course description

ANS 6711 offers a detailed study of the anatomical, physiological and behavioral factors influencing nutrient requirements and feeding management of horses for maintenance, reproduction, lactation, growth, and work. Topics will include feed analysis and selection, feeding behavior, digestion and utilization of feeds by horses, derivation and application of nutrient requirements, and feeding considerations for different classes of horses. Course activities will integrate the science of nutrition with practical horse management and promote the use of evidence-based solutions to common feeding problems.

learning objectives

1) Differentiate the digestive anatomy and digestive physiology unique to equids;
2) Evaluate and select appropriate feeds for horses;
3) Investigate the basis for current nutrient requirements for horses;
4) Design diets and feeding programs that meet the horse’s nutritional and psychological needs;
5) Analyze feeding-related problems and formulate practical, evidence-based solutions;
6) Critically evaluate published material relating to equine nutrition.

prerequisites

Greater success in this course can be achieved if you enter with the following:
✓ A course in animal or human nutrition
✓ One or more courses in biochemistry, metabolism, and/or physiology
✓ Experience formulating rations for horses or other livestock

NOTE: I also teach an undergraduate course in equine nutrition (ANS 3405) this semester. It meets Tuesdays & Thursdays from 11:45 – 12:35 in ANS Room 156. If you need a refresher, you are welcome to sit in on this class.

instructor

Dr. Lori K. Warren
office: Animal Sciences building
        Suite 210, Office 210G
phone: (352) 392-1957
mobile: (352) 538-4716
email: LKWarren@ufl.edu

office hours

Tues & Thurs 9:30 – 11:00 a.m.
Or, by appointment
*email or CANVAS messaging are the preferred ways to reach me

what’s in this syllabus?

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course format

ANS 6711 will explore both the science of equine nutrition, as well as the application of nutrition to the feeding of horses. The format will consist of blend of traditional lectures along with discussions and activities you will be expected to prepare for outside of class and contribute to during class. Your comprehension of the material will be evaluated through exams, assignments, and a case study project. The course requires reading, group and individual work, simple and algebraic calculations, and effort outside of the classroom. To develop independent-thinking that will serve you beyond this course, you will be asked to research topics not covered in lecture and formulate diets and solve practical feeding problems. You will be expected to seek out reliable sources of information, critically evaluate and interpret equine nutrition research, and form independent, evidence-based solutions & recommendations. To get the most out of this course, come to class, ask questions, and get help before you get too far behind. Learning is not a spectator sport!

case study project – you will be assigned a case study project that will require you to formulate evidence-based solutions for practical problems in equine nutrition. It will involve searching the scientific literature, interpreting research data, developing feeding programs, and design of research studies to address industry-relevant questions. You will need to put in consistent effort on this project throughout the semester – it is not something that can be done at the last minute! Projects will be assigned in Sept. An outline of your approach to addressing each portion of the project will be due Oct 14. A written project report will be due Nov 23. Reports are typically 15-30 pages. You are also expected to prepare a 15-minute presentation on your solutions. Oral presentations will take place during the last 3 class periods of the semester. Further detail will be provided when the projects are assigned.

other assignments – additional smaller assignments may include feed or supplement evaluation, basic nutrition calculations, ration formulation, critique of research or popular press articles, and answering questions from horsemen. Some assignments may be completed individually or in small groups as part of an in-class activity, while other assignments will require independent work outside of class.

exams – This course will have 2 exams, each covering approximately half of the course material. Exam format will consist of multiple choice, short answer, essay, and calculations.

course resources

This course has no required textbooks; however, two books are recommended (see References at right). Additional references (eg, journal articles, videos, web links) will be posted to CANVAS or handed out 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. This course requires access to scientific literature – contact library support if you need help.

2 books are recommended:

- Access free-of-charge at: www.nap.edu/read/11653/ chapter/1
- Equine Applied & Clinical Nutrition (2013) ▪ R.J. Gehr, P.A. Harris, M Coenen (Eds.) ▪ ISBN: 978-0-0720-3422-0 ▪ useful if you need additional background or “a place to start” for assignments. Also a nice resource if you intend to work in the field of equine nutrition.

references

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
  ✓ Lecture slides or lecture videos
  ✓ Articles and web links
  ✓ Assignments
  ✓ Exams
  ✓ Your Grades

- Course Notes (and any accessory materials) will be posted on CANVAS under the “Modules” link.
- Format of notes will be PowerPoint slides, other handouts/diagrams, and articles (all as PDF files).
- Print notes (and relevant handouts) before coming to lecture or bring your laptop/tablet and type on the PDF documents.
- NOTE: If notes are not posted by 6:00 p.m. the night before the lecture, then I will provide copies for you in class.
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.

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 • 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.usfa.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.

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.blueria.com/ufl/.

Summary results of evaluations are available at https://gatorevals.aa.ufl.edu/public-results.
### course schedule*

<table>
<thead>
<tr>
<th>date</th>
<th>lecture topic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>tues</strong> – aug 24</td>
<td>course intro / anatomy of equine GI tract</td>
</tr>
<tr>
<td><strong>thurs</strong> – aug 26</td>
<td>feed analysis</td>
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<tr>
<td><strong>tues</strong> – aug 31</td>
<td>feed selection</td>
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<tr>
<td><strong>thurs</strong> – sept 2</td>
<td>feed selection</td>
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<tr>
<td><strong>tues</strong> – sept 7</td>
<td>feed selection</td>
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<tr>
<td><strong>thurs</strong> – sept 9</td>
<td>feed selection</td>
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<tr>
<td><strong>tues</strong> – sept 14</td>
<td>feed manufacturing</td>
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<tr>
<td><strong>thurs</strong> – sept 16</td>
<td>digestion and absorption</td>
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<tr>
<td><strong>tues</strong> – sept 21</td>
<td>digestion and absorption</td>
</tr>
<tr>
<td><strong>thurs</strong> – sept 23</td>
<td>digestion and absorption</td>
</tr>
<tr>
<td><strong>tues</strong> – sept 28</td>
<td>digestion and absorption</td>
</tr>
<tr>
<td><strong>thurs</strong> – sept 30</td>
<td>digestion and absorption</td>
</tr>
<tr>
<td><strong>tues</strong> – oct 5</td>
<td>feeding behavior</td>
</tr>
<tr>
<td><strong>thurs</strong> – oct 7</td>
<td>EXAM 1</td>
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<tr>
<td><strong>tues</strong> – oct 12</td>
<td>Using the NRC</td>
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<tr>
<td><strong>thurs</strong> – oct 14</td>
<td>review of ration balancing</td>
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<tr>
<td><strong>tues</strong> – oct 19</td>
<td>Maintenance requirements</td>
</tr>
<tr>
<td><strong>thurs</strong> – oct 21</td>
<td>feeding performance horses</td>
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<tr>
<td><strong>tues</strong> – oct 26</td>
<td>feeding performance horses</td>
</tr>
<tr>
<td><strong>thurs</strong> – oct 28</td>
<td>feeding performance horses</td>
</tr>
<tr>
<td><strong>tues</strong> – nov 2</td>
<td>feeding broodmares</td>
</tr>
<tr>
<td><strong>thurs</strong> – nov 4</td>
<td>feeding broodmares</td>
</tr>
<tr>
<td><strong>tues</strong> – nov 9</td>
<td>feeding broodmares</td>
</tr>
<tr>
<td><strong>thurs</strong> – nov 11</td>
<td>VETERAN’S DAY – no class</td>
</tr>
<tr>
<td><strong>tues</strong> – nov 16</td>
<td>feeding growing horses</td>
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<tr>
<td><strong>thurs</strong> – nov 18</td>
<td>feeding growing horses</td>
</tr>
<tr>
<td><strong>tues</strong> – nov 23</td>
<td>feeding growing horses</td>
</tr>
<tr>
<td><strong>thurs</strong> – nov 25</td>
<td>THANKSGIVING – no class</td>
</tr>
<tr>
<td><strong>tues</strong> – nov 30</td>
<td>project – oral presentations</td>
</tr>
<tr>
<td><strong>thurs</strong> – dec 2</td>
<td>project – oral presentations</td>
</tr>
<tr>
<td><strong>tues</strong> – dec 7</td>
<td>project – oral presentations</td>
</tr>
<tr>
<td><strong>thurs</strong> – dec 16</td>
<td>EXAM 2 – 7:30-9:30am – Room 102</td>
</tr>
</tbody>
</table>

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

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**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.

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**The gut microbiome** consists of trillions of bacteria, fungi and protozoa that live symbiotically in the equine gastrointestinal tract, aiding in digestion and host protection from pathogens.