

relationship of form to function

ANS 3079
+ANS 4231

SPRING 2020

LECTURE
M&W – 11:45
ANS Rm 151

LAB 'A'
W – 2:00-3:50

LAB 'B'
W – 4:10-6:00

UNIVERSITY
OF FLORIDA



American Quarter Horse, **Zeek The Streek** is a 3-time National Champion in the sport of **skijoring**, where a horse and rider pull a skier along an obstacle course at high speed. Originating from Scandinavia, **skijoring** was featured in the 1928 Olympic games. "Zeek" also competed in barrel racing & roping.

course description and objectives

This is a 2-credit lecture (ANS 3079L) with 1-credit laboratory (ANS 4231, #10477) course focused on the principles of conformation and its relationship to biomechanics, as well as a study of anatomical and physiological aspects of major body systems that enable the horse to be a natural and noteworthy athlete.

During this course, you will:

- 1) gain an appreciation for the unique design of the horse as an athlete;
- 2) evaluate the horse's conformation for correctness and faults and relate it to the biomechanics of movement;
- 3) develop a functional understanding of equine anatomy at the cellular, tissue and systems levels;
- 4) investigate the muscular, skeletal, cardiovascular, respiratory, thermo-regulatory, and support systems in horses and the response of these systems to exercise and training;
- 5) learn to evaluate physical fitness and design conditioning programs specific to the athletic event for which a horse was selected.

prerequisites for this course

Before taking this course you must have:
ANS 3043 Growth and Development

Or, APK 2100C Human Anatomy
Or, permission of the instructor

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

★email is the preferred way to reach me

office hours

Mon 10:00 – 11:30 a.m.

Mon 1:00 – 3:00 p.m.

Wed 10:00 – 11:30 a.m.

Or, email for an appointment (*I will usually respond within 24 hours*)

teaching assistants

Lab 'A' – Megan Di-Lernia

email: megandilernia@ufl.edu

Lab 'B' – Katy Bissinger

email: kbissinger@ufl.edu

course resources

This course has no required textbook. Instead, I have gathered some articles (from 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 coming to class; 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

Recommended books and other references include:

- The Horse Conformation Handbook ▪ by H. Smith-Thomas ▪ ISBN-10: 1-58017-558-9
- The Athletic Horse: Principles & Practice of Equine Sports Medicine, 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 health information. You can access articles for free after creating an account.

CANVAS

- CANVAS will serve as our course website.
- <https://elearning.ufl.edu/>
- Click the orange “log into e-Learning,” button then enter your Gatorlink username & password.
- Check **Settings** and **Notifications** in your account – make sure the “Announcements” and “Conversation” settings are **set to ASAP** to receive timely announcements about the course.
- **CANVAS will contain:**
 - ✓ Announcements
 - ✓ Course notes
 - ✓ Articles, Videos, Links
 - ✓ Assignments
 - ✓ Your Grades

course notes

- Course Notes will be posted as PDF files on CANVAS under the “**Modules**” link.
- Notes are fill-in-the-blank style with color diagrams.
- Notes are structured to assist you with note-taking in class; but keep in mind, anything said in lecture or lab is fair game for quizzes and exams!
- **Printing Notes BEFORE coming to lecture is recommended.** Alternatively you may bring your laptop or tablet and type directly on the Notes. However, I recommend you print them to avoid distractions and to help you retain material better.

course requirements

This course will involve reading, writing, group work, 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, take advantage of the opportunities offered, get dirty, and ask questions! **Learning is not a spectator sport.**

3 exams – each covering approximately one-third of the course material. Format will consist of multiple choice, true/false, matching, short answer, & essay questions.

weekly quizzes – to encourage you to keep up with the course content, short (5 pt) quizzes will be given on **Wednesdays at the beginning of each lab period.**

2 major assignments – two writing assignments are required. A summary is provided here; **see CANVAS for details.**

Relating Form to Function **DUE: February 10**

To reinforce the concept “form follows function,” you will choose your favorite equine athlete and research what made this horse excel at their sport (breed, conformation, attitude, and athleticism).

Training the Equine Athlete **DUE: April 15**

You will select and attend two different equine competitive events. You will be asked to evaluate the athletic demands of each activity and investigate how the horse should be prepared for each type of competition. A calendar of events will be listed under this assignment on CANVAS.

lab activities – All labs are held on **Wednesdays**. There are **two lab sections: Lab A = 2:00–3:50pm (periods 7-8) and Lab B = 4:10–6:00pm (periods 9-10)** (lab start times have been adjusted to give you an extra 5 minutes to arrive). Plan for most labs to last the entire time. The location of labs will vary and will be announced at the beginning of each week. Labs will consist of live animal evaluation, dissection and study of harvested tissues, video discussions, and other activities. Each lab is designed to supplement and enhance your understanding of lecture material. **All labs will have graded worksheets.** Appropriate dress is required. Unsafe footwear (open-toed shoes) will NOT be allowed. Boots are preferred, but athletic shoes can suffice. Labs may be messy (eg, tissue fluids, blood, paint, horse slobber); avoid wearing clothes that you don’t want damaged.



Polo – “the sport of kings” demands incredible speed, stamina and agility. Polo “ponies” are not actually ponies, but horses. Many of the most aggressive & successful polo ponies are mares.

grading policy

There will be **no separate lecture and lab grades**. Whatever grade you earn for the combined lecture and lab will be assigned for both ANS 3079L and ANS 4231.

grade distribution

Labs, Assignments & Quizzes..... 40 %
3 Exams..... 60 %

grading scale

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

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 contact the instructor at least one week in advance of the date(s) missed. If you have an unforeseen emergency, you will need to provide written documentation to support your absence (eg, if you are sick, a doctor's note is required).

make-up work

It is your responsibility to contact the instructor to develop a plan to make-up any work you miss. Missed work for excused class absences will be accepted with no penalty if completed by the agreed-upon extended deadline.

- Click on the 'Grade' link in CANVAS for a running tally of your course grade.
- You have **ONE WEEK** after the return of any graded item to resolve questions. After that, all grades are final.
- Retain all graded items until assigned a final course grade.
- NOTE there will be no +/- letter grades
- UF policies for assigning grade points: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

The opportunity to make-up missed work will not be offered without a valid excuse. This policy applies to all exams, quizzes, assignments, and labs. The nature of some lab activities may prevent a make-up lab from being offered.

Class attendance and make-up work policies are consistent with UF policies found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

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 hours late = – 25%
24 – 48 hours late = – 50%
> 48 hours late = NOT accepted

class etiquette ...and safety

- ✳ Be respectful of other students' opinions, knowledge and background. If you have more "horse sense" than your lab partner, be a helper, not a hater.
- ✳ Horses can exhibit unpredictable behavior that can cause serious bodily harm. Pay attention. Seek guidance if you are uncomfortable working with them.
- ✳ Dress appropriately for all labs.
- ✳ Avoid electronic distractions. Silence (& ignore!) your phone during class. Use your laptop or tablet to take notes, not to check Facebook, Instagram, etc.

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 exam 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 19
- 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 11 in 34 minutes or less** or provide proof of completion of another sanctioned race approved by Dr. Warren in the same time limit.

Go to the "**Assignments**" link on CANVAS for additional information.

Does a health issue prevent you from running? Discuss alternative activities (swimming, biking) with Dr. Warren.

Omaha Beach was named Thoroughbred racing's Horse of the Year in 2019 with over \$1.65 million in earnings as a 4-year old. He is a favorite to win the Pegasus World Cup at Gulfstream the end of January. Thoroughbred racehorses have a high proportion of Type 2 muscle fibers, giving them speed and power.



Mega Maggie Mae is a World Champion Reining Horse with several AQHA and NRHA titles. **Reining** originated from moves that a ranch horse makes while performing its duties. Contestants perform a pattern that includes small slow circles, large fast circles, flying lead changes, roll backs, 360-degree spins, and exciting sliding stops.



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 will have the opportunity to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. Evaluations are conducted online at <https://evaluations.ufl.edu>. You will be notified when the evaluation system is open (typically the last two weeks of the semester). It is expected that you will contribute your feedback for this course and the others in which you are enrolled this term. Summary results of course evaluations are available at <https://evaluations.ufl.edu/results>

I value your feedback!

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 (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>).

It is assumed that you will complete all work independently in this 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. If you have any questions or concerns, please consult with the instructor of this class.

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.

students with disabilities – the Disability Resource Center coordinates the needed accommodations of students with disabilities, including recommending accommodations, accessing special equipment, and providing interpretation services. Students requesting accommodations should first register with the Disability Resource Center by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. **Students with disabilities 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 ■ <http://www.umatter.ufl.edu/>
- **counselling & wellness center** ■ counseling services, wellness coaching, self-help library ■ <https://counseling.ufl.edu/> ■ (352) 392-1575
- **student health care center** ■ (352) 392-1161 ■ <https://shcc.ufl.edu/>

- **campus police department** ■ 392-1111 ■ or 9-1-1 for emergencies

academic resources

- **e-learning technical support** ■ (352) 392-4357 ■ 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** ■ <https://sccr.dso.ufl.edu/polices/student-honor-code-student-conduct-code/> ■ or contact the Animal Sciences Undergraduate Office (352-392-2186) and speak to Mrs. Allyson Trimble (trimbleak@ufl.edu) or Dr. Sandra TenBroeck (sht@ufl.edu).

location of labs

- **ANS 155** – several labs will be held in this Animal Sciences classroom
- **HTU** – Horse Teaching Unit
1934 SW 63rd Ave, Gainesville
- **CVM** – we will have a couple of labs at the UF vet school. In all cases, we will arrange to meet at the Animal Sciences building (outside ANS 155) and walk over to the vet school together.
- **TBA** – “to be announced”

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

At the age of 5, **Best Brew At The Bar** already 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

major assignments

- ★ february 10
- ★ april 15

exams

- ★ february 17
- ★ mar 30
- ★ april 30

25-furlong derby

- ★ february 19
- ★ april 11

course schedule*

date	lecture	lab [+location]
M – jan 6	course intro / amazing athletes	
W – jan 8	bone – skeletal anatomy	TBA
M – jan 13	conformation – balance & symmetry	
W – jan 15	conformation – proportions & angles	bone anatomy [TBA]
M – jan 20	MLK HOLIDAY – NO CLASS	
W – jan 22	conformation – limb alignment	balance & angles [HTU]
M – jan 27	gaits / quality of movement	
W – jan 29	conformation – functional type	gaits / limb tracking [HTU]
M – feb 3	bone – develop. orthopedic disease	
W – feb 5	bone – training adaptations	breed standards [ANS 155]
M – feb 10	tendons and ligaments	
W – feb 12	tendons and ligaments	conformation [ANS 151]
M – feb 17	EXAM 1	
W – feb 19	joints and osteoarthritis	limb dissections [ANS 155]
M – feb 24	the hoof	
W – feb 26	muscle – gross anatomy	limb dissections [ANS 155]
M – mar 2	SPRING BREAK – NO CLASS	
W – mar 4	SPRING BREAK – NO CLASS	
M – mar 9	energetics of exercise	
W – mar 11	muscle – physiology	muscle anatomy [HTU]
M – mar 16	muscle – physiology	
W – mar 18	muscle – training adaptations	muscle biology [ANS 155]
M – mar 23	muscle – disorders	
W – mar 25	cardiovascular system	exercise testing [CVM]
M – mar 30	EXAM 2	
W – apr 1	cardiovascular / respiratory system	cardio-respiratory [HTU]
M – apr 6	respiratory system	
W – apr 8	Thermoregulation	thermoregulation [HTU]
M – apr 13	evaluating fitness	
W – apr 15	principles of conditioning	fitness evaluation [HTU]
M – apr 20	conditioning programs	
W – apr 22	conditioning programs	eXtreme obstacle challenge
Th – apr 30	EXAM 3 (10am–12pm)	Room TBA

* 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.