

**Nutritional Management
Animal Science 4100/5100
Fall 2011**

Instructor: **Dr. Allison Meyer**
Office: 123C, Animal Science
Phone: 766-5173
E-mail: ameyer6@uwyo.edu

Office Hours: **Mon: 11 am – 12 pm**
Wed: 3 pm – 4 pm
Or by appointment

Students are encouraged to seek assistance from the instructor at any time via email, phone call, or stopping by the office.

Meeting Times: **Lecture: Mon & Wed at 10-10:50 am (Animal Science 104)**
Lab: Wed at 1:10-3 pm (Animal Science 104, or TBA)

5100 Journal Club: TBD

Course Objective: ***The goal of this course is to teach students to integrate basic concepts of animal nutrition and production to make informed management decisions.***

Course Description: This course integrates and applies the principles of nutrition in animal production while addressing nutrient requirements of various classes of animals, feed composition and nutritional value, and feeding management strategies for livestock. Additionally, practical experience in ration balancing and evaluation, nutrient analyses, and nutritional management decision making will be gained in the laboratory section. ***(Prerequisite: ANSC 3100)***

Course Materials: ***WyoWeb and e-mail will be used to distribute some course materials. Students are expected to check these regularly during the semester.**

A textbook is not required for this course, but many materials will be handed out in class or available online. Suggested text for better understanding (all are available in the Coe Library, and some full texts are available online):

Livestock Feeds and Feeding, by R. O. Kellems and D. C. Church (Prentice Hall)

Animal Nutrition, by P. McDonald, et al. (Benjamin Cummings Publishing)

The Ruminant Animal: Digestive Physiology and Nutrition, edited by D. C. Church (Waveland Press)

Nutrient Requirements of Beef Cattle, National Research Council (2000)

Nutrient Requirements of Dairy Cattle, National Research Council (2001)

Nutrient Requirements of Small Ruminants, National Research Council (2007)

Nutrient Requirements of Horses, National Research Council (2007)

Nutrient Requirements of Swine, National Research Council (1998)

Nutrient Requirements of Poultry, National Research Council (1994)

Overall Grading:

Grade opportunity	Number	Points (each)	Point total
Quizzes	5	50	250
Exams	2	150	300
Lab Problem Sets	10	25	250
Management Plan	1	150	150
Lecture Participation	TBD	TBD	50
		TOTAL	1000

5100 only: You have an additional 200 point assignment (Participating in journal club and presenting a journal article). Thus, your point total for the semester is 1200.

Quizzes:

Four quizzes will be given in lecture, and 1 quiz (feedstuff identification) will be given in lab. These will be given at the beginning of class and will take approximately 20-25 minutes. Lecture quizzes will be predominantly short answer, and will cover lecture and lab material since the previous quiz or exam.

Lecture Quizzes: Monday, September 12
Wednesday, September 28
Wednesday, October 26
Monday, November 14

Feedstuff ID Quiz: Wednesday, September 14 (Lab)

Exams:

Two exams will be given during the semester. Each will cover approximately ½ of the course material in both lecture and lab. The 2nd exam will be during Finals week, but will NOT be cumulative. Exams will be predominately short answer, calculations, and essays.

Exam 1: Monday, October 10 (Lecture)
Exam 2: Monday, December 5 (10:15 am - 12:15 pm)

Lab Problem Sets:

Ten lab problem sets or assignments will be given throughout the semester. There will often be time at the end of lab to work on these. These will be due at the BEGINNING of the following week's lab, unless otherwise specified.

Management Plan:

Each student will complete a Nutritional Management Plan for a species of their choice during the semester. This will be detailed in another handout and discussed more in class.

Final Management Plan Due: Monday, November 21 in lecture.

Lecture Participation:

During lectures, 50 total points of in-class assignments, group work, or attendance will be given.

5100 only:

Journal Club:

Graduate students will be expected to participate in weekly journal clubs throughout the semester. Each person will present 2 papers during the semester. Some weeks may be cancelled due to other conflicts.

Article Presentation:

Graduate students will each give a 12-15 minute presentation to the entire class during the last lab meeting. The topic will be one of the papers that student presented in journal club, and the format will be similar to that at a scientific meeting.

Grading Scale:

Grade Scale	Percent	Points (4100)
A	90% and above	≥ 900
B	80 to 89.9%	800 to 899
C	70 to 79.9%	700 to 799
D	60 to 69.9%	600 to 699
F	59.9% and below	≤ 599

Late Assignments:

A 25% deduction will be taken off for each day that an assignment is late, beginning immediately after it is due.

Attendance:

Attendance of lectures and labs are necessary to best understand class material. Students are encouraged to attend unless an absence is absolutely necessary.

Make-up Policy:

Quizzes and exams may be made-up ONLY if the absence is excused by the instructor. Alternate versions of quizzes and exams may be used for make-ups. Examples of excused absences include University-sponsored events (e.g. judging team) and extreme illnesses (with doctor's note). The instructor should be notified of all absences involving a quiz or exam (unless an emergency) **BEFORE** they occur (at least 1 week for pre-planned absences). **Quizzes or exams without an excused absence will result in 0 points for that grade.**

Students are responsible for all lab material and assignments during absences. After a lab absence, students should make an appointment to see the instructor for the problem set or other materials from that day. Problem set due dates will not be changed because of absences, except in extreme cases. Again, the instructor should be notified of all absences (unless an emergency) **BEFORE** they occur.

Technology Policy:

All cell phones should be silent and out of your hands during class. No distracting technology use (texting, checking email or Facebook, etc.) is permitted.

Disability Statement: If you have a physical, sensory, cognitive, or psychological disability and require accommodations, please let the instructor know as soon as possible. You will need to register with, and provide documentation of your disability to, University Disability Support Services (UDSS) in SEO Room 109 or 330 Knight Hall.

Academic Dishonesty: Students may be encouraged to work together on laboratory assignments or lecture discussion work, but all students are expected to turn in their own work. **ANY form of dishonesty or misrepresentation (e.g. cheating, plagiarism, fraud) is unacceptable and will result in 0 points for that grade.** Students who practice academic dishonesty will be dealt with according to UW regulations.

Academic Dishonesty is defined as “An action attempted or performed that misrepresents one’s involvement in an academic endeavor in any way, or assists another student in misrepresenting his or her involvement in an academic endeavor.” Examples: plagiarism, cheating, fraud, violation of standards, multiple submissions, interference or obstruction, and complicity.

See UW Regulation 6-802 for details:

http://www.uwyo.edu/generalcounsel/_files/docs/UW-Reg-6-802.pdf

Tentative Lecture Outline:

- Overview of nutritional management
 - Review of nutrient classes
 - The gastrointestinal tract and nutrient digestion
- Energy feeds
 - Feed carbohydrates
 - Feed lipids
 - Energetics
 - Energy utilization
 - Ruminant energy metabolism
- Protein feeds
 - Feed protein fractions
 - Protein utilization and evaluation
 - Ruminant protein metabolism
- Nutrient requirements
 - Physiological stages
 - Energy requirements
 - Body energy reserves
 - Protein requirements
 - Vitamins and minerals
- Management for production
 - Growth
 - Reproduction
 - Gestation
 - Lactation
 - Neonate
- Nutritional management
 - Beef cow-calf
 - Ewe flock
 - Range management/Grazing systems
 - Feedlot
 - Dairy cattle
 - Equine
 - Swine
 - Nutrient management
- Careers in the feed industry

Lab Schedule: This will be distributed during the first lab meeting.