

RC
Ralph Loya
Office Hours:

Office: AG 5
Phone: 638-3641, Ext. 3268
M 11:00 a.m. & T, Th 10:00 a.m.

COURSE INFORMATION

COURSE TITLE & NUMBER: AS 5 - Animal Nutrition

UNITS & HOURS: 3 units; 3 lecture hours per week
T, Th 8:00 - 9:15 a.m.

CATALOG DESCRIPTION & GUIDANCE INFORMATION: A thorough background of livestock feeding in the U.S., localizing in California. The chemical composition and nutritive value of feeds, their digestion, absorption, and function. Determination of an animal's needs and how to fulfill those needs with a low cost, balanced ration for beef, sheep, swine, and horses.

An animal science course for terminal and transfer students. This course is equivalent to AS 102 at Cal Poly, SLO, An Sci 70 at CSUF, and An Sc 011 at CSUC.

TEXTBOOK: Animal Feeding & Nutrition, Eighth Edition, Jurgens, Marshall H., Kendall/Hunt Publishers

COURSE GOALS/OBJECTIVES: The student will learn:

- The anatomy and physiology of the digestive tract of ruminants and non-ruminants.
- To identify the common livestock feeds used in this area.
- The nutritional requirements of different classes and ages of livestock.
- How feedstuffs are digested and absorbed.
- To balance a ration that will meet the nutritional needs of a particular class and age of livestock.
- Determine the relationship between the economics of feed selection and feed evaluation.
- The common problems caused by improper/poor nutrition.

CLASS REQUIREMENTS: Take lecture notes, maintain good attendance, take all tests, and hand in all homework/assignments.

ATTENDANCE:

- Attendance is required since most of the learning occurs in a lecture/laboratory situation.
- Students are responsible for obtaining notes/information missed due to an absence from the instructor.
- Please notify the instructor if you know in advance that you will be absent from class.
- College policy dictates that a instructor should drop a student with two consecutive weeks of unexcused absences.
- At the end of the 9th weeks of instruction, no withdrawals are permitted and the student must receive a letter grade for the class. **Friday, March 10, 2000.**

POLICY ON CHEATING & PLAGIARISM:

In keeping with the philosophy that students are entitle to the best education available, and in compliance with Board Policy 5410, each student is expected to exert an entirely honest effort toward attaining an education. Violations of this policy will result in disqualification for the course.

METHODS FOR MEASURING STUDENT ACHIEVEMENT

- Writing Assignments
Reading Reports, Written Homework, Feed Identification & Sample Notebook
- Computational Problem-solving
Homework Problems, Field Work, Exams
- Skill Demonstrations
Class Performance, Field & Lab Work (25 pts./each)
- Examinations
Multiple Choice, True/False, Matching, Essay
- Grades are determined through a numerical point system, approximately:
A = 90-100%, B = 80-89%, C = 70-79%, D = 60-69%, F = under 59%
Final grade for the course will be based on lecture, lab, and final exam grade.
- Tutorial assistance is available at the Learning Skills Center located in the HUM building.

FINAL EXAM: **Thursday, May 18, 8:00 -10:00 a.m.**

TOPICS:

- Introduction to Animal Nutrition
 - Scope and importance of livestock feeding in today's agriculture industry.
 - Understanding of principles of animal nutrition.
 - Application of nutritional principles for more profitable feeding.
 - Occupations that relate to the livestock feeding industry.
- Digestion in Animals
 - Digestive systems.
 - Non-ruminant and ruminant digestive systems.
 - Absorption of nutrients.
 - Metabolism.
 - Nutrient transport.
- Energy Nutrients and their Function
 - Terms associated with energy.
 - Sources of energy nutrients.
 - Symptoms of deficiencies of energy in the ration.
 - Functions of carbohydrates, fats, and oils.
- Protein Nutrition
 - Sources of protein.
 - Function of protein.
 - Symptoms of protein deficiency.
 - Non-protein nitrogen sources.
- Minerals in Animal Nutrition
 - Required minerals.
 - Sources of minerals.
 - Functions of minerals.
 - Symptoms of mineral deficiency.
- Vitamins, Feed Additives, and Water
 - Sources & functions of vitamins.
 - Sources & functions of feed additives.
 - Requirements of vitamins, feed additives, and water in the ration.
 - Vitamin deficiency symptoms.
- Classification and Use of Feeds
 - Kinds of roughages.
 - Kinds of Concentrates.
 - Uses of feed in an animal's body.
- Feed Quality and Feed Analysis
 - Quality characteristics of grains and other feeds.
 - Methods of harvesting quality hay & silage.
 - Analysis of feedstuff.
 - Methods of measuring value of feed.
 - Feed regulations.
- Rations: Selecting, Balancing, and Mixing
 - Principles for formulating rations.
 - Economics of ration selection.
 - Principles for balancing rations.
 - Use of equations to balance a ration.
 - Methods of feed preparation and storage of feed.
- Feeding Beef Cattle
- Feeding Swine
- Feeding Sheep
- Feeding Horses
- Mycotoxins