

# relationship of form to function

ANS 3079  
+ANS 4231

SPRING 2021

LECTURE  
MW – 11:45  
synchronous  
online

LAB A  
W 1:20-2:45

LAB B  
W 3:00-4:25

LAB C  
W 4:35-6:00

UNIVERSITY  
OF FLORIDA



American Quarter Horses, **Texas and Nickel** (team name: “Boys Comin’ in Hot”) are two-time world champion chariot racers. A popular winter sport in the western United States, **chariot racing** originated with sleighs (or cutters) instead of carts. A team of two horses – most are current or second-career racehorses – pull a chariot for a quarter-mile at speeds in excess of 40 mph.

## course description

This is a 2-credit lecture (ANS 3079L) with 1-credit laboratory (ANS 4231) course focusing on the anatomical and biological features that enable horses to be exceptional athletes.

This class will cover three areas: conformation & selection of the equine athlete; anatomy and physiology of key body systems and their response to training; and conditioning programs to achieve fitness.

## 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?

class meeting time	p. 1
course description	p. 1
instructor & TA contacts	p. 1
course format	p. 2
course requirements	p. 2
course assessments	p. 3
course resources	p. 3
grading & other course policies	p. 4
UF policies & services	p. 5
topics & important dates	p. 6

## instructor

**Dr. Lori K. Warren**

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## teaching assistants

**Lab A: Aly Morrison**

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**Lab C: Alyssa Ohmstede**

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## office hours

- **By appointment.** Contact the TA’s or Dr. Warren by CANVAS messaging or by email.
- All meetings will take place via Zoom

## course structure & format

In accordance with UF's [Plan Forward](#) for the spring 2021 semester, this course will be a hybrid of **synchronous online lectures** and **in-person laboratory activities**. If UF shifts to online-only course delivery due to a COVID-19 outbreak, the lecture format will remain the same, but the lab activities will shift to an online format.

### lectures (online via Zoom)

Lectures will be “live” on Mondays and Wednesdays from 11:45am – 12:35pm using the Zoom Conferences platform.

Zoom meetings will consist of traditional lecture delivery along with some group (“breakout room”) discussions and activities. In some cases, you will be asked to watch videos or read an article BEFORE a class session. **Links to all lecture meetings are available on CANVAS under Zoom Conferences.**

**Zoom lectures will NOT be recorded.** So, it is very important to attend each Zoom session, just as you would attend an in-person class. If you have a UF-recognized absence, a make-up lecture will be provided to you. See page 3 of this syllabus for attendance and makeup work policies.

See [tips for Using Zoom](#) (grey box on the right) for more information on activating your UF Zoom account and setting up your profile. Make sure your first and last name appears in your Zoom account profile so you can be identified on screen.

Refer to [Zoom etiquette](#) in the yellow box for how you are expected to behave while online and while interacting with others.

## course requirements

**engage in learning** – learning about the horse’s body (anatomy) and how it works (physiology) can be fascinating while 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 Zoom 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*★

### lab activities (face-to-face)

Labs will be held in-person on Wednesday afternoons. There are 3 lab sections that will start & end at the following times:

- LAB A – Wed 1:20-2:45pm
- LAB B – Wed 3:00-4:25pm
- LAB C – Wed 4:35-6:00pm

**NOTE: these times differ slightly from the course catalog** (a later start time or earlier end time). To comply with reduced class size restrictions, **you must attend the lab session you are enrolled in.**

**Most labs will be held at the Horse Teaching Unit** ([Google Maps link](#)). 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 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 showing a lot of flesh that you don’t want damaged.

To comply with UF regulations for face-to-face classes, all students must:

- ✓ **Wear face coverings.** You must supply your own mask or other face covering. Those without a face covering will not be allowed to participate.
- ✓ **Practice social distancing.** Labs will be split into stations enabling 2-3 students to work together safely.
- ✓ **Get a COVID screening test every 2 weeks** ([UF Spring Screening Plan](#)).
- ✓ **If you are sick, please stay at home.**

**computer + webcam + mic** – all UF students are required to have a working computer (laptop or tablet) equipped with a webcam & microphone. These items are required for online lectures and quizzes and may also be used in labs.

**strong internet signal** – is necessary to avoid disruptions in connectivity during online lectures and quizzes. Visit <https://elearning.ufl.edu/keep-learning/> for resources on internet connectivity.

**scanner or scanner app** – all lab worksheets will be submitted electronically. If you do not have a tablet & stylus, you will need to scan or use a camera-to-scan app (eg, CamScanner) to convert hand-written worksheets for electronic submission.

## tips for using Zoom

- If you have not used Zoom at UF, you will need to activate your account. Go to [ufl.zoom.us](http://ufl.zoom.us) and login with your Gatorlink username and password.
- For tips on using Zoom and navigating in a meeting go to [elearning.ufl.edu/zoom](http://elearning.ufl.edu/zoom)
- To change your UF Zoom account profile (eg, how your name will appear while in a meeting or adding a profile photo that appears when your camera is off), login at [ufl.zoom.us](http://ufl.zoom.us) and click on ‘Profile’ in the menu on the left.



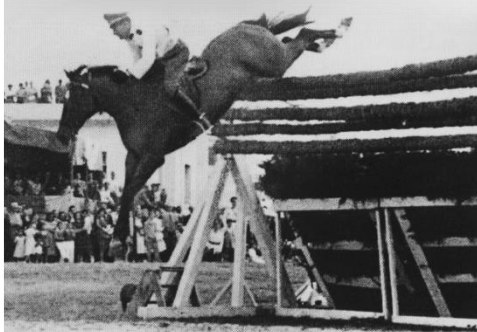
Links to join Zoom meetings are available in CANVAS

## Zoom etiquette

- **Mute your microphone during lectures to avoid disrupting others.** Keep your camera ON when possible.
- When you are placed into small groups in “breakout rooms” you should **turn on your camera and unmute your mic** as a courtesy to your fellow students so they can see and hear you.
- **3 options for asking questions:**
  - 1) use the ‘chat’ function in Zoom;
  - 2) unmute your mic and ask; or
  - 3) send me a follow-up email.
- **Come prepared!** Print out your notes ahead of time or set up your computer to take notes electronically. When required, watch videos or complete readings before the Zoom meetings.
- **Avoid multitasking.** Focus on the lectures and discussions – social media will still be there after class!
- **Be respectful of other students’ opinions and background.** If you have more horse experience than your fellow students, be a helper not a hater.
- As a courtesy to me and others, **please login to Zoom lectures on time.**
- **Unauthorized recording and sharing of recorded materials used in this class is prohibited.**



**Huaso (Faithful)** holds the world record for highest jump set in 1949 in Chile. The Thoroughbred, piloted by Capt. Alberto Larraguibel Morales completed the extreme 8 feet 1.25 inches (2.47 meter) jump on his third attempt. For reference, Olympic-level horses jump obstacles up to up to 5 ft 3 in.



## course assessments

**Your grade for ANS 3079L** will be based on points earned on three exams and two homework projects.

**3 exams – 100 pts each.** Each exam will cover about 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 lab meeting times and 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 14]**

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.

**Your grade for ANS 423I** will be determined by your performance on 10 lab activities and 11 weekly quizzes.

**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 worksheets available on CANVAS under Quizzes.** You can print a copy to bring to lab or bring your phone or tablet to work on them electronically. Keep in mind, some labs are wet/messy and it is not always easy to work with electronics around horses! **Worksheets must be submitted online for grading** (click ‘submit quiz’ if completed electronically or scan your paper version and upload as a PDF attachment to CANVAS). Most lab worksheets will be completed by the end of each lab session. See page 2 of this syllabus for additional info on lab structure and requirements.

**weekly quizzes – 5 pts each.** Each week you will complete a 5-min, open-note quiz online in CANVAS. **Quizzes will be available Mon at 1:00pm and will be due Wed at 1:00pm the same week.** Once started, you have 5 min to complete the quiz

## course resources

This course has no required textbook. Instead, I have gathered 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 Zoom meetings; 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, 2<sup>nd</sup> 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](http://www.thehorse.com)  
A good source of 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
  - ✓ Zoom Meeting Links
  - ✓ Lecture Notes
  - ✓ Articles, videos & links
  - ✓ 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 Zoom 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

You will earn **separate lecture & lab grades** that will appear as separate categories in CANVAS (the overall course grade supplied in CANVAS will not apply).

### lecture (ANS 3079)

Exams, Projects..... max 400 pts

### lab (ANS 4231)

Quizzes, Lab Activities..... max 155 pts

### grading scale

A	=	90 – 100 %
B	=	80 – 89.9 %
C	=	70 – 79.9 %
D	=	60 – 69.9 %
E	=	less than 60 %

- +/- letter grades will not be assigned.
- A running tally of your grades 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.
- For information on current UF policies for assigning grade points, see: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>
- Don't wait until the end of the semester to discuss any problems you're having with the course. Your success is important!

## 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	=	– 25%
24 – 48 hrs late	=	– 50%
>48 hrs late	=	NOT accepted

## covid-19 resources

- ★ **If you become ill or test positive for COVID, do NOT come to lab!** Notify Dr. Warren and she will work with you to develop an alternative plan.
- Think you are experiencing COVID-19 symptoms? [Check here](#) for guidance.
- What to do if you have been exposed to or are experiencing COVID-19 symptoms – [Guidance from UF Health](#)
- How to [schedule a COVID-19 test](#) and other frequently asked questions.
- [COVID-19 updates and resources](#) from UF Health

## extra credit



### Train to compete in the 25-furlong Derby!!

What does the horse go through 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 lecture 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 a commitment & release form** by February 22
- 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 17 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.

Australian Thoroughbred mare, **Winx** won 33 consecutive races (and a total of 37 wins out of 43 races in her 5-year career) earning over \$26 million. You can see why she was known as “Queen of the Turf”. Racehorses have a high proportion of Type 2 muscle fibers, giving them speed and power.





**Vivaldi de Besilu** made history in 2020 when he was crowned Grand National Champion Paso Fino Stallion for the 5th consecutive time. Vivaldi excels at the Classic Fino, a 4-beat lateral gait where each foot lands independently in a rapid, even rhythm. This gait gives the Paso Fino the claim of the “smoothest riding horse in the world.”

## online course evaluation process

Student assessment of instruction is an important part of efforts to improve teaching & 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>.

## 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 the possible sanctions (<https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>)

**It is assumed that you will complete all work independently** in each course unless the instructor provides explicit permission for you to collaborate on course tasks (eg, assignments, quizzes, exams).

Furthermore, you are obligated to report any condition that facilitates 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.

**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. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

## services for students with disabilities

– The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services, and mediating faculty-student disability related issues. Students requesting accommodations should first register with the Disability Resource Center. The Disability Resource Center will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation.

**Students requesting accommodations should follow this procedure as early as possible in the semester.**

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

## UF services

### health and wellness

- **U Matter, We Care** ■ if you or a friend is in distress, call (352) 392-1575 or email [umatter@ufl.edu](mailto:umatter@ufl.edu) ■ <http://www.umatter.ufl.edu/>
- **counselling & wellness center** ■ counselling services, wellness coaching, consultation ■ <https://counseling.ufl.edu/> ■ (352) 392-1575
- **student health care center** ■ (352) 392-1161 ■ <https://shcc.ufl.edu/>

- **‘Student Success’ initiative** ■ tutoring, coaching, mentoring, well-being ■ <https://studentsuccess.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](mailto:helpdesk@ufl.edu) ■ <https://elearning.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 ■ <http://cms.uflib.ufl.edu/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 ■ <https://writing.ufl.edu>
- **student complaints** ■ to file a complaint about this course (or others), see <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>

## location of labs

- HTU – Horse Teaching Unit  
1934 SW 63<sup>rd</sup> Ave, Gainesville
- ANS 151 – one lab may be held in this Animal Sciences classroom
- CVM – one lab (our first) will be at the UF vet school; however we will meet at the Animal Sciences building (outside ANS 155) 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

At the age of 6, **Best Brew At The Bar** has a long list of world championship titles in Western Pleasure. “Shock Top” is also a UF Gator! Born in 2015, he was bred at the University of Florida out of the mare “Prissy Legs” and sired by “The Best Martini.”



## important dates

### quizzes due

- ★ each Wed 1:00pm

### projects due

- ★ february 10
- ★ april 14

### exams

- ★ february 17
- ★ march 31
- ★ april 30

### 25-furlong derby

- ★ february 22
- ★ april 17

## course schedule\*

date	lecture	lab [+location]
M – jan 11	course intro / amazing athletes	
W – jan 13	bone – skeletal anatomy	*No lab this week*
M – jan 18	MLK HOLIDAY – NO CLASS	
W – jan 20	conformation – balance & symmetry	bone anatomy [CVM]
M – jan 25	conformation – proportions & angles	
W – jan 27	conformation – limb alignment	balance & angles [HTU]
M – feb 1	gaits / quality of movement	
W – feb 3	conformation – functional type	gaits / limb tracking [HTU]
M – feb 8	bone – develop. orthopedic disease	
W – feb 10	bone – training adaptations	conformation [ANS 151]
M – feb 15	tendons and ligaments	
W – feb 17	<b>optional lecture</b>	<b>EXAM 1</b>
M – feb 22	tendons and ligaments	
W – feb 24	joints and osteoarthritis	limb dissections [HTU]
M – mar 1	the hoof	
W – mar 3	muscle – energetics of exercise	limb dissections [HTU]
M – mar 8	muscle – gross anatomy	
W – mar 10	muscle – physiology	muscle anatomy [HTU]
M – mar 15	muscle – physiology	
W – mar 17	muscle – training adaptations	muscle biology [HTU]
M – mar 22	thermoregulation	
W – mar 24	RECHARGE DAY – NO CLASS	*optional* thermoreg lab
M – mar 29	cardiovascular system	
W – mar 31	<b>optional lecture</b>	<b>EXAM 2</b>
M – apr 5	cardiovascular / respiratory system	
W – apr 7	respiratory system	cardio-respiratory [HTU]
M – apr 12	evaluating fitness	
W – apr 14	principles of conditioning	fitness evaluation [HTU]
M – apr 19	conditioning programs	
W – apr 21	conditioning programs	eXtreme obstacle challenge
Tu – apr 27	<b>EXAM 3 (5:30–7:30pm)</b>	<b>Location TBA</b>

\* 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.