

ASCI 103: FEED AND FEEDING

Proposer:

Name:

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Effective Term:

Fall 2021

Credit Status:

Credit - Degree Applicable

Subject:

ASCI - Animal Science

Course Number:

103

Catalog Title

Feeds and Feeding

Catalog Description

The science of animal nutrition; the fundamentals of digestion and absorption in both ruminants and non-ruminants are discussed. The nutritive value of feedstuffs as they relate to the formulation of livestock rations will be emphasized.

Method of Instruction:

Laboratory
Lecture and/or Discussion
Distance Education (Emergency Addendum)

Course Units/Hours:

Course Units Minimum:

3

Lecture Hours Minimum (week)

3

Lab Hours Minimum (week)

1

Activity Hours Minimum (week)

0

Total Contact Hours Minimum (semester)

70

Total Outside Hours Minimum (semester)

105

Total Student Learning Minimum Hours (semester)

175

Repeatability:

No

Open Entry/Exit:

No

Field Trips:

Not Required

Grade Mode:

Standard Letter

TOP Code:

010200 - * Animal Science

SAM Code:

C - Clearly Occupational

Course Content

Methods of Assessment:

Problem solving assignments or activities

Short answer quizzes or exams

Written essays or extended papers

Course Topics:

Course Topics	
1	Introduction to Animal Nutrition
2	Nutrients a) Their Functions b) Protein c) Carbohydrates d) Fats e) Vitamins f) Minerals g) Water
3	Diets a) Ration Formulation b) Pearson Square c) Least Cost Ration Formulation d) Basic Livestock Feeding Practices and Dietary Guidelines
4	Feed Manufacturing/Processing
5	Feeding Behavior a) Factors Affecting Feed Intake
6	Feed Evaluation a) Classification of Feedstuffs b) Physical Evaluation c) Proximate Analysis d) Estimation of Feed Energy Interpreting a Feed Tag NRC Classifications of Feedstuffs
7	Digestive System Anatomy Physiology a) The Non-Ruminant (Monogastric) Digestive System b) The Ruminant Digestive System c) The Avian (Poultry) Digestive System

Course Objectives:

Course Objectives	
1	List and define the six categories of nutrients.
2	Discuss the various methods of feed analysis commonly utilized in the animal nutrition industry.
3	Analyze and comprehend various procurement strategies for feed stuffs.
4	Explain common feed processing techniques and their relative advantages.
5	Identify and classify common feedstuffs.
6	Evaluate economic factors and trends in feeding.

7	Utilize the Pearson Square method for ration formulation.
8	List factors influencing animal feeding behaviors.
9	Outline basic feeding practices for ruminant, monogastric, and avian species.
10	Determine nutritional requirements based on animal purpose and changes in physiological development.
11	Explain the role of nutrition in animal performance and food production.
12	Identify the anatomical features of the ruminant, monogastric, and avian digestive systems.
13	Interpret the components of the guaranteed analysis found on a feed tag.
14	Interpret National Research Council (NRC) nutrition tables and apply the relevant information to the formulation of livestock rations. Interpret the components of the guaranteed analysis found on a feed tag.

Course Outcomes:

Course Outcomes	
1	Given a livestock feeding scenario, students will be able to identify appropriate feedstuffs for accomplishing necessary product outputs, to a level that is industry standard and approved.
2	Given anatomy and physiology of a beef, sheep, swine or dairy animal, students will be able to identify and explain the structure, functions and process of ruminant and non-ruminant digestion, to 80% accuracy.

Assignments:

Assignment Type:	Details
Reading	Please read Chapter 3: Feedstuffs Used in Livestock Diets for next class.
Writing	<p>ASCI 103: Livestock Feeding and Nutrition Mineral/Vitamin Deficiency Paper 25 Points</p> <ul style="list-style-type: none"> • Choose a Mineral or Vitamin deficiency and write a 2 page research paper on it. <ul style="list-style-type: none"> o Background/History of the deficiency – What livestock/animal species does it affect? o Characteristics/mode of action for the deficiency. o Treatment for the deficiency. o Prevention of the deficiency. o Overview of the importance of the deficient mineral or vitamin. • Requirements of paper <ul style="list-style-type: none"> o Double space 12 point Times New Roman font. o Name, date, other headings does not contribute to length of paper. • Proper grammar and sentence structure will be included in grade. • Make sure you use proper citations (within the document as well as at the end). • Need to upload document on Safeassign on Blackboard. o We will discuss how to do this today in class. o If you are unable to upload document you can turn in a hard copy of the paper.
Homework	<p>ASCI 103: Livestock Feeding and Nutrition World Ag Expo Assignment 25 Points</p> <ul style="list-style-type: none"> • Choose a product at the World Ag Expo related to animal nutrition and write a 1-2 page paper on it. <ul style="list-style-type: none"> o Types of products include: feed supplements, non-nutritive feed additives, and different feeds, feed equipment/processing (it has to be associated with animal nutrition). o Give an overview of the product. o What is it used for? o Why is it important? o How does it help animal agriculture? • Requirements of paper <ul style="list-style-type: none"> o Double spaced 12 point Times New Roman font o Name, date, other headings does not contribute to length of paper. • Proper grammar and sentence structure will be included in your final grade. • You need to make sure you use proper citations if necessary. • You need to turn in a hard copy of the paper or email it to me (russellm@cos.edu).

Lab

ASCI 103: Animal Nutrition Name: _____
 Spring 2019
 Lab 1 – 15 points
 Feed Tag Assignment

1. Please staple your feed tag to the assignment.
2. What is the brand name of your feed? Which specie, stage of production is it designed for?
3. How long would this bag of feed, feed the animal it is designed for? (bag wt./lbs. fed per day?)
4. What is the retail price of this bag of feed? \$_____/_____ lbs = _____/lb
5. What is the cost to feed your animal to market weight or for one year? Show your work. (\$ per lb of feed x lbs of feed) x 9365 for 1 year or days to market)
6. Does your feed tag include the manufacturer's name and address? List the address of the home office of the feed manufacturer.
7. Is your feed medicated? Write the drug name, claim, and any precautionary statement.
8. List any special feeding instructions (including withdrawal times).
9. Does your feed include any non-nutritive additives (medication, color, flavor, preservative, beneficial bacteria). Why are they included?
10. Review the section of the tag labeled, "Guaranteed Analysis"
 List the percent
 Crude protein: _____% min. /max (circle one)
 Crude fat: _____% min. /max (circle one)
 Crude fiber: _____% min. /max (circle one)
 Calcium: _____% min. /max (circle one)
11. List the most predominant energy source:
12. List the most predominant protein source:
13. List the mineral added in greatest quantity:
14. List at least one vitamin:
15. List the top five feed ingredients by weight included in this feed:
 1)
 2)
 3)
 4)
 5)

Textbooks or other support materials

Resource Type:	Details
Books	Animal Feeding and Nutrition JURGENS MARSHALL H Kendall Hunt Publishing 11 2012 978-0757591136.

Transferable to CSU

Yes - Approved

CSU General Education

Transferable to CSU

This course will also be proposed for UC transfer.

No

Other Degree Attributes

Degree Applicable

Not a Basic Skills Course

Additional Attachment

- 3:20:2018 COS Animal Science Advisory Committee Meeting Agenda.docx
- 2017-2018 COS Animal Science Advisory Members.docx
- 3:20:2018 COS Animal Science Advisory Committee Meeting Minutes.docx
- Spring 2020 COS Animal Science Advisory Committee Meeting Agenda.docx



Spring 2020 COS Animal Science Advisory Responses:Recommendations.docx
Spring 2020 COS Animal Science Advisory Committee Background and Discussion Information.docx
DLA-Approved for ASCI 103 and ASCI 110.pdf

Banner Title:

Feed and Feeding

Curriculum Committee Approval Date:

10/01/2020

Academic Senate Approval Date:

10/14/2020

District Governing Board Approval Date:

11/09/2020

Course Control Number:

CCC000071342