

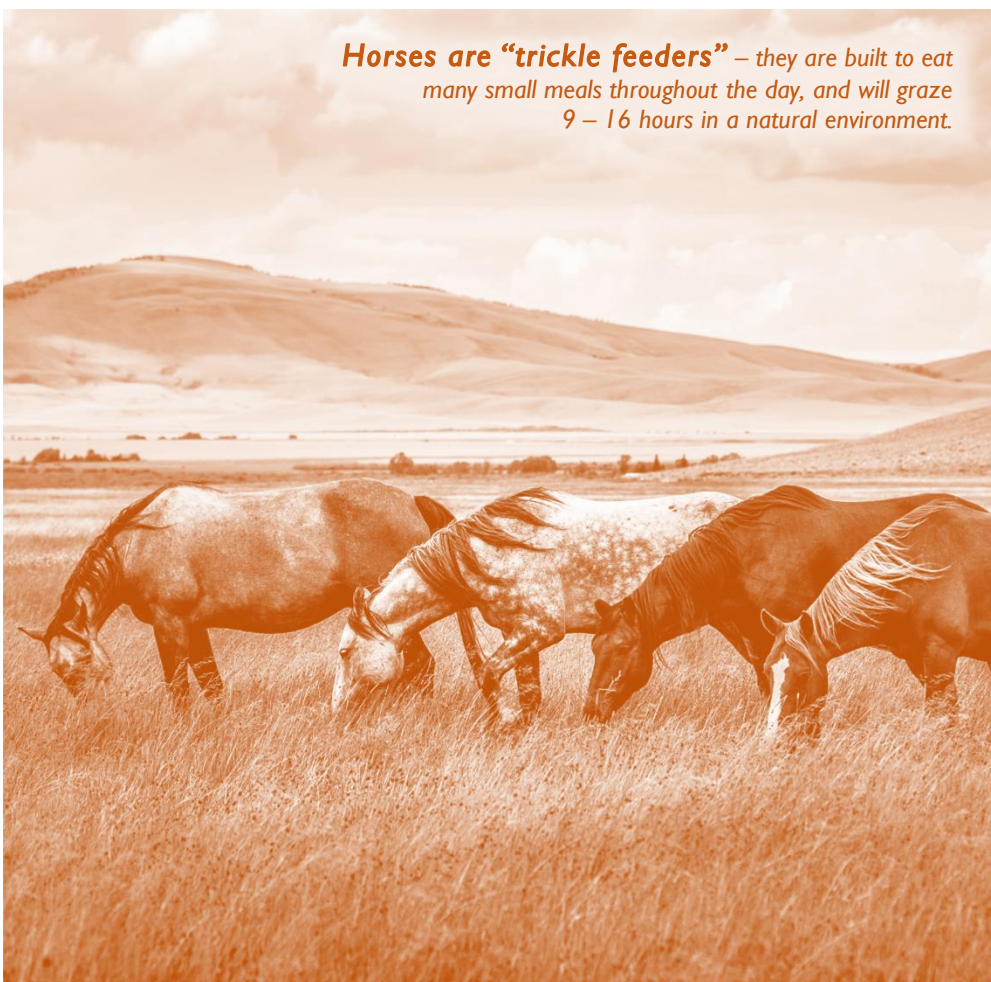
# equine nutrition

ANS 3405  
FALL 2021

Tues & Thurs  
11:45 - 12:35  
ANS Rm 156

UNIVERSITY  
OF FLORIDA

*Horses are “trickle feeders” – they are built to eat many small meals throughout the day, and will graze 9 – 16 hours in a natural environment.*



## course description

ANS 3405 is an applied nutrition course focusing on feeding programs for all types and classes of horses. Topics will include digestion & absorption, selection of feeds, nutrient requirements, diet evaluation and formulation, feeding management, and treatment and prevention of feeding-related disorders. Classroom activities and assignments will integrate the science of nutrition with practical horse management, enabling you to create feeding programs that promote equine health and well-being.

## prerequisites for this course

Before taking this course you must have:  
✓ ANS 3440 Principles Animal Nutrition

## learning objectives

- 1) Differentiate the digestive anatomy and digestive processes unique to equids;
- 2) Evaluate and select appropriate feeds for horses;
- 3) Design effective diets and feeding programs to meet the horse's nutritional and psychological needs;
- 4) Apply basic math (e.g., percentages, ratios, unit conversions, algebra) to formulate equine rations;
- 5) Analyze feeding-related problems and develop practical solutions.

- ✓ College Algebra (minimum math level)
- ✓ 1 semester of general chemistry

## 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 & resources	p. 5
topics & important dates	p. 6

## instructor

**Dr. Lori K. Warren**

office: ANS Suite 210, Office 210G

phone: (352) 392-1957

email: [LKWarren@ufl.edu](mailto:LKWarren@ufl.edu)

## teaching assistant

**Piper Babka**

email: [babkap@ufl.edu](mailto:babkap@ufl.edu)

Available to help with “nutrition math” (eg. simple math calculations, ration balancing, etc)

## office hours

- **By appointment.** Contact Piper or Dr. Warren by CANVAS messaging or by email.
- Meetings available via Zoom (TA or Dr. Warren) or in-person with Dr. Warren.

## course structure & format

This course will have a **flipped format** structure, where you will watch lecture videos outside the classroom and complete activities and assignments during scheduled class time.

### class meetings (in-person)

**We will meet on Tuesdays and Thursdays from 11:45am – 12:35pm in ANS 156.** Class time will be used for whole-class and small group discussions and activities, as well as completion of individual work. Most sessions will involve graded activities; thus, it is important to attend!

Class meetings are designed to enhance your understanding of course content, assist you in completing assignments, and give you the opportunity to interact with me and your peers. **To get the most out of our time together in class, it is important to complete the required preparation** (ie, watch the required lecture videos ahead of time!)

Class meeting topics align with module topics and are outlined in the **Course Schedule** section of this syllabus (page 6).

## course requirements

**engage in learning** – applied nutrition is a balance of science and mathematics. This course will require simple & algebraic calculations, reading, group & individual work, and effort outside of class. You will be required to apply what you've learned to solve practical feeding problems. To develop independent thinking that will serve you beyond your time in this course, you will be asked to research topics not covered in lecture and use your nutritional foundation to determine how the diet should be changed to improve management practices. You will need to put in consistent effort throughout the semester, as each topic and skill you learn will build upon previous ones. **To get the most out of this course, prepare for and attend class meetings, engage in discussions with your peers, ask questions, take advantage of supplementary materials provided on CANVAS, and get help before you get too far behind!**

★*Learning is not a spectator sport*★

### class prep (your own time)

To prepare for each class, **you will be expected to watch lecture videos on your own time BEFORE each class session.** In some cases, preparation may also involve reading an article or reflecting on a question that will be discussed in class.

Lecture videos and other resource materials are available in CANVAS. Topics are organized into modules and have been broken up into smaller video segments (10 to 30 minutes in length). You can expect to spend approximately 1-2 hours per week watching lectures videos.

The *Modules* section in CANVAS is organized by class meeting day so that you know what lecture videos you'll need to view ahead of each class, what activities will take place in class, and when assignments need to be completed. Additionally, the CANVAS homepage will provide a summary of events taking place each week.

NOTE: *In the unlikely event UF switches to an online-only format due to COVID-19, the same course structure will be used, with Zoom meetings replacing in-person class meetings.*

**computer or tablet** – all UF students are required to have a working computer (laptop or tablet). **You will be using your computer frequently during class and should plan on bringing it to class with you.** A laptop or tablet will usually work better than your phone for in-class activities.

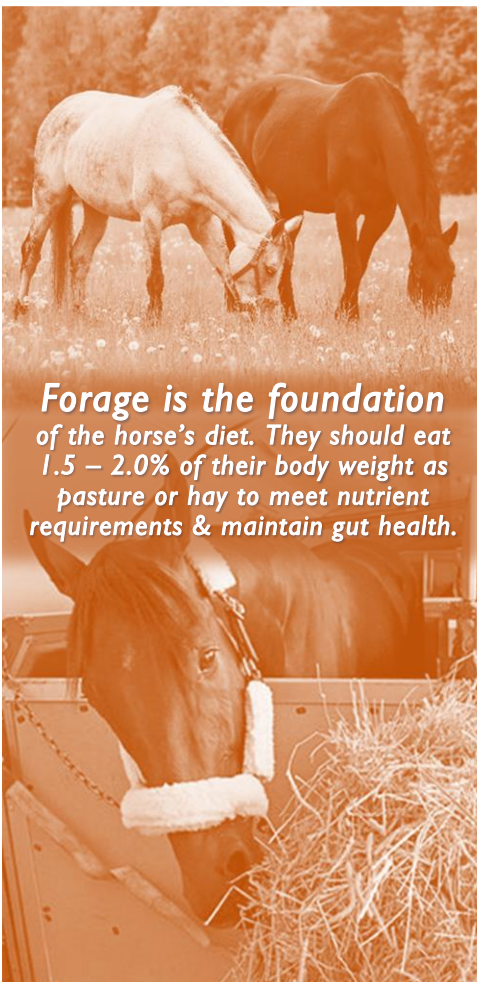
**calculator** – a standard calculator is needed to perform simple and algebraic calculations used in nutrition. **Use of the calculator function on your phone will NOT be allowed during exams.**

**document scanner** – all graded activities and assignments 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 CANVAS > *Course Tools* for video tutorials on document scanning and upload to CANVAS.

## class etiquette

- **Come prepared!** Watch the required lecture videos and complete other assigned preparation activities ahead of each class meeting. Be ready to discuss the topic or share your solutions to a problem. This is a learning opportunity. Don't be afraid to participate!
- **Avoid electronic distractions.** Silence your phone during class. Use your laptop or tablet for completing in-class activities, 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.
- **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.





**Forage is the foundation** of the horse's diet. They should eat 1.5 – 2.0% of their body weight as pasture or hay to meet nutrient requirements & maintain gut health.

## course assessments

Your grade for this course will be determined by your performance on homework assignments, in-class activities, and exams (see **Grading Policy**, page 4).

**assignments** – you will have **5 major homework assignments (50 pts each)**. Most are case studies that depict practical feeding scenarios, and you will be tasked with identifying and evaluating the problems and developing solutions. Background information will not always be provided in lecture videos – you may have to research some areas on your own to complete the assignment. Time in class may be designated for working on portions of these assignments, but plan to complete them on your own time. Assignments with instructions will be posted to CANVAS at least 1 week before they are due. You can work with other students, but each person will be required to submit their own assignment, using their own words (evidence of copying will result in a zero grade). All assignments will be submitted electronically in CANVAS. Uploads must be PDF or MSWord documents (photos will not be accepted). See CANVAS > *Course Tools* for video tutorials on document scanning & upload.

**in-class activities** – **several activities completed in class will be graded (1 – 10 pts each)**. Therefore, it's a good idea to attend all class meetings! Graded activities may include short quizzes, response to reflective questions, scavenger hunts, online information searches, and math problems and will involve both individual and group work. These items will be submitted on the same day for grading. Similar to homework assignments completed outside of class, the in-class activities will need to be scanned and uploaded to CANVAS for submission.

**exams** – **3 exams (100 pts each)**, each covering about one-third of the total course material. The final exam is not cumulative, but new material builds upon previous information throughout the semester. Exam format will consist of true/false, multiple choice, short answer, essay questions, and math problems. Exams will be closed-book and will be administered in-person during scheduled class time.

**extra credit** – take advantage of bonus points available on homework assignments and exams. No other extra credit opportunities will be offered.

## course resources

This course has no required textbook. Instead, I have gathered some articles (from both research and trade journals), videos and websites 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, study guides, and practice problems that can be handy study aids.

## references

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

- Nutrient Requirements of Horses, 6<sup>th</sup> Rev. Edition (2007) ▪ *National Research Council* ▪ ISBN: 978-0-309-10212-4 ★ **Online access is free at: <https://www.nap.edu/read/11653/chapter/1>** Link provided in CANVAS
- Equine Applied & Clinical Nutrition (2013) ▪ *R.J. Geor, P.A. Harris, M Coenen (Eds.)* ▪ ISBN: 978-0-0720-3422-0
- The Horse (*magazine*) ▪ [www.thehorse.com](http://www.thehorse.com) ▪ A trade journal with reliable health and nutrition info. You can access articles for free after signing up.

## 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
  - ✓ Course schedule
  - ✓ Lecture Videos
  - ✓ Lecture Notes
  - ✓ Articles and web links
  - ✓ Assignments
  - ✓ Exams
  - ✓ Your Grades
  - ✓ Messaging (to contact Dr. Warren & TA)

## course notes

- Lecture Notes are posted as PDF files on CANVAS within each **Module**.
- Notes are formatted as fill-in-the-blank style. They are designed to assist you with note-taking while watching lecture videos and contain many of the diagrams presented in lecture videos.
- Anything said in lecture videos or in class is fair game for questions that might appear on graded activities & exams.
- **Printing out notes or annotating and saving to your computer is recommended.**

# grading policy

## grade distribution

Assignments & in-class activities.... 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 %

Do not wait until the end of the semester to discuss any problems you are having with this course. Your success is important!

- +/- letter grades will not be assigned.
- There will be no grading curve.
- 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, 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/>

# 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/>

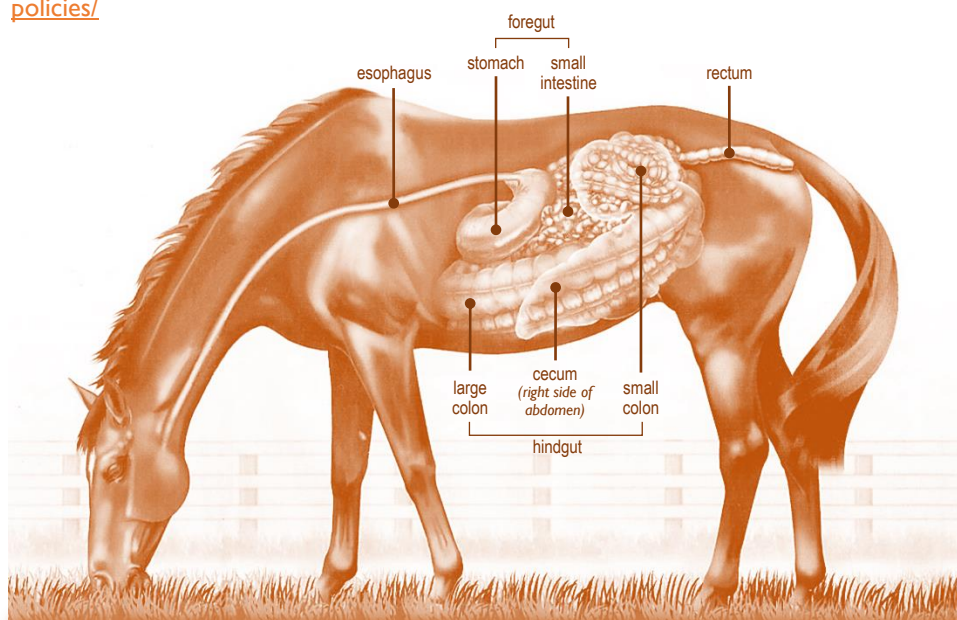
## make-up work

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 makeup 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 work

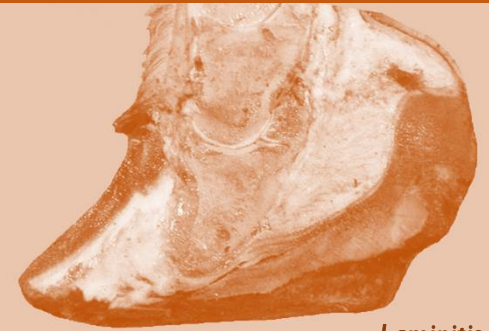
**It is expected that ALL assignments will be submitted on time.** Without a valid absence, assignments turned in late will receive the following penalty:

0.1 – 24 hrs late = - 25%  
24 – 48 hrs late = - 50%  
>48 hrs late = NOT accepted



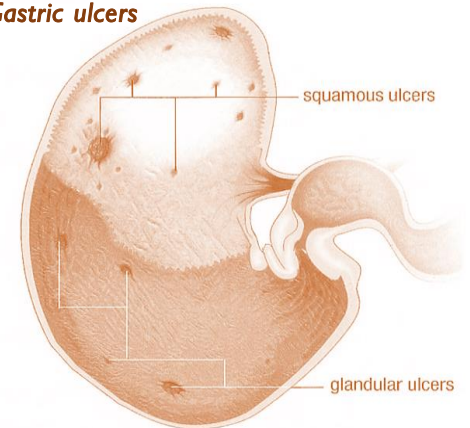
At **100 feet long with a 50-gallon capacity**, the horse's gastrointestinal tract is massive! Like a human, the horse is a monogastric animal. However, the horse's "hindgut" makes up two-thirds of its digestive system and enables them to be a grass-eating herbivore.

## Diet modification is key to managing several equine clinical diseases



Laminitis

## Gastric ulcers



## Cushing's and other metabolic diseases



## covid-19 resources

- Mask-wearing policies in this course will follow current UF policies.
- COVID-19 testing is available both on and off campus. Click here to view [testing locations and schedules](#).
- Click here for information on or to schedule a [COVID-19 vaccination](#).
- **If you are sick, stay home** and self-quarantine. Visit the [UF Health Screen, Test & Protect website](#) about next steps. Call your primary care provider if you are ill and need immediate care.
- Visit <https://coronavirus.ufl.edu/> for up-to-date information on COVID-19 and UF policies.

# 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** 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 and 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.

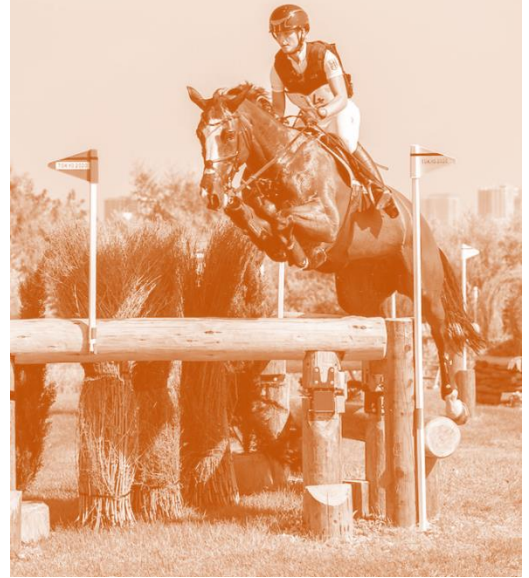
**Disability Resource Center** ■ 352-392-8565 ■ <https://disability.ufl.edu/>

**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.

**36,000 calories** per day are required to support intense exercise training & competition, like that of 2021 Olympic eventing gold medalist “Amande de B’neville.”



## 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 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](mailto:umatter@ufl.edu) ■ <http://www.umatter.ufl.edu/>
- **counselling & wellness center** ■ crisis and non-crisis counseling services ■ <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.ufsa.ufl.edu](http://gatorwell.ufsa.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://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](http://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.

## course schedule

date	topic*	assignment due
T – aug 24	course intro	
R – aug 26	anatomy of GI tract	
T – aug 31	digestion & absorption	
R – sept 2	gastrointestinal disorders	<i>SURVEY Tell Me About You</i>
T – sept 7	nutrient requirements & the NRC	
R – sept 9	ration evaluation	<i>basic nutrition calculations</i>
T – sept 14	maintenance requirements	
R – sept 16	feed selection	
T – sept 21	discussion – case study #1	<i>case study #1</i>
R – sept 23	feed selection	
<b>T – sept 28</b>	<b>EXAM I</b>	
R – sept 30	feed selection	
T – oct 5	feed selection	
R – oct 7	feeding working/performance horses	
T – oct 12	feeding working/performance horses	
R – oct 14	ration formulation	
T – oct 19	discussion – case study #2	<i>case study #2</i>
R – oct 21	feeding broodmares & stallions	
T – oct 26	feeding broodmares & stallions	
R – oct 28	discussion – case study #3	<i>case study #3</i>
<b>T – nov 2</b>	<b>EXAM 2</b>	
R – nov 4	feeding growing horses	
T – nov 9	feeding growing horses	
R – nov 11	VETERAN'S DAY – no class	
T – nov 16	discussion – case study #4	<i>case study #4</i>
R – nov 18	pasture as a feed source	
T – nov 23	clinical nutrition	
R – nov 25	THANKSGIVING – no class	
T – nov 30	clinical nutrition	
R – dec 2	clinical nutrition	
T – dec 7	clinical nutrition	
<b>T – dec 14</b>	<b>EXAM 3 – 7:30-9:30am</b>	<b>ANS room 156</b>

\*See CANVAS for details on how you will need to prepare for each topic.

\*You will receive 1 week notice if any changes are made to due dates.



Foals consume **4-5 gallons of milk** each day. But at 2 months of age, milk no longer meets its nutrient requirements

## important dates

### exams

- september 28
- november 2
- december 14

### major assignments

- september 9
- september 21
- october 19
- october 28
- november 16

### in-class activities

- graded work in most classes!



are you ready to learn how to feed us?