



ASCI 001: INTRO TO ANIMAL SCIENCE

Proposer:**Name:**

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Effective Term:

Fall 2020

Credit Status:

Credit - Degree Applicable

Subject:

ASCI - Animal Science

Course Number:

001

Catalog Title

Introduction to Animal Science

Catalog Description

A scientific approach to the livestock industry encompassing aspects of animal anatomy, physiology, nutrition, genetics and epidemiology. Emphasis on the origin, characteristics, adaptations and contributions of livestock to the modern agriculture industry.

Method of Instruction:

Laboratory

Lecture and/or Discussion

Other (Specify)

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:**

Essay quizzes or exams

Multiple choice tests

Oral presentations

Problem solving assignments or activities

Short answer quizzes or exams

Skill demonstrations

Written essays or extended papers

Course Topics:

Course Topics	
1	Introduction to Animal Agriculture a) Career Opportunities b) Importance of domestic animals to the world and to the United States c) Economic importance of animal agriculture d) Animal contributions to human needs e) Ethnic and cultural contributions to animal domestication
2	Unique adaptations of various species a) Natural selection vs artificial selection b) Meat animal use and production c) Fiber production d) Dairy production e) Recreational and companionship use of animals
3	Anatomy and physiology a) Identification of external anatomy for various species b) Analysis of body systems – reproductive, respiratory, digestive, immune, circulatory
4	Animal reproduction a) Animal breeding systems b) Reproductive management and technology c) Fertility assessment
5	Genetics a) Introduction and review of genetic principles b) Gene modification and genetic interactions c) Genetic improvement and variation d) Inheritance and population genetics
6	Nutrition a) Classes of nutrients b) Feed identification and composition c) Livestock feeding management practices
7	Animal behavior (ethology) a) Behavioral characteristics b) Animal Handling & Safety c) Conditioning



8	Animal Health a) Biosecurity b) Vital Signs c) Indications of health vs disease d) Common diseases
9	The scientific method a) Research in animal agriculture b) Developing a research model c) Humane treatment of research animals
10	Issues affecting animal agriculture a) Animal welfare issues b) Advances in biotechnology c) Governmental and environmental concerns d) Food safety e) Public policy and consumer awareness

Course Objectives:

Course Objectives	
1	Identify reproductive cycles and biotechnological principles of animal reproduction.
2	Identify and discuss current issues affecting animal agriculture.
3	Utilize the scientific method to collect data, calculate production parameters and make scientifically-based management decisions.
4	Explain basic strategies for disease control, prevention and management.
5	Describe animal behavior as it relates to animal domestication, health and performance.
6	Discuss nutritional needs for various body functions.
7	Analyze genetic change through artificial/natural selection.
8	Describe the function of the major body systems.
9	Describe economically significant breeds of animals and their unique adaptations.
10	Identify animal contributions to the development of human civilizations.

Course Outcomes:

Course Outcomes	
1	#1: Upon completion of this course students will be able to restrain, move and safely monitor livestock from pen to trailer.
2	#2: Upon completion of this course students will be able to list and explain seven jobs within the livestock industry.
3	#3: Upon completion of this course students will be able to list, define and describe function of all parts of three common livestock digestive systems.

Assignments:

Assignment Type:	Details
Reading	For next class please read Chapter 4: Poultry and Egg Products (pages 71-84 in textbook). The next class lecture will be covering this topic and discussion will be expounded upon with prior knowledge from the text.

**Writing****Breed Paper**

Please select a beef production breed and write a 1-2 page paper.

-Brief history of the breed

-Characteristics

-Important Facts

-Any other pertinent information

Requirements for the paper.

-Double spaced, 12 point Times New Roman font

-Name, date, and other headings do not contribute to the length of the paper

-Proper grammar and sentence structure will be included in your grade.

-Make sure you use proper citations (within document as well as the end).

-Need to upload document on Canvas.

We will discuss how to do this today in class.

-If you are unable to upload the document, you can turn in a hard copy of the paper.

Homework**Homework #8 Meat as a Food**

1) What is meat?

2) What are the four classes of meats discussed in class?

3) What factors impact quality grade (palatability). What are the scales used for the different species

discussed for quality grades?

4) What factors impact yield grade (cutability). What are the scales used for the different species

discussed

for quality grades?

5) Which of the frankfurters (hot-dogs) did you prefer today, and why?

6) Which of the beef cuts (strip steak or top round) did you prefer and why? Which one of the cuts was

more tender?

7) Which of the different species (beef, pork, or turkey) did you prefer and why?

8) Did you prefer the conventional or grass-fed beef (sirloin steak) and why?

Lab	<p>In this lab, all students will learn proper vaccination and/or treatment techniques including intramuscular, subcutaneous, intradermal, subconjunctival, intraperitoneal, and intravenous.</p> <p>Lab 1: Evaluation and Performance Livestock</p> <ol style="list-style-type: none"> Identifying external anatomy Evaluating type and conformation Perspective of carcass composition to the live animal Understanding carcass and performance data <p>Lab 2: The Animal Food Industry</p> <ol style="list-style-type: none"> Food products and processing Consumption and marketing strategies Trends and future outlook Health and nutritional considerations Global systems of animal production <p>Lab 3: Reproduction</p> <ol style="list-style-type: none"> Reproductive organs and their functions Animal breeding Mating systems Fertility <p>Lab 4: Genetics</p> <ol style="list-style-type: none"> Fertilization Gene modification and interactions Genetic improvement and variation DNA and RNA <p>Lab 5: Nutrition</p> <ol style="list-style-type: none"> Nutrients Feeds and feed composition Digestive systems Growth and development <p>Lab 6: Animal Health</p> <ol style="list-style-type: none"> Prevention and the environment Major diseases of farm animals Detecting unhealthy animals Treatment and care <p>Lab 7: Issues Affecting the Animal Industry – Part 1</p> <ol style="list-style-type: none"> Animal behavior Animal welfare Advances in biotechnology and genetic engineering <p>Lab 8: Issues Affecting the Animal Industry – Part 2</p> <ol style="list-style-type: none"> Government and environmental concerns Food safety and consumer awareness The role of animals in sustainable agriculture.
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Textbooks or other support materials

Resource Type:	Details
Books	Gillespie and Flanders. Modern Livestock and Poultry Production, 8th ed. Cengage Publishers, 2010, ISBN: 978-142831808
Books	Robert E Taylor and Thomas Field. Scientific Farm Animal Production, 11th ed. Pearson, 2015, ISBN: 978-0133767209

Transferable to CSU

Yes - Approved

CSU General Education

Transferable to CSU

Transferable to UC

Yes - Approved

UC/IGETC General Education

Transferable to UC



Other Degree Attributes

Degree Applicable
Not a Basic Skills Course

Banner Title:

Intro to Animal Science

Curriculum Committee Approval Date:

03/21/2019

Academic Senate Approval Date:

03/27/2019

District Governing Board Approval Date:

04/08/2019

Course Control Number:

CCC000099908