equine Exercise Physiology by D Marlin and K Nankervis (2002) Blackwell Publishing.

Equine Exercise Physiology by KW Hinchcliff, RJ Geor, and AJ Kaneps (2008) Saunders Elsevier.

Additional required reading materials will be made available on Blackboard and/or distributed in class.

Academic Integrity and Honesty: The University expects all students to engage in all academic pursuits in a manner that is beyond reproach and to maintain complete honesty and integrity in the academic experiences both in and out of their classroom. The University may initiate disciplinary proceedings against a student accused of any form of academic dishonesty, including but not limited to, cheating on an examination or other academic work, plagiarism, collusion, and the abuse of resource materials. For more information, please see SRSU guidelines on Student Conduct and Discipline, found in the Student Handbook: http://www.sulross.edu/sites/default/files//sites/default/files/users/docs/stulife/student_conduct_discipline.pdf

Accommodations: Sul Ross State University is committed to equal access in compliance with the Americans with Disabilities Act of 1973. It is the student's responsibility to initiate a request for accessibility services. Students seeking accessibility services must contact Mary Schwartz, M. Ed., L.P.C., in Counseling and Accessibility Services, Ferguson Hall, Room 112. The mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas. Telephone: 432-837-8691. E-mail: mschwartz@sulross.edu

Absence and Late Assignment Policy:

It is expected that ALL assignments will be submitted on time. Without a valid absence, any assignment turned in up to 24 hr late will receive a -20% penalty, and a penalty of -40% for up to 48 hr late. Assignments turned in after 48 hr will NOT be accepted. Valid absences include 1) medical emergency (signed note from a medical doctor is required), 2) participation in a SRSU-sanctioned activity (a letter from the faculty advisor is required before the absence), or 3) other emergencies or conflicts that are allowed at Dr. Splan's discretion. Students are expected to make up missed work as quickly as possible.

Laboratories: Although this course does not have a separate lab section, several class periods will contain activities held at the equine center. Clothes should be clean when you come to these labs. Do not wear clothes that have been worn around other horses without first laundering them – this includes shoes and boots. Students must wear long pants and close-toed footwear. Students should realize they will be working with and around horses during these times; there are inherent dangers associated with handling large animals and working in an equine environment. Students are required to follow safety procedures and are strongly encouraged to have accident insurance.

Assessment and Grading:

Journal Club Presentations (2 @ 30 pts each)

Homework/Worksheets (6 @ 20 pts)

Written Paper (1 @ 40 pts)

Mid-term Exam (100 pts)

Final Exam (100 pts)

Grading Scale:

A = 90-100% B = 80-89% C = 70-79% D = 60-69% F = below 60%

Tentative Lecture Schedule:

Date

Topic

Aug 22	Introduction, The Horse as an Athlete
Aug 24	Skeletal Muscle
Aug 26	Skeletal Muscle
Aug 29	Connective Tissue
Aug 31	Connective Tissue
Sept 2	Respiratory System
Sept 5	LABOR DAY – no class
Sept 7	Cardiovascular System
Sept 9	Blood
Sept 12	Energetics
Sept 14	Energetics
Sept 16	Muscular Response to Exercise
Sept 19	Skeletal Response to Exercise
Sept 21	Respiratory Response to Exercise
Sept 23	Cardiovascular Response to Exercise
Sept 26	Endocrine and Immune Response to Exercise
Sept 28	Research in Equine Exercise Physiology
Sept 30	Thermoregulation
Oct 3	Stress and Fatigue
Oct 5	Mid-term Exam
Oct 7	Common Disorders Affecting Performance Horses
Oct 10	Common Disorders Affecting Performance Horses
Oct 12	Biomechanics
Oct 14	Journal Club
Oct 17	Journal Club
Oct 19	Unsoundness and Lameness
Oct 21	Unsoundness and Lameness
Oct 24	Conformation Analysis
Oct 26	Conformation Analysis
Oct 28	Training Principles
Oct 31	Training Facilities
Nov 2	Applied Training Programs
Nov 4	Applied Training Programs
Nov 7	Performance Testing Methods
Nov 9	Feeding Performance Horses
Nov 11	Feeding Performance Horses
Nov 14	Rehabilitation from Injury
Nov 16	Performance-Enhancing or -Restoring Substances
Nov 18	Journal Club
Nov 21	Journal Club
Nov 23	THANKSGIVING BREAK – no class
Nov 25	THANKSGIVING BREAK – no class
Nov 28	TBA
Nov 30	Review for Final Exam
Dec 2	FINAL EXAM (not cumulative) - 12:30 - 2:30 pm