

ANS 3404C
Food Animal Nutrition and Feeding (Section 07H4)
Spring, 2019

Course Description: 3 credits; Prerequisite = ANS 3440 Principles of Nutrition. This course is a basic nutrition course designed to familiarize students with the common feedstuffs used in cattle diets, the broad management practices used and nutrient requirements of cattle at specific stages of growth, production and reproduction, and how scientific methods and experimental results are applied to animal feeding practices.

Course Learning Objectives:

Upon completing this course, students should be able to do the following:

1. Identify and describe the characteristics of commonly used feed ingredients for cattle diets.
2. Discuss the impact of how feed processing affects nutrient utilization by cattle.
3. Read and interpret feed tags and laboratory analyses of diet/feed ingredients.
4. Describe the general changes in nutrient requirements that occur throughout the life-cycle of beef cattle and dairy cattle.
5. Calculate and formulate concentrations & amounts of nutrients in rations and feed mixes.
6. Formulate basic beef cattle and dairy cattle rations using mathematical formulas / computer software.

Faculty Instructor

Dr. Diwakar Vyas
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Animal Sciences Building
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Teaching Assistants

Benjamin Saylor; E-mail: b.saylor@ufl.edu office hours on Tuesdays and Thursdays from 11:45 to 1:40 p.m. in “Red” Larson Dairy Science building, Room 222.

Evan Diepersloot; E-mail: cdiepersloot@ufl.edu office hours of Mondays 10:40 a.m. to 12:35 p.m. and Wednesdays 7:30 to 9:30 a.m. in “Red” Larson Dairy Science building, Room 204F.

Schedule and Critical Dates:

Lecture: Tuesday, Periods 1 and 2 (7:25-9:20 am), Thursday, Period 1 (7:25-8:15 am), Room 151

Lab: Thursday, Periods 2-3 (8:30 - 10:25 am), Room 151; Room 201 Red Larson building for rations

Weekly topics and critical dates are presented in table starting on page 5 of the syllabus.

Required Textbook: None. Required reading assignments may be given during the semester.

Grading:

For information on current UF policies for assigning grade points, see

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

ALL EXAMS ARE TO BE TAKEN AT THE SCHEDULED TIMES. MAKE-UPS WILL BE GIVEN ONLY FOR PRIOR EXCUSED ABSENCES.

%	Points	Grade	Item	Points	Dates / Time
92	736	A	Quizzes	100	Six 20-pt announced quizzes ¹
89	712	A-	First Exam	150	Thursday, February 8
86	688	B+	Second Exam	150	Tuesday, March 22
83	664	B	Third Exam	150	Tuesday, May 1 (5:30 to 7:30 pm)
80	640	B-	Lab exercises	250	12 Weekly (25 points each) ²
77	616	C+			^{1,2} Drop lowest quiz and 2 lowest exercises
74	592	C	Total	800	
71	568	C-	Clicker	30-35	Up to 35 bonus points will be offered by correctly answering clicker questions during lecture.
68	544	D+			
65	520	D			
< 65	< 520	E			
The above grades, based on the percentage of total points (800), will be guaranteed.					

Quizzes and Exams (550 pts):

A total of six 20-point quizzes will be announced and given throughout the semester (see lecture and lab schedule at the end of the syllabus). Since quizzes are announced and you will be allowed to drop your single lowest quiz score, NO MAKE-UPS will be allowed unless one is involved in an out-of-town UF sponsored trip. QUIZZES = 100 pts. (12.5% of the total points).

The 3 exams are each worth 150 points, and you will be given up to 2 hours to complete the exams. Questions on the exams will come from both lecture and lab assignments. EXAMS = 450 pts. (56.25% of the total points).

You should notify Dr. Vyas of any questions regarding the grading of a quiz, exercise or exam within one week of its return to you. Later challenges will not be considered.

Lab Assignments (250 pts):

Problem sets (n = 12) related to feeding and diets are worth 25 points each. The two lowest scores will not count toward the final point total of the semester. For some weeks, students are to independently watch on-line instructional videos (learning@ufl.edu Canvas; ANS 3404C 'Modules'; you must use INTERNET EXPLORER to access the videos) explaining the principles and methods to use in solving the problem sets prior to the scheduled lab period on Thursdays. Students are encouraged to complete the problem sets prior to the Thursday lab. Students can receive personal help during established office hours and during lab time with any particular problems that were not solved independently prior to class. Students who have completed the assigned problem set prior to Thursday's lab will not need to stay for the whole lab period. The hands-on lab exercises are due at the end of the lab period each Thursday unless otherwise indicated. Three points will be deducted for each day that the assignment is turned in late without an excused absence. Lab exercises will not be accepted after the material has been discussed and posted for class review. LAB EXERCISES = 250 points (31.25% of the total points).

Clicker responses (up to 35 points)

Providing a correct answer to each clicker question during a lecture/lab session will result in 1 point per correct answer for extra credit.

Attendance and Make-Up Work

Attendance will not be taken. 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>.

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.

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 are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are 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 <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/process/student-conduct-honor-code>.

Services for Students with Disabilities

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation

0001 Reid Hall, 352-392-8565, www.dso.ufl.edu/drc/

Campus Helping Resources

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu/cwc/*
 - Counseling Services
 - Groups and Workshops
 - Outreach and Consultation
 - Self-Help Library
 - Wellness Coaching
- *Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/*
- *U Matter We Care, www.umatter.ufl.edu/*

ANS 3404C - Lecture and Lab Schedule 2019

*Quiz Date

DATE	TOPICS/ACTIVITIES/ASSIGNMENTS
1/08 Tues	<p>Course Syllabus</p> <p>Clicker training</p> <p>Lecture Topic 1. Proximate Analysis & Detergent System Method of Forage Composition</p> <p>Assignments to be completed BEFORE coming to Thursday's lab, January 10:</p> <ul style="list-style-type: none"> • Download from Canvas and complete problem set #1: Dry Matter and as-fed interconversions; Calculations of nutrient density; English/Metric Conversions • Watch 3 videos at Canvas in order to solve problem set #1, due January 15 • Print out PowerPoint slides for lecture on Thursday (Jan 10) if taking notes by hand • Print in-class exercise on Feed Sampling Techniques to be brought to lab on January 10, completed in lab, and turned in at the end of lab, January 10
1/10 Thurs	<p>Lab 1. Hands-on Feed Sampling Techniques: Hay Bales, Silage, and Grain Probes</p> <p>Lecture Topic 2. Feed sampling techniques</p> <p>Assignments due today:</p> <ul style="list-style-type: none"> • In-class exercise on Feed Sampling Techniques <p>Assignments for next week:</p> <ul style="list-style-type: none"> • Print out PowerPoint slides for lecture on Tuesday (Topic 3) if taking notes by hand • Print out and solve problem set #2 (Feed Storage Capacities) due on January 17
1/15 Tues	<p>Lecture Topic 3. Commonly Used Energy Concentrates and their Byproducts: Characteristics, Processing, and Feeding Recommendations</p> <p>Assignments due today:</p> <ul style="list-style-type: none"> • Problem set #1 - Dry Matter and as-fed interconversions; Calculations of nutrient density; English/Metric Conversions <p>Assignments:</p> <ul style="list-style-type: none"> • Study for Quiz 1 to be given at the beginning of class on January 17 • Begin learning to identify 16 energy concentrate feeds
1/17* Thurs	<p>Lab 2. Calculating Capacity of Feed Storage Units: Grain Bins, Silos, Piles, & RR Cars</p> <p>Assignments due today:</p> <ul style="list-style-type: none"> • Problem set #2 (Feed Storage Capacities) that includes the in-class exercise on grain bin storage capacities <p>Assignments:</p> <ul style="list-style-type: none"> • Continue learning to identify 16 energy concentrate feeds • Print out PowerPoint slides for lecture on Tuesday (Topic 4) if taking notes by hand • Print out and solve problem set #3 due on January 24
DATE	TOPICS/ACTIVITIES/ASSIGNMENTS
1/22 Tues	<p>Lecture Topic 4. Commonly Used Protein & Nitrogenous Feeds: Characteristics, Processing, and Feeding Recommendations</p> <p>Assignments due today:</p> <ul style="list-style-type: none"> • NONE <p>Assignments:</p>

	<ul style="list-style-type: none"> • Begin learning to identify 12 protein concentrate feeds & 4 high fiber byproducts
1/24 Thurs	<p>Lab 3. Determining Relative Corn Index and Simple Ration Formulations</p> <p>Assignments due today:</p> <ul style="list-style-type: none"> • Problem Set #3 and in-class Relative Corn Index exercise. <p>Assignments:</p> <ul style="list-style-type: none"> • Continue to learn to identify the energy and protein concentrates & fiber byproducts • Print out PowerPoint slides for lecture on Tuesday (Lecture Topic 5 - Minerals) if taking notes by hand
1/29 Tues	<p>Lecture Topic 5. Macro- and Micro-minerals Supplement Sources for Cattle</p> <p>Assignments due today:</p> <ul style="list-style-type: none"> • NONE <p>Assignments:</p> <ul style="list-style-type: none"> • Count out corn kernels & incubate in acid solution for Corn Wet-Milling Lab • Study for Quiz 2 (Feed ID) to be given at the beginning of class on January 31
1/31* Thurs	<p>Lab 4. Hands-on Corn Wet-Milling Lab</p> <p>Assignments due today:</p> <ul style="list-style-type: none"> • None <p>Assignments:</p> <ul style="list-style-type: none"> • Study for Exam 1 including feed ID on February 7.
2/05 Tues	<p>Complete and turn in corn wet-milling exercise.</p> <p>Class dismissed to attend Ruminant Nutrition Symposium at Gateway Grand Hotel, G'ville</p>
2/07 Thurs	<p>EXAM 1.</p>
2/12 Tues	<p>Lecture Topic 6. Feeding the newborn dairy calf – liquid and dry feeds</p> <p>Assignments due today:</p> <ul style="list-style-type: none"> • None <p>Assignments:</p> <ul style="list-style-type: none"> • Download the Dairy NRC software to your PC. Sorry, but not compatible with Mac
2/14 Thurs	<p>Lab 5. Feeding the newborn dairy calf – NRC software</p> <p>Assignments due today:</p> <ul style="list-style-type: none"> • Feeding the newborn dairy calf – NRC software <p>Assignments:</p> <ul style="list-style-type: none"> • Print out PowerPoint slides for lecture on Tuesday (Lecture Topic 7) if taking notes by hand
2/19 Tues	<p>Lecture Topic 7. Feeding the replacement dairy heifer</p> <p>Assignments due today:</p> <ul style="list-style-type: none"> • None <p>Assignments:</p> <ul style="list-style-type: none"> • Optional: Snap-Shot Assessment of Heifer Growth Rates • Study for Quiz 3 to be given at the beginning of class on February 21
2/21* Thurs	<p>Lab 6. Feeding the replacement dairy heifer, NRC software</p> <p>Assignments due today:</p> <ul style="list-style-type: none"> • Feeding the replacement dairy heifer, NRC software <p>Assignments:</p>

	<ul style="list-style-type: none"> • Print out PowerPoint slides for lecture on Tuesday (Lecture Topic 8) if taking notes by hand
2/26 Tues	<p>Lecture Topic 8. Feeding the transition dairy cow</p> <p>Assignments due today:</p> <ul style="list-style-type: none"> • None <p>Assignments:</p> <ul style="list-style-type: none"> • None
2/28 Thurs	<p>Lab 7. Feeding the transition dairy cow –NRC software</p> <p>Assignments due today:</p> <ul style="list-style-type: none"> • Feeding the transition dairy cow –NRC software <p>Assignments:</p> <ul style="list-style-type: none"> • Print out PowerPoint slides for lecture on Tuesday (Lecture Topic 9) if taking notes by hand
3/04-08	SPRING BREAK
3/12 Tues	<p>Lecture Topic 9. Feeding the lactating dairy cow</p> <p>Assignments due today:</p> <ul style="list-style-type: none"> • None <p>Assignments:</p> <ul style="list-style-type: none"> • Study for Quiz 4 to be given at the beginning of class on March 14
3/14* Thurs	<p>Lab 8. Feeding the lactating dairy cow – NRC software</p> <p>Assignments due today:</p> <ul style="list-style-type: none"> • Feeding the lactating dairy cow –NRC software <p>Assignments:</p> <ul style="list-style-type: none"> • Print out PowerPoint slides for lecture on Tuesday (Lecture Topic 10) if taking notes by hand • Study for Exam 2 to be given at the beginning of class on March 22
3/19 Tues	<p>Lecture Topic 10. Labeling and Interpretation of Commercial Feed Tags.</p> <p>Assignments due today:</p> <ul style="list-style-type: none"> • None <p>Assignments:</p> <ul style="list-style-type: none"> • Take-home assignment of ration formulations. Due at beginning of class on March 28. • Study for Exam 2 to be given at the beginning of class on March 22
3/21 Thurs	EXAM 2. Feeding the dairy animal
3/26 Tues	Feeding the Beef Breeding Herd – Mature Cows
3/28 Thurs	Lab 9. Mature Cows continued. Nutrient Requirements and Feeding Management
DATE	TOPICS/ACTIVITIES/ASSIGNMENTS
4/02 Tues	Feeding the Beef Breeding Herd – Replacements
4/04* Thurs	Lab 10. Feeding the Beef Breeding Herd – Heifer and Bull Development. Nutrient Requirements and Feeding Management
4/9	Stocker and Feedlot Nutrition

Tues	
4/11 Thurs	Lab 11. Stocker and Feedlot Nutrition continued Nutrient Requirements and Feeding Management Digestive Disorders
4/16 Tues	Forages & Forage Evaluation Collection of Representative Forage Samples (review) Detergent Method of Forage Evaluation (review)
4/18* Thurs	Lab 12. Forages & Forage Evaluation Identification & Composition Harvest, Processing, and Storage Pricing & Utilization
4/23 Tues	Selected rations
4/30 Tues	EXAM 3