Description: This course is a biochemical approach to understanding the nutritional requirements for horses at various life stages, including maintenance, growth, reproduction, performance, age and clinical support. Current equine nutrition research and its application to practical equine management will be emphasized. Feeding management related to nutrient digestion, absorption, and metabolism will be explored.

Course objectives:
• To understand the anatomy, physiology and metabolic processes related to equine digestion, absorption, and utilization of nutrients.
• To develop an understanding of nutrient chemistry.
• To develop the skills needed for nutritional assessment used in equine nutritional consulting.
• To understand the horse’s nutritional requirements as related to age, work, reproductive stage and clinical support.

Instructor:
Dr. Rhonda M. Hoffman
Professor, School of Agribusiness and Agriscience
Diplomate of the American College of Animal Nutrition
E-mail: rhoffman@mtsu.edu  URL: http://www.mtsu.edu/~rhoffman

Availability:
I will be dividing my time between my offices at the Horse Science Center and the Stark Agribusiness and Agriscience building. Office hours will be posted on each door. I have an open door policy, so if I am in and the door is open, please feel free to speak with me. If you need a guaranteed meeting time, please make an appointment.

Required Text and Materials:
The course will be supplemented with handouts provided by the instructor. Some required readings taken from the recommended reference below or from current scientific literature and publications from the horse nutrition industry will be provided as handouts. You should purchase a 3-ring binder (1½”) to keep your notes organized.


You will need a calculator to use in class and for the exams.
Evaluation procedures:
- Three Exams 300 pts
- Case Study 200 pts
- Group project 100 pts
- Other assignments 200 pts
- Comprehensive Final Exam 200 pts
Total 1000 pts

Case study:
You will be assigned a case study that presents a practical problem in equine nutrition, and you will develop solutions to address the problem. Your solutions may include development of a feeding program, addressing special nutritional needs of a horse (or horses), or designing a new feed or supplement. It is expected that you will support your solutions with scientific literature (not just lay articles on the web or in trade magazines). You will prepare a report and present the case study and your solution to the class.

Group project:
The class will be divided into two groups. Each group will design a research study (on paper) to answer a specific question relative to equine nutrition. The research study designs will be presented in class.

Other assignments:
Additional work in class may include the following smaller assignments:
- Ration formulation
- Critique of scientific literature
- Feed selection
- Product evaluation
- Critique of popular press articles
- 4440 project evaluations

Grading scale:
- > 90% = A
- 86–89% = B+
- 80–85% = B
- 76–79% = C+
- 70–75% = C
- 66–69% = D
- ≤ 65% = F

Attendance policy:
Regular attendance is expected, and active participation is necessary for successful completion of the course requirements.

Make-up Exams and Quizzes will not be allowed unless an absence is excused, such as in the case of medical emergency (with doctor’s note), family emergency (with documentation or prior approval), or university extracurricular activities. Any other extenuating circumstances must be cleared through the instructor.

Classroom policies:
Assignments are due on time, during the class period in which they are due. Without a valid, excused absence (see above), any assignments turned in late may be accepted with the following penalty applied:
- 1 to 24 hours late: −20%
- 24 to 48 hours late: −35%
- > 48 hours late: not accepted.

Cell phones should be turned off or silenced prior to entering the classroom.
Academic misconduct:
It is expected that all work you complete for this course is your own. The University policy for academic misconduct will be followed. Academic misconduct includes the following behaviors: plagiarism, cheating, fabrication, or facilitating any such act. For purposes of this section, the following definitions apply:

1) **Plagiarism.** The adoption or reproduction of ideas, words, statements, images, or works of another person as one’s own without proper acknowledgment.

2) **Cheating.** Using or attempting to use unauthorized materials, information, or study aids in any academic exercise. The term academic exercise includes all forms of work submitted for credit or hours.

3) **Fabrication.** Unauthorized falsification or invention of any information or citation in an academic exercise.

4) **Facilitation.** Helping or attempting to help another to violate a provision of the institutional code of academic misconduct.

Any student suspected of academic misconduct may be asked to meet with me to discuss the situation. If you are found responsible for committing an act of academic misconduct, you will be given a failing grade for the semester and reported to the Director of ABAS and the Assistant Dean for Judicial Affairs and Mediation Services for disciplinary action.

Reasonable accommodations for students with disabilities:
ADA accommodation requests (temporary or permanent) are determined only by Disabled Student Services. Students are responsible for contacting the Disabled Student Services Office at 615-898-2783 to obtain ADA accommodations and for providing the instructor with the Accommodation Letter from Disabled Student Services.

Important dates for Fall 2011:
August 29: Classes begin.
September 1: Deadline for students to add a class on RaiderNet.
September 5: Labor Day – no classes
September 9: Deadline for students to drop a course without a grade.
October 15–18: Fall Break – no classes.
November 2: Deadline for students to drop a course with a grade of “W”.
November 24–27 Thanksgiving holiday – no classes
December 2: Deadline for students to withdraw (all classes) from the University.
December 7: Last day of classes.
December 8: Study Day.
December 9–15 Final exams.
December 17: Commencement.
December 19: Deadline for professors to turn in final grades, 9:00 a.m.

The Fine Print:
The instructor reserves the right to modify the information in this syllabus if deemed appropriate during the course of this class. Any modifications will be announced in class with a reasonable time frame considered for planning purposes.
**Tentative Course Outline:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Aug 30</td>
<td>Course introduction.</td>
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<td>NRC nutrient requirements and optimal ranges.</td>
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<td>Sampling and proximate analysis.</td>
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<td>Grains and commercial feed manufacturing.</td>
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<td>Review equine digestive anatomy, digestion &amp; absorption.</td>
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<td>Energy utilization. Carbohydrates and fats.</td>
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<td>Nutrient requirements for optimal performance.</td>
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<td>Oct 11</td>
<td><strong>EXAM 1</strong></td>
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<td>Protein and amino acids.</td>
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<td>Oct 15-18</td>
<td>Fall Break — No class</td>
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<td>Nutrient requirements for broodmares and stallions.</td>
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<td>Nutrient requirements for growth.</td>
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<td>Nutrition and Disease.</td>
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<td>Beyond Pearson’s Square: Sensitivity analysis.</td>
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<td>Nov 10</td>
<td>Group project presentations.</td>
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<td>Nutritional support for aged or debilitated horses.</td>
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<td>Nov 22</td>
<td><strong>EXAM 2</strong></td>
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<td>Nov 24-27</td>
<td>Thanksgiving Break — No class</td>
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<td>Equine nutritional consulting.</td>
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<td>Dec 2</td>
<td>Case study presentations.</td>
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<td>Dec 6</td>
<td>Case study presentations.</td>
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<td>Dec 15</td>
<td><strong>FINAL EXAM Thursday, Dec 15, 1:00–3:00 pm.</strong></td>
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