
ANS 3440 – 0259
PRINCIPLES OF ANIMAL NUTRITION
Monday – Thursday, Period 2: 8:30 – 9:20 AM
Rm. 0186 McCarty Hall

Instructor: Dr. Lokenga Badinga
Emeritus Associate Professor of Animal Sciences, UF
Adjunct Professor of Biology at Santa Fe College
lbadinga@ufl.edu

COURSE TEXTBOOK: NONE REQUIRED.

OPTIONAL TEXT: “*Feeds and Feeding*”, 5th Edition, TW Perry, AE Cullison & RS Lowrey. Prentice-Hall, Inc. Upper Saddle River, New Jersey 07458

CATALOG DESCRIPTION: Credits: 4; Prerequisites: CHM 2045 and CHM 2045L

The nutrients required by animals, their functions, interrelationships and the processes of their utilization; feedstuff composition and their use in diet formulation. This course will be taught as an introduction to animal nutrition with emphasis placed on both non-ruminant and ruminant species.

LEARNING OBJECTIVES:

Upon completing this course, undergraduate students should be able to:

1. Discuss historical perspective and define the major terminologies used in animal nutrition.
2. Compare and contrast the functional anatomy of gastrointestinal systems of ruminant and non-ruminant species.
3. Understand various enzymatic and metabolic processes involved in nutrient digestion and assimilation.
4. Discuss the chemical composition and biological value of feed ingredients.
5. Understand how animal diets are formulated to meet the requirements for maintenance and production.
6. Discuss the problems associated with processing and storing animal feeds.
7. Understand the importance of heat stress and water in animal nutrition.

GRADES AND GRADE POINTS

Grading scale will be as follows:

**A = 93-100 A⁻ = 90-92.9 B⁺ = 87-89.9 B = 84-86.9 B⁻ = 81-83.9 C⁺ = 78-80.9
C = 75-77.9 C⁻ = 72-74.9 D⁺ = 69-71.9 D = 65-68.9 **E < 65****

The final grade will be computed as follows:

	<u>Points</u>
Exam # 1	100
Exam # 2	100
Final Exam (COMPREHENSIVE)	150
Quizzes; 10 @ 10 pts. each	100
Nutrition math: 10 @ 10 pts. each	100

Extra Credit – 4 attendances @ 5 pts. Each - Maximum of 20 points.

NOTE: ALL EXAMS AND QUIZZES ARE TO BE TAKEN AT THEIR SCHEDULED TIMES. GRADE ASSIGNMENTS FOR EXCUSED ABSENCES WILL BE DISCUSSED WITH THE INSTRUCTOR.

AMERICANS WITH DISABILITY ACT

In compliance with UF policy and State and Federal laws, if you are a student with a disability, I can discuss appropriate academic accommodations that you may need. Requests for academic accommodations must be made during the first week of the semester, so that proper arrangements can be made. You must also register with the Disability Resource Center (**DRC**) for an official determination of reasonable academic accommodations.

ABSENCES AND MAKE-UP WORK

Class attendance is mandatory. Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

ONLINE COURSE EVALUATION PROCESS

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students will be expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations will be conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at the end of the semester at <https://evaluations.ufl.edu/results>.

ACADEMIC HONESTY

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."* You are expected to exhibit behavior consistent with this commitment to the UF academic community, and 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."*

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates 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. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/SCCR/honorcodes/honorcode.php>.

SOFTWARE USE:

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

TENTATIVE LECTURE OUTLINE

CLASS PERIOD 2

TOPIC

WEEK 1 (Aug 21-24, 2017)

1. Course Organization and Learning Objectives
2. Nutrition History and Definitions
3. Nutrition History and Definitions
4. Enzymes and Hormones

WEEK 2 (Aug 28 – 31, 2017)

1. Enzymes and Hormones
2. Anatomy of digestive systems
3. Anatomy of digestive systems
4. ***Nutrition Math #1 and Quiz #1***

WEEK 3 (Sep 4 – 7, 2017)

1. ***HOLYDAY (Sep 4, 2017)***
2. Feed classification and analysis

3. Feed classification and analysis
 4. **Nutrition Math #2 and Quiz #2**
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WEEK 4 (Sep 11 – 14, 2017)

1. Feed digestibility
 2. Feed Digestibility
 3. Energy utilization
 4. **Nutrition Math #3 and Quiz #3**
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WEEK 5 (Sep 18 – 21, 2017)

1. Carbohydrate Nutrition
 2. Carbohydrate Nutrition
 3. Carbohydrate Nutrition
 4. **Hourly Exam #1 (Sep 21, 2017)**
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WEEK 6 (Sep 25 – 28, 2017)

1. Lipid Nutrition
 2. Lipid Nutrition
 3. Lipid Nutrition
 4. **Nutrition Math #4 and Quiz #4**
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WEEK 7 (Oct 2– 5, 2017)

1. Protein Nutrition
 2. Protein Nutrition
 3. Protein Nutrition
 4. **Nutrition Math #5 and Quiz #5**
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WEEK 8 (Oct 9 – 12, 2017)

1. Forages and silages
 2. Forages and silages
 3. Forages and silages
 4. **Nutrition Math #6 and Quiz #6**
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WEEK 9 (Oct 16 – Oct 19, 2017)

1. Pastures
 2. Pastures
 3. Energy Feeds
 4. **HOURLY EXAM #2 (Oct 19, 2017)**
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WEEK 10 (Oct 23 - 26, 2017)

1. Diet Formulation
2. Diet Formulation
3. Diet Formulation
4. **Nutrition Math #7 and Quiz #7**

WEEK 11 (Oct 30 – Nov 2, 2017)

1. Balancing swine diets
2. Balancing dairy cattle diets
3. Balancing horse diets
4. **Nutrition Math #8 and Quiz #8**

WEEK 12 (Nov 6 – 9, 2017)

1. Mineral Nutrition
2. Mineral Nutrition
3. Mineral Nutrition
4. **Nutrition Math #9 and Quiz #9**

WEEK 13 (Nov 13 - 16, 2017)

1. Vitamin Nutrition
2. Vitamin Nutrition
3. Vitamin Nutrition
4. **Nutrition Math #10 and Quiz #10**

WEEK 14 (Nov 20 – 23, 2017)

1. Feed additives and Requirements
2. Feed storage and processing
3. **HOLIDAY (Thanksgiving: Nov 22, 2017)**
4. **HOLIDAY (Thanksgiving: Nov 23, 2017)**

WEEK 15 (Nov 27 – 30, 2017)

1. Feed storage and processing
2. Water in animal nutrition
3. Heat stress in animal nutrition
4. **Nutrition Math #11 and Quiz #11**

WEEK 16 (Dec 4 – 6, 2017)

1. **Course evaluation**
2. **Office hours 8:30-9:00 AM**
3. **Office hours 8:30-9:00 AM**

FINAL EXAM: WEDNESDAY, DECEMBER 13, 2017: 7:30 – 9:30 AM, McCarty 0186