Discipline: Agriculture	Sub-discipline: Animal Science
General Course Title: **Dairy Cattle Industry / Dairy Cattle Science**	Min. Units: **3 Semester**
	Proposed Suffix: **L**

Course Description:
Survey of the dairy industry; supply of milk and milk products and their uses; emphasis on the history, development and projections of the dairy industry in the US. Covers general information on the economics of dairying; dairy facts and trends; dairy animal selection, culling, fitting, showing, and judging; pedigree evaluation; basic dairy feeds and feeding; fundamentals of bovine reproduction; basic dairy management skills; requirements for and opportunities in dairy industry employment. Laboratory Required.

Required Prerequisites or Co-Requisites[1]

Advisories/Recommended Preparation[2]

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

- Discuss and recall historical developments of the dairy industry in the United States.
- Explain the importance of the dairy industry in California and the United States.
- Distinguish between the major dairy cattle breeds, and recall the origin, adaptation and production of each breed.
- Examine and evaluate the opportunities and requirements of the dairy business.
- Analyze production, breeding and management records related to the dairy industry.
- Identify the anatomical parts of the cow and relate each part to it's form and function.
- Define the nutritional needs and demonstrate proper feeding techniques of dairy cattle.
- Analyze, translate and discuss dairy cattle pedigrees, linear scores and production records.
- Demonstrate the ability to properly groom, fit and show a dairy animal.
- Demonstrate proper management skill involving dehorning, vaccinating, castrating, hoof trimming and teat removal of dairy cattle.
- Identify cultural influences on the dairy industry.
- Practice dairy cattle selection and judging skills.
- Analyze the concern of animal rights and the importance of educating the general public.
- Research and discuss career opportunities and requirements for successful employment in the dairy industry.

Course Content:

1. Introduction to the Dairy Industry
   a. History of dairying including the contributions of ethnic groups
   b. Economic importance of dairying to the US and to international commerce
   c. Past, present and future trends in the dairy industry
   d. Milk and by-product consumption trend
   e. Innovations in the dairy industry

2. Career Opportunities and Career Preparation in the Dairy Industry
   a. Career preparation
   b. Employment opportunities in production, processing and marketing
   c. Degree and skill development requirements for success in the Dairy Industry

Dairy Cattle Industry/Dairy Cattle Science
(Content Continued)

[1] Prerequisite or co-requisite course need to be validated at the CCC level in accordance with Title 5 regulations; co-requisites for CCCs are the linked courses that must be taken at the same time as the primary or target course.

[2] Advisories or recommended preparation will not require validation but are recommendations to be considered by the student prior to enrolling.

3. Essentials of Success in the Dairy Business
   a. Financial requirements to operate a dairy
   b. Sources of land, seed stock, feed and equipment
   c. Management of the labor force on the dairy
   d. Governmental regulations (i.e.: Environmental Impact Reports, etc.)

4. Dairy Breeds, Origin and Adaptation
   a. Bos Taurus versus Bos Indicus Cattle Breeds
   b. Average Milk, Fat and Protein Production of each Dairy Breed
   c. Each breed's rank in popularity
   d. Advantages and disadvantages of each dairy cattle breed

5. Development of a Dairy Herd
   a. Developing a dairy enterprise
   b. Selecting a breed
   c. Locating a market for milk and/or milk products
   d. Evaluating quota, base and overbase milk

6. Managing a Dairy Herd
   a. Selecting seed stock
   b. Analysis of pedigree and production records
   c. Feeding dairy animals
   d. Dehorning, vaccinating, castrating, teat removal and other production management skills

7. Reproductive Management
   a. Advantages of and limitations to reproductive management
   b. Methods of heat synchronizing cows and heifers
   c. Compare the use of natural service versus artificial insemination
   d. Embryo Transfer

8. Care and Management of Calves
   a. Prenatal care of the calf
   b. From birth to weaning
   c. Feeding, vaccinating and general management

Laboratory Activities: Individual Laboratory Activities are designed to support course objectives.

Methods of Evaluation: Lecture	Methods of Evaluation: Laboratory
Comprehensive Quizzes and Exams	Laboratory Skill Validation by Observation
Written Critical Thinking Scenarios	Laboratory Reports
Problem Analysis and Solution	Laboratory Research Projects and Reports
Research and Term Papers	Laboratory Skill Practicum Exams

Typical Textbooks, Manuals, or Other Support Materials

Dairy Cattle: Principles, Practices, Problems, Profits, Dickinson, Beth, Lea & Febiger

Dairy Cattle Science, Ensminger, M.E. The Interstate Publishers.

	Hoard's Dairyman, The National Dairy Farm Magazine, W.D. Hoard & Sons Co. Western Dairy Business, The Business Resource for Successful Milk Producers, Dairy Business Communications Dairy Herd Management, Vance Publishing Corporation
Statewide Articulation: Formally CAN AG 28, CPSLO-DSCI 121/230, CPP-not articulated, CSUF-A SCI 61, CSUC-ANSC 174, UCD-ANS 146, other universities as lower division elective	
FDRG Lead Signature: Mark E. Bender, PhD CSU Stanislaus	Date:
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