

ANS4079C Relationship of Form to Function in Horses

Spring 2026

Course Format: In-person, Credits: 3

Lectures: M W 11:45-12:35pm in ANS Rm 151

Labs: W 1:55-3:50pm at the Horse Teaching Unit

Instructor

Dr. Lori K. Warren

Office: Animal Sciences building, Suite 210, Office 210G

Office phone: 352-392-1957

Email: LKWarren@ufl.edu (*email or CANVAS messaging are the preferred ways to reach me)

Office hours: Mon and Wed 9:30-11:00am or by appointment (in-person or by Zoom/Teams)

Course Description

Principles of conformation and performance evaluation of horses. Studies the anatomy, physiology, and dynamics of the horse as it affects athletic potential and performance.

Course Learning Objectives

1. Appraise the horse's conformation and predict how it will affect biomechanics of movement and the horse's suitability for different sports.
2. Identify key anatomical structures and describe the relationship between structure and function.
3. Explain the integration of the equine musculo-skeletal, cardio-respiratory, and thermoregulatory systems during exercise and how these systems adapt to training.
4. Evaluate the horse's physical fitness and design sport-specific conditioning programs to optimize performance.
5. Communicate with peers and industry professionals using correct anatomical, physiological, & veterinary terminology.

Course Overview and Purpose

ANS4079C is a lecture with laboratory course focusing on the anatomical and biological features that enable horses to be exceptional athletes. This class will cover three areas: [1] conformation & selection of the equine athlete; [2] anatomy and physiology of key body systems and their response to training; and [3] conditioning programs to achieve fitness.

Course Prerequisites

ANS3043 Growth and Development of Farm Animals, or APK2100C Applied Human Anatomy and APK2105C Applied Human Physiology.

Textbooks and Learning Materials

Textbooks: No textbooks are required for this course; however, other learning materials will be provided on CANVAS. Refer to the section "Course Resources" in this syllabus for further information.

Material and Supply Fees

\$242

Course Structure & Format

This course consists of 2 weekly lectures and 1 weekly lab session, all of which require in-person attendance.

The schedule of lectures and lab sessions can be found in this syllabus and on CANVAS in several locations:

1. Course homepage – what's happening this week? (viewable on your laptop or tablet, but not your phone);
2. “Schedule 2026” link – outlines all activities by day
3. Within each topic module page

Lectures

Lectures will consist of instructor-led content delivery along with some group discussions and activities. In some cases, you will be asked to watch videos or read an article BEFORE a class session.

A Zoom option for lectures will NOT be available, nor will lectures be recorded for later viewing. If you are absent without a valid excuse, it is your responsibility to seek notes and missed information from a classmate.

Labs

Topics explored in lab will parallel those covered in lecture. Each lab will have a graded worksheet, and some will require you to complete an activity BEFORE coming to lab. See page 5 for more detail.

Many labs involve work with horses, which can exhibit unpredictable behavior that can cause serious bodily harm. Pay attention. Seek guidance if you are uncomfortable or unsure when working with horses.

Dress appropriately. Open-toe shoes are NOT allowed. Boots are preferred, but athletic shoes can suffice. Labs may be messy (eg, tissue fluids, blood, paint, horse slobber); avoid wearing clothes you don't want damaged or exposing a lot of flesh that you don't want injured.

Course Requirements

Engage in Learning

Learning about the horse's body (anatomy) and how it works (physiology) can be fascinating while also providing knowledge essential for most careers in the industry. This course will involve reading, writing, group work, creativity, and outside effort. The study of anatomy requires memorization; you will need to study lecture and supplemental materials outside of class and put in consistent effort throughout the semester.

To get the most out of this course, attend lectures and labs, engage in discussions with your peers, ask questions, explore materials provided on CANVAS, take advantage of opportunities offered, get dirty, and get help before getting too far behind! Learning is not a spectator sport!

Computer or Tablet

All UF students are required to have a working computer (laptop or tablet). You have the option of bringing your device to lecture to take notes and to lab to complete worksheets. A computer and a reliable internet signal (to avoid disruptions in connectivity) is also required to complete weekly online quizzes.

Document Scanner

All projects and lab worksheets must be submitted electronically in CANVAS. If you use a laptop/tablet to complete your work, save and submit as a PDF file. For hand-written work, use a document scanning app (eg, CamScanner) to convert photo(s) of your work to a PDF file for electronic submission. See CANVAS for video tutorials on document scanning and uploading

Class Demeanor/Expectations

- Avoid electronic distractions. Silence your phone during class. Use your laptop/tablet to take notes or complete lab worksheets, not to check your socials or multitask.
- Be respectful of other students' background, knowledge, and opinions. If you have more horse experience than your fellow students, be a helper not a hater.
- Please arrive to class on time as a courtesy to me and others.
- Dress appropriately for all labs (see Course Format and Structure section above).
- Horses can exhibit unpredictable behavior that can cause serious bodily harm. Pay attention when working with horses and seek guidance if you are unsure.
- Unauthorized recording and sharing of recorded materials used in this class is prohibited. Refer to the University's policy on Recording at <https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/>.

Course Resources

This course has no required textbook. Instead, I have gathered articles (from both research and trade journals), videos and websites to expand on the topics covered in class. In some cases, I will instruct you to review these materials prior to coming to class; in other cases, they will serve as supplementary material. I have also listed some suggested textbooks below, which you may find useful for assignments, or if you need additional background information, or simply want to learn more about any of the topics covered during the semester. I will also post lecture notes, anatomical diagrams, and study guides that can be handy study aids.

Reference Materials

Below are some books and online resources that are suggested as reference material for this course:

- *The Horse Conformation Handbook* by H. Smith-Thomas. ISBN-10: 1-58017-558-9.
- *The Athletic Horse, 2nd Ed.* D.R. Hodgson, C.M. McGowan, K.H. McKeever (editors). ISBN: 978-0-7216-200758.
- *Horse Gaits, Balance & Movement* by S.E. Harris. ISBN: 0-7645-8788-9
- The Horse (magazine), access at <https://thehorse.com/>. A good online source of horse health information. You can access articles for free after creating an account.

CANVAS

All course materials and communications will be hosted on CANVAS, accessible at:
<https://elearning.ufl.edu/>

Check the “Notifications” settings for your CANVAS account. Set Announcements to ‘notify me right away’ to receive timely announcements about the course.

CANVAS will contain:

- ✓ Syllabus
- ✓ Announcements
- ✓ Class and lab schedule
- ✓ Lecture Notes
- ✓ Articles, videos, and web links
- ✓ Project assignments
- ✓ Lab worksheets
- ✓ Quizzes
- ✓ Your Grades
- ✓ Study aids for exams
- ✓ Messaging (to contact Dr. Warren & TA)

Lecture Notes

Lecture Notes are posted as PDF files on CANVAS within each Module. Notes are formatted as fill-in-the-blank style outlines. They are designed to assist you with notetaking during lectures and contain many useful anatomical diagrams and summary tables.

Printing out notes is recommended, as it may be easier to keep pace during lectures. Alternatively, you can use your tablet or laptop to fill out notes electronically (eg, using your stylus or the ‘Comments’ function in Adobe Reader).

NOTE: Although course notes are provided, anything said in lecture or lab is fair game for questions that might appear on quizzes and exams.

Course Assessments

Your grade for this course will be based on points earned on exams, homework projects, lab activities and weekly quizzes (also see the “Grading Policy” in this syllabus).

Exams

There will be three (3) exams (100 points each), each covering about one-third of the total course material. Exam format will consist of true/false, multiple choice, matching, short answer, and essay questions. Exams will be closed-book and will be administered in-person during scheduled lecture time (Exam 1 and 2) and during finals week (Exam 3).

Projects

You will complete two (2) homework projects worth 50 points each. A summary of both projects is provided here. See CANVAS for more detail.

1. *Relating Form to Function [DUE Feb 9]* – To reinforce the concept “form follows function,” you will develop a digital media piece (eg, video, podcast, infographic...) showcasing your favorite equine athlete and what made them excel at their sport (breed, conformation, attitude, athleticism).
2. *Preparing Equine Athletes [DUE Apr 13]* – You will select and attend two different equine competitive sporting events during the semester and prepare a written report evaluating the athletic demands and how the horse should be prepared for each type of competition. A calendar of suggested events in the region will be listed on CANVAS.

Lab Activities

Labs will consist of live animal evaluation, dissection and study of harvested tissues, experiments, and other activities. Each lab is designed to supplement and enhance your understanding of lecture material. All labs will have graded worksheets (10 points each). A paper copy of each lab worksheet will be provided to you; alternatively you can bring your laptop/tablet to work on the worksheet electronically. Keep in mind, some labs are wet/messy and it is not always easy to work with electronics around horses! Worksheets can be found on CANVAS within the specific topic module or under the Assignments link. All worksheets must be submitted through CANVAS for grading. You must scan your paper version and upload as a PDF file (eg, using a document scanning app like CamScanner). Most lab worksheets will be completed by the end of each lab session. See page 2 of this syllabus for additional information on lab structure and requirements.

Weekly Quizzes

Each week you will complete a 10-minute, open-note quiz online in CANVAS (worth 5 points each). Quizzes will open on Monday at 1:00pm and will close on Wednesday at 11:59pm of the same week. Once started, you have 10 minutes to complete the quiz. These quizzes are in place to encourage you to keep pace with self-study of course material.

Extra Credit – 25-Furlong Derby

What do horses experience physically and mentally when training for competition? Try it for yourself! Train to run 25 furlongs (5K = 3.1 miles) this semester and earn 20 points extra credit applied to your course grade!

To earn the extra credit, you must:

- 1) Sign the commitment and release form by February 23;
- 2) Keep a training journal that documents starting and ending fitness assessments and your daily training routine (you will turn this in);
- 3) Complete the 25-Furlong Derby on April 11 in 34 minutes or less (or provide proof of completion of another sanctioned race approved by Dr. Warren in the same time limit).

For additional information and resources, go to CANVAS > *Assignments*.

Does a health issue prevent you from running? Discuss swimming and biking alternatives with Dr. Warren.

Attendance, Makeup, and Late Work

Attendance

Regular attendance is expected, and active participation is necessary for successful completion of this course. If you know you will be absent from class, please notify the instructor at least two weeks in advance of the expected absence. If you become ill or have an unforeseen emergency, notify the instructor as soon as you can. Documentation of approved but unexpected absences must be presented within 1 week of the absence to be eligible for make-up exams and assignments. Requirements for class attendance and makeup exams, assignments and other work policies are consistent with UF policies that can be found at: <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>.

Makeup Work

The opportunity to make-up missed work will not be offered without a valid excuse. It is your responsibility to contact Dr. Warren to develop a plan to make up any work you miss. Makeup work for approved class absences will be accepted with no penalty if completed by the agreed-upon extended deadline.

Late Assignments

It is expected that ALL assignments will be submitted on time. Without a valid absence, assignments turned in late will receive the following penalty:

- 0.1 – 24 hours late = -20%
- 24 – 48 hours late = -40%
- >48 hours late = NOT accepted

Grading Policy

- Course grading is consistent with [UF grading policies](#).
- Note that plus/minus letter grades will not be assigned in this course.
- Scores on individual assignments and exams, as well as a running tally of your cumulative course grade will be available on CANVAS > *Grades*.
- You have 1 week after the return of any graded item to resolve questions or disputes. After that, the grade is finalized.

Course Grading Structure

- Exams (3) = 300 points
- Projects (2) = 100 points
- Quizzes (11) = 55 points
- Lab Worksheets (12) = 120 points

Grading Scale

Grade	Percentage	Point Range
A	90 – 100 %	517-575 points
B	80 – 89.9 %	460-516 points

Grade	Percentage	Point Range
C	70 – 79.9%	402-459 points
D	60 – 69.9%	345-401 points
E	Less than 60%	0-344 points

Course Schedule

See the CANVAS homepage, CANVAS > *Schedule 2026*, or CANVAS > *Modules* for the most up-to-date information on the course schedule. These locations also contain details on what lecture videos and other activities you need to complete to prepare for each in-class session (ie, complete BEFORE attending each class).

Date	Lecture Topic	Lab Topic	Assignment Due
Jan 12	Course Introduction / Amazing Athletes	---	---
Jan 14	Bone: Skeletal Anatomy	None	---
Jan 19	NO CLASS – Martin Luther King Holiday	---	---
Jan 21	Conformation: Balance & Symmetry	Bone Anatomy	Lab 1 worksheet / Quiz 1
Jan 26	Conformation: Proportions & Angles	---	---
Jan 28	Conformation: Limb Alignment	Balance & Angles	Lab 2 worksheet / Quiz 2
Feb 2	Gaits & Quality of Movement	---	---
Feb 4	Conformation: Functional Type	Gaits & Limb Tracking	Lab 3 worksheet / Quiz 3
Feb 9	Bone: Developmental Orthopedic Disease	---	PROJECT #1
Feb 11	Bone: Training Adaptations	Conformation	Lab 4 worksheet / Quiz 4
Feb 16	EXAM 1	---	EXAM 1
Feb 18	Tendons and Ligaments	Exercise Testing	Lab 5 worksheet
Feb 23	Tendons and Ligaments	---	Last day to sign up for 25-Furlong Derby Extra Credit
Feb 25	Joints and Osteoarthritis	Limb Dissections	Lab 6-7 worksheet / Quiz 5
Mar 2	The Hoof	---	---
Mar 4	Muscle: Gross Anatomy	Limb Dissections	Lab 6-7 worksheet / Quiz 6
Mar 9	Muscle: Energetics of Exercise	---	---
Mar 11	Muscle: Physiology	Muscle Anatomy	Lab 8 worksheet / Quiz 7
Mar 16	NO CLASS – Spring Break	---	---
Mar 18	NO CLASS – Spring Break	---	---
Mar 23	Muscle: Physiology	---	---
Mar 25	Muscle: Training Adaptations	Muscle Biology	Lab 9 worksheet / Quiz 8
Mar 30	EXAM 2	---	EXAM 2
Apr 1	Thermoregulation	Thermoregulation	Lab 10 worksheet
Apr 6	Cardiovascular System	---	---
Apr 8	Respiratory System	Cardio-Respiratory	Lab 11 worksheet / Quiz 9
Apr 11	---	---	25-Furlong Derby !!
Apr 13	Evaluating Fitness	---	PROJECT #2
Apr 15	Principles of Conditioning	Fitness Evaluation	Lab 12 worksheet / Quiz 10
Apr 20	Conditioning Programs	---	---
Apr 22	Conditioning Programs	Obstacle Challenge	Lab 13 worksheet
Apr 29	EXAM #3 (10:00am – 12:00pm)	---	EXAM 3

Academic Policies and Resources

Academic policies for this course are consistent with university policies. See <https://syllabus.ufl.edu/syllabus-policy/uf-syllabus-policy-links/>

Campus Health and Wellness Resources

Visit <https://one.uf.edu/whole-gator/topics> for resources that are designed to help you thrive physically, mentally, and emotionally at UF.

Please contact [UMatterWeCare](#) for additional and immediate support.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Technical Support

UF Computing Help Desk & Ticket Number: All technical issues require a UF Helpdesk Ticket Number. The UF Helpdesk is available 24 hours a day, 7 days a week. <https://helpdesk.ufl.edu/> | 352-392-4357