

# Department of Animal Science

Fall 2015

## ANSC 3316 Feed Formulation

COURSE NUMBER/TITLE: ANSC 3316 Feed Formulation

INSTRUCTOR: Dr. Byron C. Housewright,  
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Online Portion of the Course: Blackboard 9  
Website: <http://sulross.blackboard.com>

TEXT: No Required Text

COURSE OBJECTIVES: This course is designed advance the student's understanding of feed and ration formulation. Utilizing forage and pasture samples to build appropriate supplements and utilization of commercially available feeds and mineral/vitamin supplements to formulate appropriate complete feeds for livestock.

- 1) Ability to discuss appropriate ingredient selection for a variety of animal classes
- 2) Identifying and addressing common mineral/vitamin deficiencies and therapeutic use for specific supplements
- 3) Understanding of basic rumen kinetics and feed adjustments to alter rumen activity
- 4) Ability to accomplish basic computer ration formulation for a variety of livestock species
- 5) Knowledge of popular supplements used for diet and digestive manipulation and health concerns

DEPARTMENTAL PROJECTED LEARNING OUTCOMES:

Student will demonstrate that he/she is able to:

1. Recognize and be able to utilize animal breeds from a variety of domestic species
2. Comprehend the role of nutrition in the production of food animals
3. Understand the processes involved in producing meat products from a variety of domestic food animals
4. Select breeding animals using genetic information

GRADING POLICY:

Ration Projects @ 100 pts ea:	400 points total
Midterm and Final Exams @ 100 pts ea:	200 points total
Topic Reflections – 2 @ 50 pts ea:	100 points total
Discussion Boards – 2 @ 50 pts ea:	100 points total
Homework Problems – 4 @ 25 pts ea:	100 points total
Research Paper	100 points total

- A= 1000 – 900
- B= 899 – 800
- C= 799 – 700
- D= 699 – 600
- F= 599 and below

- 1) **Ration Projects** – Projects will be assigned and announced both in class and online via Blackboard. Projects will include materials handed out by the instructor as a base for the construction of a nutrition program for a group of animals. There will be a total of 4 projects throughout the semester. A total of 3 different species must be selected for the projects. A student can do 2 projects using the same species but the other two must be different. Species selection must be made from the 5 primary livestock species (bovine, equine, caprine, ovine and porcine).
- 2) **Discussion Board** – A total of 2 discussion board topics will be posted during the semester and each discussion will be worth 50 points for a total of 100 points for this assignment group. Topics for the Discussion Boards will be posted by the instructor and students will have approximately 5 weeks to complete their required posts for each board. Students are to complete a minimum of 2 original posts and 4 replies to their classmates for each discussion board topic.
- 3) **Topic Reflections** – A total of 2 short articles covering current topics of discussion in physiology will be provided. Students are expected to write a short, opinion paper based on their impressions of the article. This paper should be no longer than two pages in length. Below I have included the grading rubric that will be used for these papers. These papers will be due on Sunday evenings by 6 pm.

	<b>Points</b>
Clearly & effectively responds to assignment.	10
Demonstrated thorough understanding and interpretation of the article by summarizing.	10
Developed reflective thoughts supported by a variety of relevant facts within the article, provided potential application of information and posed questions raised by the article.	10
Clarity, organization & structure very evident.	10

Correct grammar, word usage, spelling, and punctuation.	10
<b>Total</b>	<b>50</b>

- 4) **Research Paper** – The research paper assignment is designed for you to have the opportunity to develop a deeper understanding of a topic that is of particular interest to you. This assignment is to be submitted through Safe Assign. After submission a report will be generated as to the originality of your paper. Students will have the opportunity to edit and resubmit their paper if they choose following the generation of this report. Your second submission will be the version graded. Topics are to be selected by students within one of the major topic headings below and must be approved by the instructor prior to October 7, 2015. Papers submitted must be a minimum of 5 pages using 1.5 line spacing not including your bibliography. Literature citing within the paper and the bibliography should be done in Journal of Animal Science style. I have provided a link below to see the author’s notes for citations. You must have a minimum of 4 annotations from refereed journals or books. Questions as to the usage of a source can be submitted to the instructor for approval.

**Grading Criteria and Topics:**

Students should select a topic in one of the following broad areas.

1. Nutritional supplementation as a use for treatment or prevention of a pathological condition in a species, e.g. Use of Biotin as a treatment for soft hooves and potential hoof abscesses in horses.
2. A specific nutritional supplement used for dietary digestive or metabolic manipulation that may affect feed efficiency, nutrient partitioning, growth rates or digestibility, e.g. Ractopamine hydrochloride as a nutrient partition agent to increase muscle content

Grading Criteria	Percent of Total Grade
Thoroughness of the paper, incorporating principles from outside sources. Recognizing and discussing key topics.	20%
Clear and concise Introduction which generates ideas to be developed within the body.	10%
Body of the paper that develops ideas and integrates information both from a personal perspective and utilizing appropriate sourcing	40%
Conclusion which incorporates ideas developed in the body portion of the paper and draws these ideas together with potential implications and research areas.	20%
Appropriate grammar, spelling, punctuation and composition as well as citations.	10%

**Citation Style:**

<http://www.journalofanimalscience.org/site/misc/JAS-InstructionsToAuthors.pdf>

**Academic Honesty**

On all work submitted for credit by students at the University, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.”

**Reasonable accommodations for students with disabilities:**

If you have a disability that may require assistance or accommodation or if you have questions related to any accommodations for testing, not takers, readers, etc, please speak with me as soon as possible.

**Tentative Schedule of Weekly Topics:** These are subject to alteration if time warrants.

Week of:	Topic covered
Aug. 24	Introduction and Syllabus
Aug. 31	Feed Ingredients
Sept. 7	Feed Ingredients/Calculations
Sept. 14	Calculations/Rumen Kinetics
Sept. 21	Rumen Kinetics
Sept. 28	Minerals/Vitamins
Oct. 5	Minerals/Vitamins
Oct. 12	Beef Formulation
Oct. 19	Beef Formulation
Oct. 26	Sheep Formulation
Nov. 2	Goat Formulation
Nov. 9	Equine Formulation
Nov. 16	Supplements
Nov. 23	<b>Thanksgiving</b>
Nov. 30	Supplements
Dec. 7 – 15	Finals