

ANSCI 27 Course Outline as of Fall 2024

CATALOG INFORMATION

Dept and Nbr: ANSCI 27

Title: BEEF CATTLE SCIENCE

Full Title: Beef Cattle Science

Last Reviewed: 1/25/2021

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	3.00	Lab Scheduled	3.00	17.5	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	5.00		Contact Total	87.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly: AG 62

**Catalog Description:**  
A study of the principles of purebred and commercial beef cattle production throughout the World, United States, and California. Emphasis to be placed on the importance of breeds, breeding principles, selection, nutrition, environmental management, health, marketing, and recordkeeping to ensure scientifically based management decisions of beef cattle.

**Prerequisites/Corequisites:**

**Recommended Preparation:**  
Eligibility for ENGL 100 OR EMLS 100 (formerly ESL 100) or appropriate placement based on AB705 mandates

**Limits on Enrollment:**

**Schedule of Classes Information:**  
Description: A study of the principles of purebred and commercial beef cattle production throughout the World, United States, and California. Emphasis to be placed on the importance of breeds, breeding principles, selection, nutrition, environmental management, health, marketing, and recordkeeping to ensure scientifically based management decisions of beef cattle. (Grade

Only)

Prerequisites/Corequisites:

Recommended: Eligibility for ENGL 100 OR EMLS 100 (formerly ESL 100) or appropriate placement based on AB705 mandates

Limits on Enrollment:

Transfer Credit: CSU;UC.

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:

<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
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<b>CSU Transfer:</b>	Transferable	Effective:	Fall 1981	Inactive:
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<b>UC Transfer:</b>	Transferable	Effective:	Fall 2001	Inactive:
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### **CID:**

CID Descriptor:AG - AS 108L Beef Cattle Science

SRJC Equivalent Course(s): ANSCI27

### **Certificate/Major Applicable:**

Both Certificate and Major Applicable

## **COURSE CONTENT**

### **Student Learning Outcomes:**

At the conclusion of this course, the student should be able to:

1. Demonstrate an understanding of proper cattle handling.
2. Develop a herd management that incorporates nutrition, selection, and health across different production classes.

### **Objectives:**

At the conclusion of this course, the student should be able to:

Overview of the beef industry, its history and economic significance.

1. Describe the segments of the beef industry and how cattle are marketed.
2. Outline the nutritional benefits of beef to humans.
3. Discuss current trends/challenges/issues affecting the beef industry including the beef quality assurance program.
4. Research current industry information (production & consumption data, etc.).
5. Review basic genetic principles as they apply to animal selection, breeding programs, and genetic defects.
6. Identify common beef breeds and list their economic benefits.
7. Evaluate cattle using both visual conformation and performance data.
8. Understand the importance of identification and record-keeping.
9. Discuss the various aspects of cattle behavior.
10. List the benefits of good cattle handling facilities and proper handling techniques.
11. Explain the damaging effects of improper handling techniques and undue stress on cattle.
12. Develop a herd management calendar for a typical commercial cow-calf operation.

13. Outline a health management program, including common vaccinations and parasite control measures for a typical commercial cow-calf operation.
14. Understand basic nutritional management for cattle.

## **Topics and Scope:**

- I. The Beef Cattle Industry
  - A. Origin and importance of beef cattle
  - B. Breeds of cattle
  - C. Trends, challenges and issues affecting the beef industry
  - D. Nutritional benefits of beef
  - E. Economics
- II. Systems of Production
  - A. Purebred enterprise
  - B. Cow/calf operations
  - C. Stocker operations
  - D. Feedlot operations
- III. Establishing the Beef Herd
  - A. Selecting the breed and breeding system
  - B. Selecting and foundation stock
    1. Type and conformation
    2. Pedigrees
    3. Performance data
- IV. Beef Cattle Management Practices
  - A. Care and management of the breeding herd
  - B. Beef animal preparation for seed stock sales
  - C. Buildings and equipment
- V. Beef Cattle Genetics
  - A. Principles of beef cattle genetics
  - B. Percentage of heritability of beef traits
  - C. Economically important beef traits
- VI. Beef Cattle Nutrition
  - A. Digestion and utilization of feed
  - B. Nutrient requirements for beef cattle
  - C. Rations for beef cattle
  - D. Range management
- VII. Herd Health
  - A. Common diseases of cattle
  - B. Parasites
    1. Common parasites
    2. Management of parasites
  - C. Poisonous plants that affect cattle
- VIII. Marketing Beef Cattle
  - A. Marketing purebred and commercial cattle
  - B. USDA yield and quality grades
  - C. Beef cattle production cycles
- IX. Issues and Regulations in the Beef Cattle Industry
  - A. Animal/welfare issues
  - B. Quality assurance program
  - C. Environmental issues

All lab topics will be aligned with lecture topics.

## Assignment:

### Lecture Assignments:

1. Read periodicals, handouts, and textbooks (20 pages per week)
2. Term paper (6 to 8 pages)
3. Midterm (1)
4. Quizzes (4-6)
5. Final exam

### Lab Assignments:

1. Lab reports (12-16)
2. Lab practical
3. Case studies

## Methods of Evaluation/Basis of Grade:

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Lab reports, term paper

Writing  
10 - 30%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Case studies

Problem solving  
10 - 20%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Lab practical

Skill Demonstrations  
10 - 30%

**Exams:** All forms of formal testing, other than skill performance exams.

Quizzes, exams

Exams  
30 - 60%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

None

Other Category  
0 - 0%

## Representative Textbooks and Materials:

Beef Production and Management Decisions. 2nd ed. Taylor, Robert. MacMillan Publishers. 2002 (classic)  
Beef Cattle Science. Ensminger, M.E. The Interstate Publishers. 1996 (classic)  
Cooperative Extension Cow-Calf Management (Magazine). Current.  
Drovers Journal

