ANSC 3313
Equine Lameness and Rehabilitation
Fall 2025

Department: Agriculture & Industry

Length: 16 Weeks

Instructor: Felipe Padilha, DVM, PhD

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Lectures: Monday & Wednesday 1:00pm – 2:15pm RAS 132

Course Description

This course provides an in-depth examination of equine musculoskeletal health, with a focus on the identification, diagnosis, treatment, and rehabilitation of lameness in horses. Students will explore the anatomy and biomechanics of equine limbs, common causes and classifications of lameness, diagnostic methods (including gait analysis, flexion tests, imaging, and nerve blocks), and therapeutic interventions. Emphasis will be placed on evidence-based approaches to clinical assessment and management of acute and chronic lameness, incorporating both traditional veterinary treatments and emerging modalities such as regenerative therapies, physical therapy, farriery, and complementary practices (e.g., hydrotherapy, therapeutic ultrasound, kinesiology taping, and controlled exercise programs). The rehabilitation component will focus on designing individualized recovery plans, monitoring progress, and understanding the physiological responses to therapeutic exercise. Case studies and current research will be used to develop students' diagnostic reasoning, practical skills, and understanding of ethical considerations in performance horse management and welfare.

Student Learning Objectives (SLO)

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

- Students will demonstrate basic knowledge of what constitutes normal locomotion, the causes of lameness, including common injuries, conformation and management techniques.
- Students will understand the integration of conformation, biomechanics, training and the development of injury.
- Students will understand the applications of modern rehabilitative methods.
- Students will learn to critically evaluate emerging research in the field of equine sports medicine.

Animal Science Marketable Skills

- Knowledge of animal organisms, their tissues, cells, functions, interdependencies, and interactions with each other and the environment.

- Understanding the implications of new information for both current and future problem solving and decision- making.
- Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions. Communicating in both oral and written form at a level appropriate for the needs of the audience.

Animal Science Learning Outcomes (ASLO)

- - Demonstrate the ability to interpret and apply scientific research.
- - Apply critical thinking and ethical reasoning in problem-solving.
- - Communicate effectively using discipline-appropriate formats.
- - Demonstrate the basic skills of interpreting research data gathered in an agricultural context.
- - Apply critical thinking skills to mitigate potential challenges in diverse animal sciences and related agricultural industries.
- - Demonstrate the ability to communicate through written, spoken, and graphical methods.

Instructor Expectations from Students:

- The instructor will provide weekly opportunities for communication with the class through announcements and reminders as well as office hours (by appointment).
- Class correspondence will be in person during class hours, through Blackboard or student's SRSU email account.
- Instructor will provide email responses within 48-hours of receipt during the hours of 9:00AM-4:00PM, Monday- Friday. Emails sent after hours and during the weekend will be replied to within this timeframe.
- Instructor will provide grades to assignments and projects within 72h after the respective due date.
- The instructor will provide clear and concise instructions on how to complete the course requirements.
- Instructor will provide a range of opportunities to engage in the course content in a meaningful way utilizing diverse multimedia resources to enrich the student's experience and foster curiosity. Students are not mandated but encouraged to ask questions on course content.

Professor Expectations of Students:

- Successful students will familiarize themselves with the course syllabus, policies, assessments, evaluation, grading criteria, and course schedule.
- Successful students will complete all coursework on the assigned due date. The student is responsible for arranging the allowed make-up of any missed work, given a University-approved excuse such as (but

not limited to) serious illness, accident, or death in the immediate family or participation in a University-sponsored activity provided that, prior to the absence, the student makes arrangement to complete all missed work.

- Successful students will engage in the course, with their peers, and the instructor and with open communication and active participation and should be diligent to use both oral and written communication that respects peers and instructor.
- Students should respond to instructor communication requests regarding course progress and for general inquires in a timely manner. The deadline for responding to communication requests will be 72 hours after the communication was sent by the instructor.
- Successful students will not plagiarize the work of other, or use the work of their peers and claim it as their own. Students 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 may undergo academic disciplinary procedures.
- Successful students will pre-plan for testing situations and ensure they are able to access the internet to complete the exam during its assigned date and time, and prior to the due date.
- Students will be proactive and resourceful to problem solve in case of internet or technical issues. Further resources for technical support are available through Lobo IT or Blackboard.

Project:

As a pair, choose one of the scientific articles posted on Blackboard. Article selection will be done during the first week of classes, and on a first come first served basis. Present the article as a PowerPoint, demonstrating the background information, hypothesis/issues, and applications of the respective research. Each pair will have 15min for the presentation and 5 minutes for questions/discussion at the end. See rubric for details. This project will be presented in the classroom to your peers and scored based on the rubric.

Course Schedule (16 Weeks)

Date	Topic	Quiz
August 25	Introduction	NONE
August 27	A history of locomotion	NONE
September 1	NO CLASS: LABOR DAY	NONE
September 3	The "normal" biomechanics of locomotion	NONE
September 8	Understanding Lameness	NONE
September 10	Conformation and function 1	**Quiz 1**
September 15	Conformation and function 2	NONE
September 17	Accessing lameness – Palpation and Manipulation	**Quiz 2**
September 22	Accessing lameness – Palpation and Manipulation	NONE
September 24	Accessing lameness – Objective Assessment	**Quiz 3**
September 29	Gait adaptation in lameness	NONE
October 1	Gait adaptation in lameness	**Quiz 4**
October 6	The Poorly Performing Horse	NONE
October 8	Common conditions of the Western Performance Horse	**Quiz 5**
October 13	Common conditions of the Western Pleasure Horse	NONE
October 15	Common conditions of the Racing Quarter Horse	NONE
October 20	MIDTERM EXAM	NONE

This syllabus and schedule are subject to change at the discretion of the instructor. You will be provided information in advance. If you are absent from class, it is your responsibility to check on announcements made while you were absent

October 22	Common conditions of the Racing Thoroughbred	NONE
October 27	Common conditions of the English Performance Horse	NONE
October 29	Common conditions of the English Performance Horse	**Quiz 6**
	Common conditions of the Draft Horse	NONE
November 3	Common conditions of the Gaited Horses	**Quiz 7**
November 5	Concepts of rehabilitation & therapeutic options	NONE
November 10	Local or Topical Therapy	**Quiz 8**
November 12	Oral or Nutritional Therapy	NONE
November 17	NO CLASS	NONE
November 19	Rehabilitation and Physical Therapy	**Quiz 9**
November 24	Group preparation (on-line)	**Quiz 10**
November 26	NO CLASS: THANKSGIVING	NONE
December 1	Group Presentations – Injuries in Sport Horses	NONE
December 3	NO CLASS: DEAD DAY	NONE
December 8	**FINAL EXAM 1:00pm – 2:15pm**	NONE

Assessment & Grading

Assessment Components:

- - Quizzes (10 quizzes – 10 points/quiz) – 100 points
- - Discussion Board Participation (Monthly – 25 points/month) – 100 points
- - Midterm Exam (Week 9) – 100 points
- - Project – 100 points
- - Final Exam (Week 16) – 100 points

Total: 500 points

Percentage	Letter Grade	Meaning	Points
90% - 100%	A	Excellent	4
80% - 89%	B	Good	3
70% - 79%	C	Average	2
60% - 69%	D	Poor	1
Below 60%	F	Failure	0

Required and Recommended Literature

Primary Textbooks:

- Back, W., & Clayton, H. M. (2013). Equine locomotion. Elsevier Health Sciences. 2nd edition
- Stashak, T. S. (2020). Adams and Stashak's Lameness in Horses. Wiley-Blackwell; 7th edition (June 30, 2020).

Course Goals

Understand the Foundations of Equine Lameness

- Provide students with a comprehensive understanding of the anatomy and physiology of the equine musculoskeletal system, with emphasis on structures commonly involved in lameness.
- Identify the causes, types, and classifications of lameness in horses.

Develop Skills in Lameness Detection and Diagnosis

- Train students in methods of lameness evaluation, including visual assessments, gait analysis, palpation techniques, flexion tests, and diagnostic tools such as radiography, ultrasound, and thermography.
- Enable students to differentiate between common musculoskeletal pathologies and systemic causes of lameness.

Explore Rehabilitation Techniques and Modalities

- Examine both traditional and modern rehabilitation methods used to treat equine lameness, including physical therapy, therapeutic exercises, hydrotherapy, shockwave therapy, and more.
- Emphasize the role of individualized rehabilitation programs and how to design them based on diagnosis and performance goals.

Promote Preventative and Holistic Care

- Discuss hoof care, nutrition, conditioning programs, conformation analysis, and proper training methods as they relate to preventing lameness.
- Encourage integrative approaches combining veterinary, farrier, and therapeutic care.

Apply Concepts Through Hands-On Learning and Case Studies

- Engage students in practical labs or fieldwork involving real or simulated cases to practice lameness exams, rehabilitation planning, and patient monitoring.

- Foster critical thinking through analysis of case studies and current research in equine rehabilitation.

Prepare Students for Industry Application

- Equip students with the knowledge and practical skills necessary for careers in equine veterinary support, rehabilitation therapy, performance horse management, or advanced academic study in veterinary or animal science fields.

Accommodations

Sul Ross State University (SRSU) is committed to equal access in compliance with Americans with Disabilities Act of 1973. It is SRSU policy to provide reasonable accommodations to students with documented disabilities. It is the student's responsibility to initiate a request each semester for each class. Alpine students seeking accessibility/accommodations services must contact Mary Schwartze Grisham, M.Ed., LPC, SRSU's Accessibility Services Coordinator at 432-837-8203 (please leave a message and we'll get back to you as soon as we can during working hours), or email mschwartze@sulross.edu Our office is located on the first floor of Ferguson Hall (Suite 112), and our mailing address is P.O. Box C-122, SUI Ross State University, Alpine. Texas, 79832.

ADA Statement

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Student Responsibilities

All full-time and part-time students are responsible for familiarizing themselves with the Student Handbook and the Undergraduate & Graduate Catalog and for abiding by the University rules and regulations. Additionally, students are responsible for checking their Sul Ross email as an official form of communication from the university. Every student is expected to obey all federal, state and local laws and is expected to familiarize him/herself with the requirements of such laws.

SRSU Distance Education Statement

Students enrolled in distance education courses have equal access to the university's academic support services, such as library resources, online databases, and instructional technology support. For more information about accessing these resources, visit the SRSU website.

Students should correspond using Sul Ross email accounts and submit online assignments through Blackboard, which requires a secure login. Students enrolled in distance education courses at Sul Ross are expected to adhere to all policies pertaining to academic honesty and appropriate student conduct, as described in the student handbook. Students in web-based courses must maintain appropriate equipment and software, according to the needs and

requirements of the course, as outlined on the SRSU website. Directions for filing a student complaint are located in the student handbook.

Counseling

Sul Ross has partnered with TimelyCare where all SR students will have access to nine free counseling sessions. You can learn more about this 24/7/365 support by visiting Timelycare/SRSU. The SR Counseling and Accessibility Services office will continue to offer in-person counseling in Ferguson Hall room 112 (Alpine campus), and telehealth Zoom sessions for remote students and RGC students.

Libraries

The Bryan Wildenthal Memorial Library and Archives of the Big Bend in Alpine offer FREE resources and services to the entire SRSU community. Access and borrow books, articles, and more by visiting the library's website, library.sulross.edu/. Off-campus access requires logging in with your LobolD and password. Librarians are a tremendous resource for your coursework and can be reached in person, by email (srsulibrary@sulross.edu), or by phone (432-837-8123).

No matter where you are based, public libraries and many academic and special libraries welcome the general public into their spaces for study. SRSU TexShare Cardholders can access additional services and resources at various libraries across Texas. Learn more about the TexShare program by visiting library.sulross.edu/find-and-borrow/texshare/ or ask a librarian by emailing srsulibrary@sulross.edu.

Academic Integrity

Students in this class are expected to demonstrate scholarly behavior and academic honesty in the use of intellectual property. Students should submit work that is their own and avoid the temptation to engage in behaviors that violate academic integrity, such as turning in work as original that was used in whole or part for another course and/or professor; turning in another person's work as one's own; copying from professional works or internet sites without citation; collaborating on a course assignment, examination, or quiz when collaboration is forbidden. Students should also avoid using open AI sources unless permission is expressly given for an assignment or course. Violations of academic integrity can result in failing assignments, failing a class, and/or more serious university consequences. These behaviors also erode the value of college degrees and higher education overall.

Classroom Climate of Respect

Importantly, this class will foster free expression, critical investigation, and the open discussion of ideas. This means that all of us must help create and sustain an atmosphere of tolerance, civility, and respect for the viewpoints of others. Similarly, we must all learn how to probe, oppose and disagree without resorting to tactics of intimidation, harassment, or personal attack. No one is entitled to harass, belittle, or discriminate against another on the basis of race, religion, ethnicity, age, gender, national origin, or sexual preference. Still, we will not be silenced by the difficulty of fruitfully discussing politically sensitive issues.

Supportive Statement

I aim to create a learning environment for my students that supports various perspectives and experiences. I understand that the recent pandemic, economic disparity, and health concerns, or even unexpected life events may impact the conditions necessary for you to succeed. My commitment is to be there for you and help you meet the learning objectives of this course. I do this to demonstrate my commitment to you and to the mission of Sul Ross State University to create a supportive environment and care for the whole student as part of the Sul Ross Familia. If you feel like your performance in the class is being impacted by your experiences outside of class, please don't hesitate to come and talk with me. I want to be a resource for you.

Tutoring Center

The Lobo Den Tutoring Center offers FREE tutoring support to help you excel in your courses. Whether you need assistance in Writing, Math, Science, or other subjects, we're here to help!

Important Information:

- Drop-in and Scheduled Appointments: Flexible options to fit your needs.
- Hours of Operation: Monday–Friday, 8:00 AM – 5:00 PM.
- Workshops: Attend our regularly hosted academic workshops on STEM topics and professional development, often in collaboration with specialized faculty.
- Location: BWML Room 128.
- Contact Us: For more information or to book an appointment, email tutoring@sulross.edu or call (432) 837-8726.

Looking for additional support?

- Tutor.com offers FREE 24/7 online tutoring in over 200 subjects, including specialized support for ESL and ELL learners with native Spanish-speaking tutors.
- Access Tutor.com via Blackboard: Log in to your Blackboard account to get started anytime, anywhere.

Take advantage of these valuable resources to boost your confidence and performance in your classes. We look forward to helping you succeed