I. **OVERVIEW**
The following information will appear in the 2012 - 2013 catalog

**ANSC 201  Beef Cattle Science  3 Units**

A study of the principles and practices of purebred and commercial beef cattle production throughout California, the United States, and the world. Emphasis to be placed on the importance of breeds, breeding principles, selection, nutrition, environmental management, health, marketing and record keeping to ensure scientifically-based management decisions and consumer product acceptance as applied to beef cattle.

Field trips are required. (A-F Only) Lecture /Lab

Transfer: (CSU, UC)

II. **LEARNING CONTEXT**
Given the following learning context, the student who satisfactorily completes this course should be able to achieve the goals specified in Section III, Desired Learning:

A. **COURSE CONTENT**

1. **Required Content:**

a. The beef cattle industry
   i. Origin and importance of beef cattle
   ii. Breeds of cattle
   iii. Ethnic contributions

b. Systems of production
   i. Purebred enterprise
   ii. Cow/calf operations
   iii. Stocker operations
   iv. Feedlot operations

c. Establishing the beef herd
   i. Selecting the breed and breeding system
   ii. Selecting the foundation stock
      a. Type and conformation
      b. Pedigree
      c. Performance data
d. Beef cattle management practices
   i. Care and management of the breeding herd
   ii. Beef animal preparation for seed stock sales
   iii. Buildings and equipment

e. Beef cattle genetics
   i. Principles of beef cattle genetics
   ii. Percentage of heritability of beef traits
   iii. Economically important beef traits

f. Beef cattle nutrition
   i. Digestion and utilization of feed
   ii. Nutrient requirements for beef cattle
   iii. Rations for beef cattle
   iv. Range management

g. Herd health
   i. Common diseases of cattle
   ii. Control of parasites
   iii. Poisonous plants that affect cattle

h. Marketing beef cattle
   i. Marketing purebred and commercial cattle
   ii. USDA yield and quality grades
   iii. Beef cattle production cycles

i. Issues and regulations in the beef cattle industry
   i. Animal/welfare issues
   ii. Quality assurance program
   iii. Environmental issues

2. **Required Lab Content:**

   a. Systems of production
      i. Purebred enterprise
ii. Cow/calf operations

iii. Stocker operations

b. Establishing the beef herd

i. Selecting the breed and breeding system

ii. Selecting the foundation stock

c. Type and conformation

i. Pedigrees

ii. Performance data

d. Herd health

i. Common diseases of cattle

ii. Control of parasites

iii. Poisonous plants that affect cattle

e. Beef cattle nutrition

i. Digestion and utilization of feed

ii. Nutrient requirements for beef cattle

iii. Rations for beef cattle

iv. Range management

f. Marketing beef cattle

i. Marketing purebred and commercial cattle

ii. USDA yield and quality grades

iii. Beef cattle production cycles

B. HOURS AND UNITS

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3 Units

C. METHODS OF INSTRUCTION (TYPICAL)

Instructors of the course might conduct the course using the following method:

1. Lectures
2. Powerpoint presentations, videos, guest lecturers to supplement lectures, hands-on problem-solving.

3. Assign writing assignments emphasizing descriptive, analytical, and evaluative skills.

4. Discussion periods related to assigned readings.

D. ASSIGNMENTS (TYPICAL)

1. EVIDENCE OF APPROPRIATE WORKLOAD FOR COURSE UNITS
   Time spent on coursework in addition to hours of instruction (lecture hours)
   a. Weekly written laboratory reports
   b. Weekly textbook and article reading assignments
   c. Study and preparation for laboratory exams and quizzes
   d. Prepare projects
   e. Prepare for group presentations
   f. Study for final exam

2. EVIDENCE OF CRITICAL THINKING
   Assignments require the appropriate level of critical thinking
   a. Students will demonstrate how to start a beef operation and how work with cattle, understanding the importance of vaccination and breeding.
   b. Students will design their own beef operation explaining the fundamentals of their beef operation.

E. TEXTS AND OTHER READINGS (TYPICAL)


2. Other: Instructor generated handouts

III. DESIRED LEARNING

A. COURSE GOAL
   As a result of satisfactory completion of this course, the student should be prepared to:

   manage a small cow-calf operation and provide sound advice on basic aspects of beef cattle management.

B. STUDENT LEARNING GOALS
   Mastery of the following learning goals will enable the student to achieve the overall course goal.

1. Required Learning Goals
   Upon satisfactory completion of this course, the student will be able to:
   a. Discuss the history and development of the beef industry.
   b. Identify beef breeds and their adaptability to climatic conditions and types of operations.
   c. Describe the common systems of beef production.
   d. Explain the principles of genetics in terms of form and function in the beef industry.
e. Define the relationship between the consumer, packer, and retailer in the commercial beef industry.

f. Identify common diseases and parasites and the current methods of prevention and treatment.

g. Explain the principles involved with ruminant nutrition in beef production.

h. Demonstrate the use of computer management systems to efficiently manage beef cattle operations.

i. Discuss animal welfare issues, environmental concerns, and the beef cattle quality assurance program.

j. Discuss career opportunities and requirements for successful employment.

k. Identify cultural influences and ethnic contributions to the beef industry.

2. **Lab Learning Goals**

   *Upon satisfactory completion of the lab portion of this course, the student will be able to:*

   a. Using safe practices, demonstrate proper use of beef cattle working facilities including: chute, calf table and other equipment.

   b. Using safe practices, read an ultra-sound to determine pregnancy.

   c. Describe the common systems of beef production.

   d. Using safe practices, vaccinate and administer shots to cattle.

   e. Understand the relationship between the consumer, packer, and retailer in the commercial beef industry.

IV. **METHODS OF ASSESSMENT (TYPICAL)**

A. **FORMATIVE ASSESSMENT**

   1. Class discussion and participation

   2. Quizzes

   3. Laboratory participation and weekly laboratory reports.

   4. Midterm exam

B. **SUMMATIVE ASSESSMENT**

   1. Beef management project - develop and design a beef cattle operation.

   2. Final exam