

ANSI 3653
Applied Animal Nutrition
Spring 2009
Course Syllabus

Class Meeting: Lecture – Monday and Wednesday (9:30 am - 10:20 am)

Classroom: AnSi 124

Lab Meeting: Lab Section 1: - Monday (1:30 pm - 3:20 pm)
Lab Section 2: - Monday (3:30 pm - 5:20 pm)
Lab Section 3: - Wednesday (1:30 pm – 3:20 pm)
Lab Section 4: - Wednesday (3:30 - 5:20 pm)

Lab Classroom: An Sci 126

Instructor: Dr. Bob Kropp
212 Animal Science
744-8868
bob.kropp@okstate.edu

Office hours: Please schedule appointments with my secretary

Secretary: Diana Bateson
212 Animal Science
744-6619

Graduate Teaching Assistant: Blake Wilson (M.S. Animal Nutrition)
207 4HYD (744-6618)
the.blake.wilson@okstate.edu

Supportive Courses:
A. Principles of Animal Nutrition, AnSi 3543

Course Objectives:

- A. To develop an understanding of the classification, composition, characteristics and nutritive value of commonly used feedstuffs and feed additives for various classes of livestock.
- B. To develop an understanding of the manufacturing, processing and labeling of feedstuffs and feed additives for various classes of livestock.
- C. To develop an understanding of the nutrient requirements for maintenance, gestation, lactation, growth and work as related to the various classes of livestock.
- D. To develop an understanding of the general principles of ration formulation and the economics of feeding livestock.
- E. Upon completion of the course, each student should be able to make sound, logical decisions as to the feeding recommendations for various classes of beef cattle, dairy cattle, sheep, goats, horses, swine and poultry based upon productive function.

Style/Mode of Teaching

- A. The class format will consist of classroom lecture and a weekly laboratory in the computer resource room (AnSi 126). The laboratory sessions will consist of various nutritional exercises and nutritional problems related to areas of livestock nutrition. There are many different alternatives that might be employed to satisfy nutritional problems faced by producers; however, meeting the nutrient requirements of the animals with minimal feed costs is important in any production program.

Grading

- A. **Exams:** There will be five exams administered during the Spring 2009 semester. **The exam average will constitute 60% of the final semester average. Exam questions will cover material discussed BOTH in lecture and laboratory.** If an exam is missed due to university activities, health or an excused absence with consent of instructor, a make-up exam will be scheduled by the instructor within six (6) days of the scheduled exam. These exams may be administered during evening hours to facilitate multiple students taking the exam at a common time.

Study Guide Questions: Study guide questions will be provided prior to each exam.

Example Tests: Example exams from a previous semester will be placed on the internet at www.ansi.okstate.edu. The exams are on the OSU Animal Science homepage under Course information, AnSi 3653.

- B. **Laboratory Exercises:** Each week in laboratory, a worksheet pertaining to nutritional problems will be provided. The worksheet will be discussed and the students will work on the worksheet during the laboratory session. An out-of-class exercise will be provided for grading purposes. **Monday lab exercises will be due in my office (212 Animal Science) by 5 pm on Wednesday. Wednesday lab exercises will be due in my office (212 Animal Science) by 5 pm on Friday. Exercises turned in late will receive a deduction of 20%. Exercises not turned in for grading by the next week's**

lab will receive a grade of 0 points, unless consent of instructor has been received. Lab exercises will have varying point totals, but a percentage grade will be calculated for recording purposes. A key will be posted on the bulletin boards in Animal Science 126 (Lab Room) for reviewing. Knowing how to work the problems will be important because the questions on each laboratory exercise will constitute the laboratory exams that will be administered during the semester. Computers will be employed on many of the exercises; therefore, an understanding of the computer programs and necessary calculations to solve feeding problems will be important. **The laboratory exercises will constitute 10% of the final semester average.**

SPECIAL NOTE: Always bring a calculator to lecture and laboratory. Cell phone calculators are not acceptable and may not be used in the class. The calculators on the computers in AnSi 126 are acceptable, but take extra time as compared to any inexpensive calculator on which you can add, subtract, multiply and divide.

C. Laboratory Exams: Three laboratory exams will be administered during the semester. The exams will consist of a summarization of the laboratory exercises as well as nutritional problems associated with beef cattle, sheep, goats, dairy cattle, horses, swine and poultry. Each exam will be administered during laboratory and will require computer usage. **The average of all lab exams will constitute 30% of the final semester average.**

D. Grading Summary:

Exams	- 60%
Laboratory exercises	- 10%
Lab Exams	- 30%

Grades will be assigned as follows:

A = 90% +
B = 80-89%
C = 70-79%
D = 60-69%
F = < 60%

SPECIAL NOTE: Any semester average less than 60% will earn a grade of "F". Do not assume a grade curve at the end of the semester!

Texts - Applied Animal Nutrition Manual
Student Union Bookstore or Hall of Fame Book Trader

Outline

I. Introduction

- A. Nutrients
- B. Estimating nutritional value of feeds

II. Feeds

- A. Feed laws and labeling
- B. Feed manufacturing terminology
- C. High Energy Feeds
 - 1. Cereal grains
 - 2. By-product feeds
 - 3. Fats and oils
- D. Forages
 - 1. Pasture and rangeland
 - 2. Hays
 - 3. Silage
 - 4. Crop residues
- E. Dry roughages
- F. Protein feeds
 - 1. Plant protein sources
 - 2. Millfeed protein sources
 - 3. Distillery and brewery by-products
 - 4. Animal protein sources
 - 5. Milk products
 - 6. Marine protein sources
 - 7. Non-protein nitrogen
- G. Minerals
- H. Vitamins
- I. Feed Additives

III. Beef Cattle Nutrition

IV. Sheep Nutrition

V. Goat Nutrition

VI. Dairy Cattle Nutrition

VII. Horse Nutrition

VIII. Swine Nutrition

IX. Poultry Nutrition

Semester Schedule

January 12

Lecture 1.
Monday Lab 1.

January 14

Lecture 2.
Wednesday Lab 1.

January 19

NO CLASS ---- UNIVERSITY HOLIDAY

January 20

Last day to add a class (non-restrictive)

**Last day to drop a course with no grade and no fees charges
for the course**

January 21

Lecture 3.
NO LABS

January 23

Last day to add a class (restrictive – instructor signature)

January 26

Lecture 4.
Monday Lab 2.

January 28

Lecture 5.
Wednesday Lab 2.

February 2

Lecture 6.
Monday Lab

February 4

Lecture 7.
Wednesday Lab

February 9

Lecture 8.
Monday Lab 3

LECTURE EXAM 1

February 11

Lecture 9.
Wednesday Lab 3

February 16

Lecture 10.
Monday Lab 4

February 18

Lecture 11.
Wednesday Lab 4

February 23

Lecture 12.
Monday Lab

Lab Exam 1 (Labs 1,2, 3)

February 25

Lecture 13.
Wednesday Lab

Lab Exam 1 (Labs 1,2,3)

March 2

Lecture 14.
Monday Lab 5

March 4

Lecture 15.
Wednesday Lab 5

LECTURE EXAM 2

March 9

Lecture 16.
Monday Lab 6

March 11

Lecture 17.
Wednesday Lab 6

March 16

SPRING BREAK

March 18

SPRING BREAK

March 23

Lecture 18.
Monday Lab 7

March 25

Lecture 19.
Wednesday Lab 7

March 30

Lecture 20.
Monday Lab 8

LECTURE EXAM 3

April 1

Lecture 21.
Wednesday Lab 8

April 6

Lecture 22.
Monday Lab

Lab Exam 2 (Labs 4, 5, 6, 7)

April 8

Lecture 23.
Wednesday Lab 8

Lab Exam 2 (Labs 4, 5, 6, 7)

April 10

Last day to drop a class with an automatic “W” grade

Last day to withdraw from the university with automatic “W” grades

April 13

Lecture 24.
Monday Lab 9

April 15

Lecture 25
Wednesday Lab 9

LECTURE EXAM 4

April 20

Lecture 26.
Monday Lab 10

April 22

Lecture 27.
Wednesday Lab 10

April 27

Lecture 28.
Monday Lab

Lab Exam 3 (Labs 8, 9, 10, 11)

April 29

Lecture 29.
Wednesday Lab

Lab Exam 3 (Labs 8, 9, 10, 11)

Monday, May 4

LECTURE EXAM 5 (8am)