

# **ANS 3404C**

## **Food Animal Nutrition and Feeding**

### **Spring, 2026**

**Course Description:** 4 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 and pig diets, the broad management practices used and nutrient requirements of cattle and pigs at specific stages of growth, production and reproduction, and how scientific methods and experimental results are applied to animal feeding practices.

#### **Course 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 livestock diets.
2. Discuss the impact of how feed processing affects nutrient utilization by livestock.
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, dairy cattle, and pigs.
5. Calculate and formulate concentrations & amounts of nutrients in rations and feed mixes.
6. Formulate basic beef cattle, dairy cattle, and pig rations using mathematical formulas / computer software.

#### **Faculty Instructor**

Dr. Diwakar Vyas  
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#### **Teaching Assistants**

1. Noelia Alfaro Diaz: [n.alfarodiaz@ufl.edu](mailto:n.alfarodiaz@ufl.edu)
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#### **Schedule and Critical Dates:**

- Lecture: Tuesday, Periods 1 and 2 (7:25-9:20 am), Room 151
- Lecture: Thursday, Period 1 (7:25-8:15 am), Room 151
- Lab: Thursday, Periods 2-3 (8:30 - 10:25 am), Room 151

**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.**

%	Grade	Item	Points	Dates / Time
>92.0	A	Quizzes	100	Six 20-pt announced quizzes <sup>1</sup>
89.0-91.9	A-	First Exam	150	Thursday, February 12
86.0-88.9	B+	Second Exam	150	Thursday, March 12
83.0-85.9	B	Third Exam	150	Tuesday, April 21
		Final Exam	150	Tuesday, April 28 <sup>2</sup>
80.0-82.9	B-	Lab exercises	250	11 Weekly (25 points each) <sup>3</sup>
77.0-79.9	C+			<sup>1</sup> Drop lowest quiz, <sup>2</sup> Drop lowest exam, and <sup>3</sup> Drop lowest lab exercise
74.0-76.9	C	Total	800	
71.0-73.9	C-	Clicker	30-35	Up to 35 bonus points will be offered by correctly answering clicker questions during lecture.
68.0-70.9	D+			
65.0-67.9	D			
< 65.0	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 4 exams are each worth 150 points, and you will be given up to 2 hours to complete the exams. Lowest exam will be dropped from final total. Questions on the exams will come from both lecture and lab assignments. EXAMS = 450 pts. (56.25% of the total points). **Exam 4 will be cumulative, and students satisfied with their score can skip the final and take it as their drop.**

You should notify Dr. Vyas of any questions regarding the grading of a quiz, exercise or exam within 90 days of its return to you. Later challenges will not be considered.

### ***Lab Assignments (250 pts):***

Problem sets ( $n = 11$ ) related to feeding and diets are worth 25 points each. One lowest score will not count toward the final point total of the semester. For some weeks, students are to independently watch on-line instructional 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 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. For students with excused absence, we will have make up session for every lab, if feasible. For some labs, we will visit livestock operations and we can't arrange make-up lab sessions. Assignment from these lab activities will not be graded and used for final grade calculation for students with 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 or paper notecard 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. We will use iClicker cloud for scoring these points. This can be installed on your phone and will be used both for online classes and lab sessions.

(<https://at.ufl.edu/service-teams/classrooms/classroom-technology/iclicker-response-system/>)

As an alternative to iClicker, we will use paper cards for participation and sign-in sheet at the beginning of each lab or lecture for attendance. We will also explore using short written reflection or response to a prompt at the end of each class, which will be collected and used for participation points.

### **Attendance and Make-Up Work**

Students are responsible for satisfying all academic objectives as defined by the instructor. Absences count from the first-class meeting.

Acceptable reasons for absence from or failure to engage in class include illness; Title IX-related situations; serious accidents or emergencies affecting the student, their roommates, or their family; special curricular requirements (e.g., judging trips, field trips, professional conferences); military obligation; severe weather conditions that prevent class participation; religious holidays; participation in official university activities (e.g., music performances, athletic competition, debate); and court-imposed legal obligations (e.g., jury duty or subpoena). Other reasons (e.g., a job interview or club activity) may be deemed acceptable if approved by the instructor.

For all planned absences, a student in a situation that allows an excused absence from a class, or any required class activity must inform the instructor as early as possible prior to the class. For all

unplanned absences because of accidents or emergency situations, students should contact their instructor as soon as conditions permit.

Students shall be permitted a reasonable amount of time to make up the material or activities covered during absence from class or inability to engage in class activities because of the reasons outlined above.

If a student does not participate in at least one of the first two class meetings of a course or laboratory in which they are registered, and they have not contacted the department to indicate their intent, the student can be dropped from the course. Students must not assume that they will be dropped, however. The department will notify students if they have been dropped from a course or laboratory.

Attendance and Make-Up Work 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/UGRD/academic-regulations/attendance-policies/>.

### **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. Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available

at: <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens and can complete evaluations through the email, they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluer.com/ufl/>. Summaries of course evaluation results are available to students at: <https://gatorevals.aa.ufl.edu/public-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>.

## **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.

## **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, <https://disability.ufl.edu/>

## **Campus Helping Resources**

Students experiencing crises or personal problems that interfere with their general wellbeing 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](http://www.counseling.ufl.edu)
  - Counseling Services
  - Groups and Workshops
  - Outreach and Consultation
  - Self-Help Library
  - Wellness Coaching
- U Matter We Care, [www.umatter.ufl.edu/](http://www.umatter.ufl.edu/)
- Career Connections Center, First Floor JWRU, 392-1601, <https://career.ufl.edu/>.
- Student Success Initiative, <http://studentsuccess.ufl.edu>.

Student Complaints:

- Residential Course: <https://sccr.dso.ufl.edu/policies/student-honor-code-studentconduct-code/>
- Online Course: <https://distance.ufl.edu/state-authorization-status/#student-complaint>

## ANS 3404C - Lecture and Lab Schedule 2026

	Lectures	Labs	Quizzes
1/13 Tue	Course Syllabus Introductions <b>Lecture Topic 1.</b> Productive Phases and Food Programs in Pig Farming		
1/15 Thurs	<b>Lecture Topic 1. Continued</b> Productive Phases and Food Programs in Pig Farming	<b>Lab 1. Ration formulation basics</b>	
1/20 Tue	<b>Lecture Topic 2.</b> Nutritional requirements for piglets, growing pigs, and fattening and finishing pigs		
1/22 Thu	<b>Lecture Topic 2.</b> Nutritional requirements for, growing pigs, and fattening and finishing pigs	<b>Lab 2. Swine management exercise</b>	<b>Quiz -1</b>
1/27 Tue	<b>Lecture Topic 3</b> Nutritional requirements gestating and lactating pigs.		
1/29 Thurs	<b>Lecture Topic 3</b> Nutritional requirements gestating and lactating pigs	<b>Lab 3. Ration formulation swine</b>	
2/3 Tue	<b>Lecture Topic 4.</b> Proximate Analysis & Detergent System Method of Forage Composition		
2/5 Thurs	<b>Lecture Topic 4.</b> Proximate Analysis & Detergent System Method of Forage Composition (Continued)	<b>Lab 4. Proximate analysis of corn silage (DM and Ash estimation, preparing silage extract, measuring pH)</b>	<b>Quiz-2</b>

2/10 Tue	<b>Lecture Topic 5.</b> Feed sampling techniques		
2/12 Thurs	<b>EXAM 1</b>		
2/17 Tue	<b>Lecture Topic 6.</b> Commonly Used Energy Concentrates and their Byproducts: Characteristics, Processing, and Feeding		
2/19 Thurs	<b>Lecture Topic 6</b> Commonly Used Energy Concentrates and their Byproducts: Characteristics, Processing, and Feeding	<b>Lab 5. Hands-on Feed Sampling Techniques: Hay Bales, Silage, and Grain Probes</b>	
2/24 Tue	<b>Lecture Topic 7.</b> Commonly Used Protein & Nitrogenous Feeds: Characteristics, Processing, and Feeding Recommendations		
2/26 Thurs	<b>Lecture Topic 7.</b> Commonly Used Protein & Nitrogenous Feeds: Characteristics, Processing, and Feeding Recommendations	<b>Lab 6. Determining in-situ digestibility of corn silage and ground corn</b>	<b>Quiz-3</b>
3/3 Tue	<b>Lecture Topic 8.</b> Macro- and Micro-minerals Supplement Sources for Cattle		
3/5 Thurs	<b>Lecture Topic 8. Continued</b> Macro- and Micro-minerals Supplement Sources for Cattle	<b>Lab 7. Ensiling and problem set</b>	
3/10 Tue	<b>Lecture Topic 9</b> Feeding calves and heifers (Dairy)		
3/12 Thurs	<b>EXAM-2</b>		

03/17	<b>SPRING BREAK</b>		
03/19	<b>SPRING BREAK</b>		
3/24 Tue	<b>Lecture Topic 9</b> Feeding calves and heifers		
3/26 Thurs	Download the Dairy NRC software to your PC.	<b>Lab 8. Feeding dairy calves and cows</b> <b>NRC ration formulation</b>	<b>Quiz-4</b>
3/31 Tue	<b>Lecture Topic 10</b> Feeding transition and lactating dairy cows		
4/02 Thu	<b>Lecture Topic 10</b> Feeding transition and lactating dairy cows	<b>Lab 9 Dairy unit visit</b>	<b>Quiz-5</b>
4/7 Tue	<b>Lecture Topic 10.</b> Feeding the Beef Breeding Herd – Mature Cows		
04/9 Thu	<b>Lab 10. Cow Calf operation visit</b>		
4/14 Tues	<b>Lecture Topic 11.</b> Feeding the Beef Breeding Herd –Breeding and Replacements		
4/16 Thurs	<b>Lab 5 (Continued) SILAGE OPENING</b> <b>Lab 11 Body Condition Scoring at the Beef Teaching Unit.</b>		<b>Quiz-6</b>
4/21 Tues	<b>EXAM 3</b>		
<b>04/28</b> <b>Tues</b>	<b>FINAL EXAM</b>		