

relationship of form to function

ANS 4079C
SPRING 2025

LECTURE
MW – 11:45

LAB 'A'
W – 1:55-3:50

LAB 'B'
W – 4:05-6:00

UNIVERSITY
OF FLORIDA



CH The Crowd Went Nuts!

has been lighting up the show ring in gaited classes since his debut in 2018. This 9-year-old American Saddlebred gelding (known in the barn as "Forrest") is a four-time Three-Gaited World Grand Champion. He was named UPHA Saddlebred Three-Gaited Horse of the Year for the third time in 2024 and ASHBA Horse of the Year in 2023 & 2024.

course description

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 fee = \$167.57

prerequisites

Before taking this course, you must have:

- ✓ ANS 3043 Growth and Development
- ✓ Or, APK 2100C Human Anatomy

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.

what's in this syllabus?

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instructor

Dr. Lori K. Warren

office: ANS Suite 210, Office 210G

phone: (352) 392-1957

email: LKWarren@ufl.edu

teaching assistants

Delaney Binder

email: delaney.binder@ufl.edu

Dr. Jill Lance

email: jbrides2@ufl.edu

office hours

- **By appointment.** Contact your lab TA or Dr. Warren using email or CANVAS messaging.
- Meetings can take place in-person or via Zoom conference.

course structure & format

This course consists of both lecture and lab sessions, all of which require in-person attendance. When possible, alternate accommodations will be provided for students with a valid absence (see the *Attendance, Makeup and Late Work* policy on page 4 of this syllabus).

The schedule of lectures and lab sessions can be found in several locations:

- 1) Syllabus: *Course Schedule* (page 6)
- 2) CANVAS > *Schedule 2025*
- 3) CANVAS > *Modules* (organized by topic)
- 4) Weekly summary of activities on the CANVAS homepage (note homepage is not viewable on your mobile phone).

lectures

Lectures will be held on Mondays and Wednesdays from 11:45am – 12:35pm in Room 151 of Animal Sciences.

Lectures will consist of traditional 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 by the instructor for later viewing. So, it is very important to attend each class. If you are absent without a valid excuse, it is your responsibility to seek notes from a classmate.

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 & 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 ★

labs

Labs will be held on Wednesday afternoons. There are 2 lab sections:

- **LAB A** (#10315) – Wed 1:55-3:50pm
★ Will start promptly at 2:00pm
- **LAB B** (#19569) – Wed 4:05-6:00pm
★ Will start promptly at 4:10pm

You must attend the lab section you are enrolled in, unless other arrangements have been made with Dr. Warren ahead of time. Plan on each lab lasting the entire 1-hr 50-min session scheduled.

Most labs will be held at the Horse Teaching Unit ([Google Maps link](#)). Lab start time will be delayed by 5 minutes to allow additional time to get to the HTU.

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 or exposing a lot of flesh that you don't want damaged.

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 3 for more detail).

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 do not have a tablet with stylus or a printer-scanner machine, you can use a document scanning app (eg, CamScanner) to convert hand-written homework for electronic submission. See links in CANVAS for video tutorials on document scanning and uploading.

class etiquette ...and safety

- **Avoid electronic distractions.** Silence your phone during class. Use your laptop or tablet to take notes or complete lab worksheets, not to check social media or surf the 'Net.
- **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**
- **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 on page 5 of this syllabus.



Glamourdale epitomizes the athleticism and grace required in the sport of dressage. Along with British rider Charlotte Fry, this striking black KWPN stallion frequently earns scores >90. He's medaled gold in Grand Prix Special and Freestyle dressage at the FEI World Championships (2022) & FEI Dressage World Cup (2022, 2024) and earned individual and team bronze at the 2024 Paris Olympics. When not competing, Glamourdale is also an active breeding stallion at Hilltop Farm in Maryland.



course assessments

Your grade for this course will be based on points earned on exams, homework projects, lab activities and weekly quizzes.

3 exams – 100 pts each. Each exam will cover one-third of the total course material. Format will consist of true/false, multiple choice, matching, short answer and essay questions. Exams will be closed book and will take place in-person during lecture meeting times and during finals week.

2 projects – 50 pts each. A summary is provided here; **see CANVAS for details**

Relating Form to Function [DUE Feb 10]

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).

Training Equine Athletes [DUE Apr 16]

Select and attend two different equine competitive events. Prepare a written report evaluating the athletic demands and how the horse should be prepared for each type of competition. A calendar of potential events will be listed on CANVAS.

lab activities – 10 pts each. 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.** A paper copy of each lab worksheet will be provided to you; alternatively you can bring your 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 – 5 pts each. Each week you will complete a 10-minute, open-note quiz online in CANVAS. **Quizzes will open on Mon at 1:00pm and will close Wed at 11:59pm the same week.** Once started, you have 10 minutes to complete the quiz.

course resources

This course has no required textbook. Instead, I have curated some articles (both research and trade journals), videos and web links to expand on the topics covered in class. In some cases, I will ask you to review these materials prior to lecture or lab; in other cases they will serve as supplementary material. I have also listed some suggested textbooks here, 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

references

Below are some books 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) www.thehorse.com
A good 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.
- <https://elearning.ufl.edu/>
- Check the **Notifications** settings for your account. Set **Announcements** to **'notify me right away'** to receive timely announcements about the course.
- **CANVAS will contain:**
 - ✓ Announcements
 - ✓ Class & Lab Schedule
 - ✓ Lecture Notes
 - ✓ Articles, videos & links
 - ✓ Project Assignments
 - ✓ Lab Worksheets
 - ✓ Quizzes
 - ✓ Your Grades
 - ✓ Messaging (to contact Dr. Warren & TA's)

lecture notes

- Lecture Notes will be available for each topic in CANVAS > **Modules**.
- Notes are formatted as fill-in-the-blank style PDF files. They are designed to assist you with note-taking during lectures & contain many useful diagrams.
- Anything said in lecture or lab is fair game for quizzes & exams!
- **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).

grading policy

grade distribution

Exams (3)	max 300 pts
Projects (2)	max 100 pts
Quizzes (11)	max 55 pts
Lab Worksheets (12)	max 120 pts

grading scale

A =	90 – 100 %	518–575 pts
B =	80 – 89.9 %	460–517 pts
C =	70 – 79.9 %	403–459 pts
D =	60 – 69.9 %	345–402 pts
E =	less than 60 %	0–344 pts

- +/- letter grades will not be assigned.
- There will be no grading curve.
- Scores on individual assessments, as well as 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, all grades are final.
- Do not wait until the end of the semester to seek help – your success in this course is important!
- For information on current UF policies for assigning grade points, see: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>

attendance, make-up 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 in order to receive make-up exams and assignments.

Requirements for class attendance and make-up exams, assignments & other work policies are consistent with UF policies that can be found at: <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>

make-up work

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

late work

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

If you feel sick, please stay home.

- If you are feeling ill, limit your contact with others and contact your primary care physician, or the UF Student Health Care Center at 352-392-1161
- COVID-19 testing is available through the UF Student Health Care Center.
- **Notify Dr. Warren of your absence as soon as you can.** In most cases, a make-up assignment or exam can be scheduled. Refer to the *Attendance and Makeup Work* policies on this page.

extra credit



Train to compete in the 25-furlong Derby!!

What does the horse go through physically and mentally when training for competition? Experience it yourself!

Train to run 25 furlongs (5K or 3.1 miles) this semester and **earn 20 points extra credit applied to your course grade!**

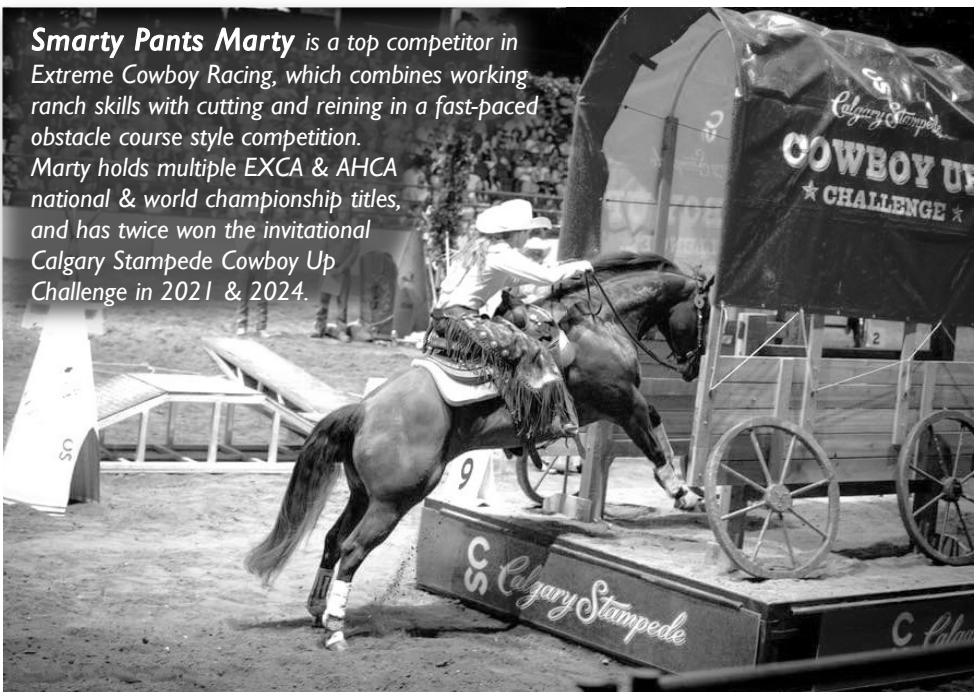
Training programs such as Couch-to-5K® can prep you for a 5K race in 9 weeks!

To earn the extra credit, you must:

- 1) **sign the commitment & release form** by February 24
- 2) **keep a training journal** that documents starting & ending fitness assessments and your daily training routine (you will turn this in)
- 3) **complete the 25-Furlong Derby on April 19 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.



Smarty Pants Marty is a top competitor in Extreme Cowboy Racing, which combines working ranch skills with cutting and reining in a fast-paced obstacle course style competition. Marty holds multiple EXCA & AHCA national & world championship titles, and has twice won the invitational Calgary Stampede Cowboy Up Challenge in 2021 & 2024.

UF policies

academic honesty – UF students are bound by the Honor Pledge which states: “We the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity by abiding by the Honor Code.” On all work submitted for credit at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code specifies a number of behaviors that are in violation of this code and possible sanctions (<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>).

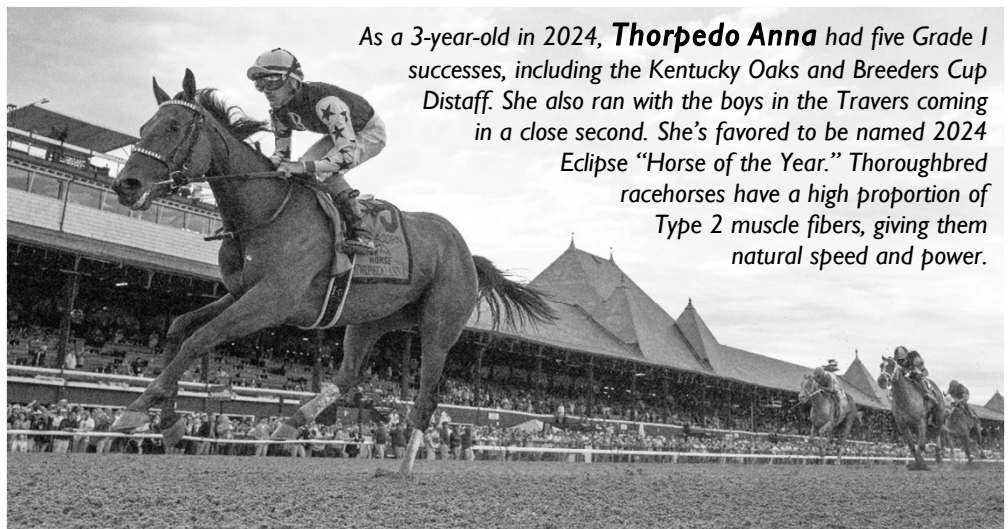
It is assumed that you will complete all work independently unless the instructor provides explicit permission for you to collaborate on course assignments, quizzes, or exams. Furthermore, you are obligated to report any academic misconduct to appropriate personnel.

It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action.

services for students with disabilities – Students with disabilities who experience learning barriers & would like to request academic accommodations should connect with the Disability Resource Center. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Disability Resource Center ■ 352-392-8565 ■ <https://disability.ufl.edu/>

online course evaluation – Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, you are expected to provide feedback on the quality of instruction in this course using a standard set of university & college criteria. Guidance on how to give feedback in a professional & respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. You will be notified when the evaluation period opens and can complete your evaluations using the link in emails you receive from GatorEvals, or in CANVAS (click on *GatorEvals* in the course menu), or at <https://ufl.bluera.com/ufl/>. Summary results of evaluations are available at <https://gatorevals.aa.ufl.edu/public-results>.



As a 3-year-old in 2024, **Thorpedo Anna** had five Grade I successes, including the Kentucky Oaks and Breeders Cup Distaff. She also ran with the boys in the Travers coming in a close second. She's favored to be named 2024 Eclipse “Horse of the Year.” Thoroughbred racehorses have a high proportion of Type 2 muscle fibers, giving them natural speed and power.

in-class recording – Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only **allowable purposes** are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. **Students may not publish recorded lectures without the written consent of the instructor.**

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by UF, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code.

UF resources

**also see CANVAS > Campus Resources*

health and wellness

- **U Matter, We Care** ■ if you or a friend is in distress, call (352) 392-1575 or email umatter@ufl.edu ■ <http://www.umatter.ufl.edu/>
- **counselling & wellness center** ■ <https://counseling.ufl.edu/> ■ (352) 392-1575
- **student health care center** ■ (352) 392-1161 ■ <https://shcc.ufl.edu/>
- **GatorWell health promotion** ■ *optimal well-being, academic coaching* ■ (352) 273-4450 ■ gatorwell.ufl.edu
- **campus police department** ■ 392-1111 ■ *dial 9-1-1 for emergencies*

academic resources

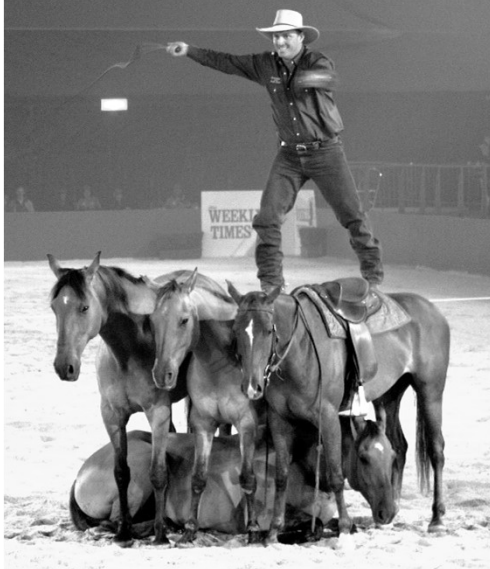
- **e-learning technical support** ■ (352) 392-4357 ■ helpdesk@ufl.edu ■ <https://helpdesk.ufl.edu/>
- **career connections center** Reitz Union ■ <https://career.ufl.edu/> (352) 392-1601 ■ *career guidance*
- **library support** ■ *receive assistance with using libraries or finding resources* ■ <https://uflib.ufl.edu/find/ask/>
- **teaching center** ■ *help with general study skills and tutoring services* ■ <https://teachingcenter.ufl.edu/>
- **writing studio** ■ *help brainstorming, formatting, & writing papers* ■ (352) 846-1138 ■ writing.ufl.edu/writing-studio
- **student complaints** ■ to file a complaint, click here to visit the [Student Honor Code and Student Conduct Code website](#) for more information.

location of labs

- **HTU** – Horse Teaching Unit
1934 SW 63rd Ave, Gainesville
- **CVM** – one or two labs will be at the UF vet school; however we will meet at the Animal Sciences building and walk over to the vet school together.

The location of each lab will be announced in class and on CANVAS at the beginning of each week

Quietway Spinabby is an Australian Stockhorse trained by Guy McLean. Among his many talents are the ability to canter backward, sideways, and in place. Spinabby has been thrilling audiences around the world for over a decade. In 2024 he was commemorated with a Breyer horse model.



important dates

quizzes due

- ★ each Wed 11:59pm

projects due

- ★ february 10
- ★ april 16

exams

- ★ february 17
- ★ mar 31
- ★ apr 29

25-furlong derby

- ★ february 24
- ★ april 19

course schedule*

date	lecture	lab [+location]
M – jan 13	course intro / amazing athletes	
W – jan 15	bone – skeletal anatomy	*No lab this week*
M – jan 20	MLK HOLIDAY – NO CLASS	
W – jan 22	conformation – balance & symmetry	bone anatomy [CVM]
M – jan 27	conformation – proportions & angles	
W – jan 29	conformation – limb alignment	balance & angles [HTU]
M – feb 3	gaits / quality of movement	
W – feb 5	conformation – functional type	gaits / limb tracking [HTU]
M – feb 10	bone – develop. orthopedic disease	
W – feb 12	bone – training adaptations	conformation [HTU]
M – feb 17	EXAM 1	
W – feb 19	tendons and ligaments	limb dissections [HTU]
M – feb 21	tendons and ligaments	
W – feb 26	joints and osteoarthritis	limb dissections [HTU]
M – mar 3	the hoof	
W – mar 5	muscle – gross anatomy	muscle anatomy [HTU]
M – mar 10	energetics of exercise	
W – mar 12	muscle – physiology	exercise testing [CVM]
M – mar 17	SPRING BREAK – NO CLASS	
W – mar 19	SPRING BREAK – NO CLASS	
M – mar 24	muscle – physiology	
W – mar 26	muscle – training adaptations	muscle biology [HTU]
M – mar 31	EXAM 2	
W – apr 2	thermoregulation	thermoregulation [HTU]
M – apr 7	cardiovascular system	
W – apr 9	respiratory system	cardio-respiratory [HTU]
M – apr 14	evaluating fitness	
W – apr 16	principles of conditioning	fitness evaluation [HTU]
M – apr 21	conditioning programs	
W – apr 23	conditioning programs	eXtreme obstacle challenge
T – apr 29	EXAM 3 (3:00–5:00pm)	ANS Rm 151

* Lecture/Lab topics and Exam/Assignment due dates are subject to change. If any changes are made, you will receive at least one week notice.