

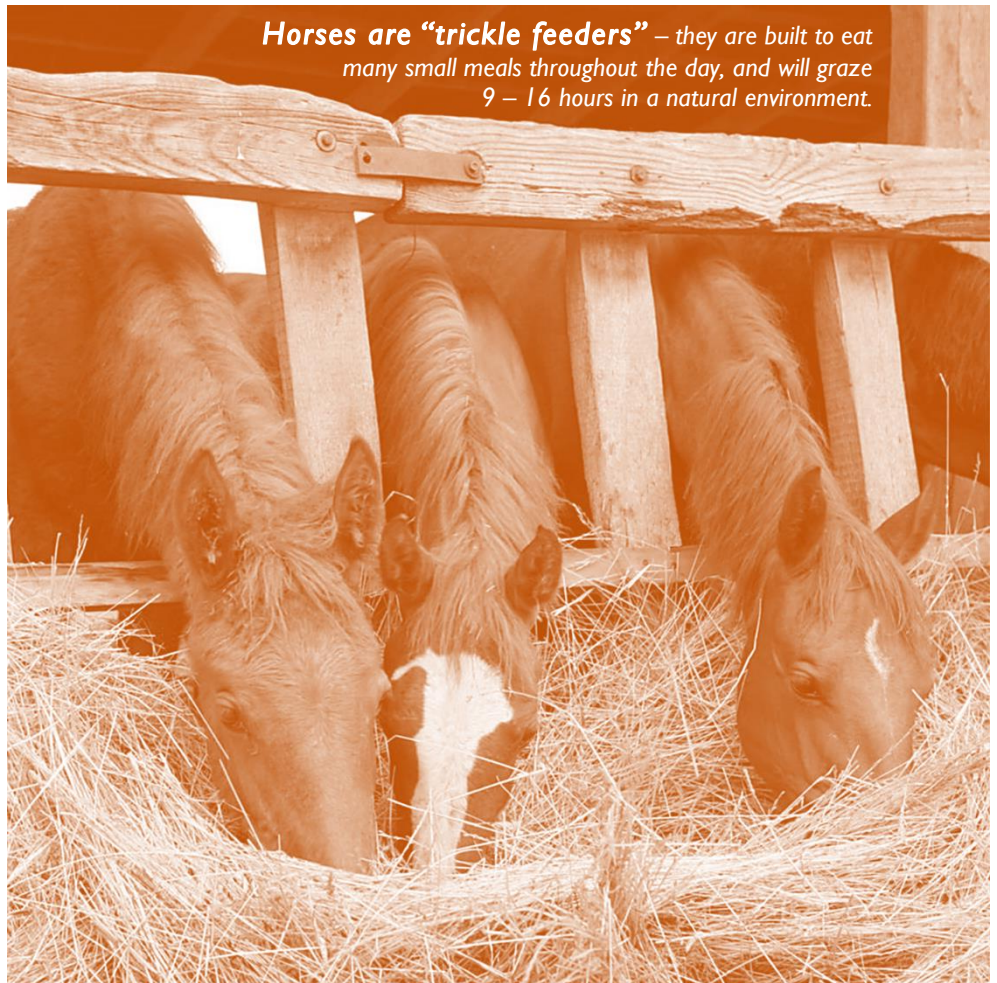
# equine nutrition & feeding management

ANS 3405  
FALL 2019

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?

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## instructor

**Dr. Lori K. Warren**

office: ANS Suite 210, Office 210G

phone: (352) 392-1957

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

★ email is the preferred way to reach me

## office hours

Tues & Thurs 10:00 – 11:30 a.m.

Thurs 12:35 – 2:00 p.m.

Or, email for an appointment

*I will usually respond within 24 hours*

## teaching assistant

Sorry, no TA this semester! If you need assistance, please contact Dr. Warren. Don't let yourself get too behind before you seek help!

## 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, 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 ★ Access for free <https://www.nap.edu/read/11653/chapter/1>
- 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 good source of health and nutrition 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 “LOG IN TO 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

Applied nutrition is a balance of science and mathematics. This course will involve simple and algebraic calculations, reading, group & individual work, and outside effort. 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, come to lecture, ask questions, and get help before you get too far behind!  
**Learning is not a spectator sport.**

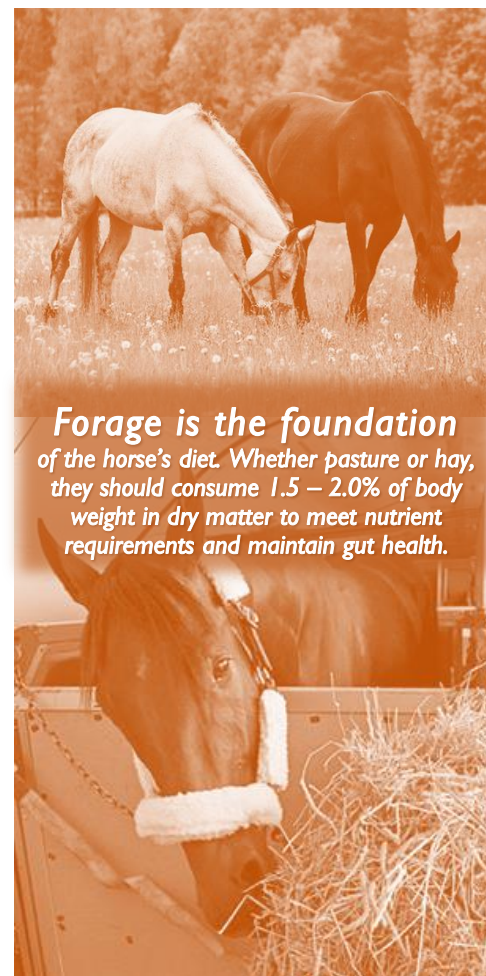
**calculator** – You will need a standard calculator to perform simple and algebraic calculations. Use of **the calculator function on your phone will NOT be allowed during quizzes and exams.**

**assignments** – You will have **8 major homework assignments**, as well as a few smaller (minor) assignments in this course. Many are case studies that depict practical feeding scenarios. Your task will be to evaluate the problems presented and develop solutions. In some cases, background information will be provided in lecture. In other cases, you will have to conduct your own background research in order to complete the assignment. Each assignment (with instructions) will be provided at least 5 days before it’s due. They will also be posted to CANVAS.

**quizzes** – expect **both announced and unannounced** quizzes.

**exams** – There will be **3 exams**, each covering approximately one-third of the course material. Although exams are not technically cumulative, new material does build upon previous information throughout the semester. Exam format will consist of multiple choice, true/false, short answer, essay questions, and math calculations.

**extra credit** – bonus points will be available on all exams and on most assignments.



**Forage is the foundation** of the horse's diet. Whether pasture or hay, they should consume 1.5 – 2.0% of body weight in dry matter to meet nutrient requirements and maintain gut health.

# grading policy

## grade distribution

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 %

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

- +/- letter grades will not be assigned.
- There will be NO grading curve.
- Go to CANVAS to view grades earned on individual assignments & exams, as well as your cumulative course grade.
- You have 1 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.
- View UF grades and grading policies at: <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

# 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

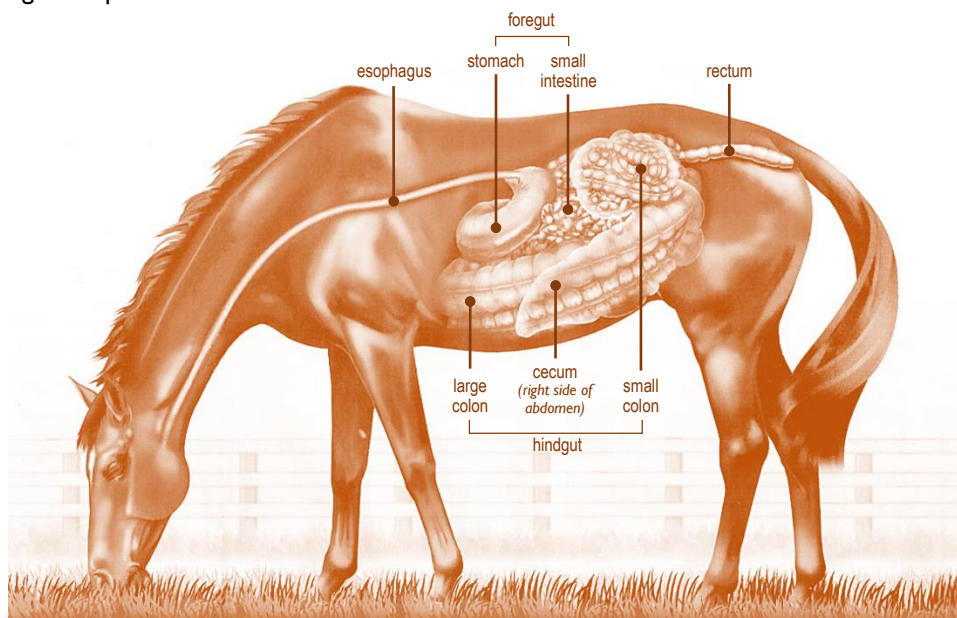
**It is your responsibility to contact the instructor to develop a plan to make-up any work you miss.** Missed work for excused class absences will be accepted with no penalty if completed by the agreed-upon extended deadline.

**The opportunity to make-up missed work will not be offered without a valid excuse.** This policy applies to all exams, quizzes, and assignments. 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

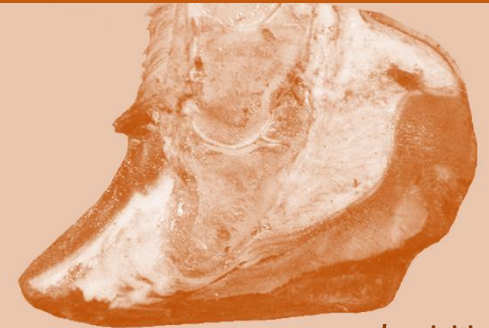
**It is expected that ALL assignments will be submitted on time.** Without a valid absence, assignments turned in late will receive the following penalty:

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



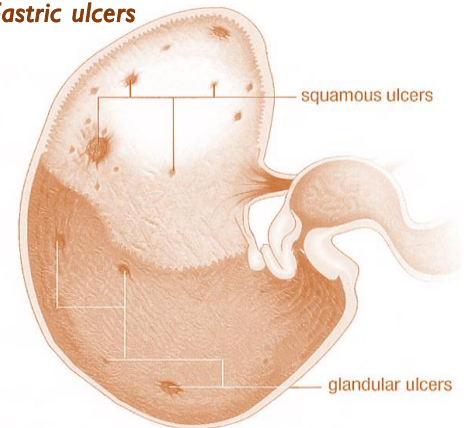
At **100 feet long with a 50-gallon capacity**, the horse's gastrointestinal tract is massive! Like a human, horses are a monogastric animal. However, the horse's "hindgut" makes up two-thirds of its digestive system and enables them to be a grass-eating herbivore.

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



Laminitis

## Gastric ulcers



## Cushing's and other metabolic diseases



# class etiquette

- Several class periods will be devoted to discussion of case studies. Come prepared to share your solutions with the class. This is a learning opportunity. Don't be afraid to participate!
- Be respectful of other students' opinions, knowledge and background. If you have more "horse sense" than your neighbor, be a helper, not a hater.
- Avoid electronic distractions. Silence (& ignore!) your phone during class. Use your laptop or tablet to take notes, not to check social media or surf the 'Net.
- Photographing lecture slides is not allowed.
- As a courtesy to me and others, please arrive to class on time.

## 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. These 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!**



**36,000 calories** per day are required by horses who undergo intense exercise training & competition, such as 2018 Triple Crown Champion "Justify." It can be a challenge to get these athletes to eat enough to meet their daily caloric demands.

## 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 contact [umatter@ufl.edu](mailto:umatter@ufl.edu)
- **counseling & wellness center** <https://counseling.ufl.edu/> ■ (352) 392-1575 ■ *counseling services* ■ *workshops* ■ *self-help library* ■ *wellness coaching*
- **sexual assault recovery services** ■ (352) 392-1161 ■ Student Health Care Center

- **campus police department**  
■ 392-1111 ■ or 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* ■ <https://cms.uflib.ufl.edu/ask>

- **teaching center** ■ *assistance with study skills* ■ *tutoring* ■ *study groups* ■ <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/policies/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](mailto:trimbleak@ufl.edu)) or Dr. Sandra TenBroeck ([sht@ufl.edu](mailto:sht@ufl.edu)).

## course schedule\*

date	lecture	assignment due
T – aug 20	course intro / anatomy of GI tract	
R – aug 22	digestion & absorption	
T – aug 27	digestion & absorption	
R – aug 29	digestive disorders	
T – sept 3	nutrient requirements & the NRC	<i>basic nutrition calculations</i>
R – sept 5	ration evaluation	
T – sept 10	feeding the maintenance horse	
R – sept 12	DISCUSSION – case study #1	<i>case study #1</i>
<b>T – sept 17</b>	<b>EXAM I</b>	
R – sept 19	feed selection	
T – sept 24	feed selection	
R – sept 26	feed selection	
T – oct 1	feeding working/performance horses	<i>commercial feed evaluation</i>
R – oct 3	feeding working/performance horses	
T – oct 8	ration formulation	
R – oct 10	DISCUSSION – case study #2	<i>case study #2</i>
T – oct 15	feeding broodmares & stallions	
R – oct 17	feeding broodmares & stallions	<i>feed ID quiz</i>
T – oct 22	DISCUSSION – case study #3	<i>case study #3</i>
R – oct 24	feeding growing horses	
<b>T – oct 29</b>	<b>EXAM 2</b>	
R – oct 31	feeding growing horses	
T – nov 5	pasture as a feed source	
R – nov 7	DISCUSSION – case study #4	<i>case study #4</i>
T – nov 12	clinical nutrition	
R – nov 14	clinical nutrition	
T – nov 19	clinical nutrition	
R – nov 21	DISCUSSION – case study #5	<i>case study #5</i>
T – nov 26	DISCUSSION – case study #5	
R – nov 28	THANKSGIVING – no class	
T – dec 3	course wrap-up	
<b>R – dec 12</b>	<b>EXAM 3 – 3:00-5:00pm</b>	<b>ANS room 156</b>



**4 - 5 gallons of milk** are consumed by the foal each day. But at 2 months of age, milk no longer meets his nutrient requirements

## important dates

### major assignments

- september 3
- september 12
- october 1
- october 10
- october 17
- october 22
- november 7
- november 21

### exams

- september 17
- october 29
- december 12



**are you  
ready to  
learn how  
to feed us?**

\* **Lecture topics and Exam/Assignment due dates are subject to change. If any changes are made, you will receive at least 1 week notice.**