College of the Sequoias
COLLEGE ASSOCIATE DEGREE COURSE OUTLINE

SUBJECT AREA AND COURSE NUMBER: ASCI 110

COURSE TITLE: SWINE PRODUCTION & MANAGEMENT

Units: 3

TOP Code: 0102.00 - Animal Science

Cross-Listed Courses:

CATALOG COURSE DESCRIPTION:
A study of the principles and practices of purebred and commercial pork 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.

REQUISITES:

NONE

FIELD TRIP REQUIREMENTS: Not Required

LECTURE HOURS PER WEEK: 2.5

TOTAL LECTURE HOURS PER SEMESTER: 43.75

LAB HOURS PER WEEK: 1.5

TOTAL LAB HOURS PER SEMESTER: 26.25

ACTIVITY HOURS PER WEEK:

TOTAL ACTIVITY HOURS PER SEMESTER:

TOTAL HOURS PER WEEK: 4

TOTAL CONTACT HOURS PER SEMESTER: 70

GRADING: S - Standard Grading A-F

REPEATABLE: A - Not designed as repeatable

TRANSFERABLE:
*Approved* CSU BA Transferable (1-199 level)
YES

METHODS OF INSTRUCTION:
Methods of instruction may include, but are not limited to, the following:

* Laboratory
* Lecture and/or Discussion

METHODS OF EVALUATION:
A student's grade will be based on multiple measures of performance unless the course requires no grade. Multiple measures may include, but are not limited to, the following:
Skill demonstrations
Problem solving assignments or activities
Essay quizzes or exams
Multiple choice tests
Short answer quizzes or exams
Oral presentations

COURSE TOPICS:

Outline Of Topics:
The following topics are included in the framework of the course but are not intended as limits on content. The order of presentation and relative emphasis will vary with each instructor.

The Swine Industry
a. History and development
b. Distribution
c. Advantages and disadvantages
d. Industry outlook and trends

Production and Marketing Systems for Swine
a. Types of purebred and commercial production enterprises
b. Market classes and grades
c. Types of markets in California and the United States
d. Ethnic influence

Establishing and Maintaining a Swine Herd
a. Major breeds of swine in the United States
   1. Identification
   2. Advantages
   3. Disadvantages
   b. Genetic and physical basis for selection
   c. Reproductive efficiency
      1. Carcass characteristics
      2. Performance testing measures
   d. Purebred and crossbred mating systems

Care and Management of the Swine Herd
a. Feeding and management of boars
   b. Feeding and management of gilts and sows
      1. Prior to breeding
      2. Estrus
      3. Gestation

Farrowing
1. Lactation
2. Weaning Feeder
3. Feeder to finish

Reproduction management
1. Artificial insemination
2. Semen handling
3. Estrus synchronization

Facilities and Equipment
a. Farrowing
b. Nursery
c. Growing-finishing
d. Breeding
e. Feed processing, storage and delivery systems
f. Waste management
g. Harvesting/processing
Feeding Swine
a. Nutrient requirements for various stages of growth and maintenance
b. Common feedstuffs for swine
c. Forms of feed
d. Ration formulation
e. Feed activities
f. Feed efficiency

Environmental Management and Disease Control
a. Sanitation and waste management
b. Ventilation and air quality
c. Temperature and humidity control
d. Symptoms, prevention and control of common diseases
e. Specific pathogen free (SPF) herds

Economics of Pork Production
a. Supply and demand factors/consumption trends
b. Costs of production
c. Market niches

Issues and Regulations in the Swine Industry
a. Animal rights/welfare
b. Food safety regulations
c. Environmental issues

OUTCOMES:

Course Objectives
The main concepts for this course will ask students to...

1. Describe the factors influencing the development of the swine industry.
2. Identify the swine breeds and their characteristics, adaptations, strengths and weaknesses, including defects and disqualifications.
3. Define and outline principles of selecting and maintaining a swine breeding herd.
4. Explain and practice procedures needed in handling sows before, during and after farrowing.
5. Discuss the principles of feeding the breeding herd and growing finishing pigs for market.
6. Identify procedures and specifications for the Pork Certification Programs.
7. Analyze the most important swine diseases and parasites, as well as the principles of their control, including prevention and treatment.
8. Name the market classes and grades of swine.
9. Explain the key measures of carcass cutability and quality.
10. Discuss the common types of production/marketing systems for swine in California and the United States.
11. Review the essential equipment and facilities for a complete farrow-to-finish swine production unit.
12. Identify and discuss animal welfare issues in the swine industry.
13. Describe career opportunities and requirements for successful employment.
14. Identify cultural influences in the swine industry.
15. Have reasonable accommodations made to perform all learning objectives, regardless of physical and/or learning disabilities.

Student Learning Outcomes
Given in a classroom lecture on the information about the importance of economic viability, students will be able to quantify accepted and recommended principles of selecting and maintaining a breeding herd. Students will list these principles to industry standards of the National Pork Council.

Skill demonstrations
Problem solving assignments or activities
Essay quizzes or exams
Multiple choice tests
Short answer quizzes or exams
Oral presentations

Given in classroom lectures and laboratory exercises, students will be able to practice protocols that are familiar to the industry to ensure optimal survival of preweaned piglets. The protocol used will be the "McClain County Protocol." Written testing will be used to verify its proper procedure.
Given in classroom lecture, laboratory exercises, and video presentations, students will be able to demonstrate understanding of current feed costs and industry performance in the economy. Students competency in this area will be measured by correctly writing answers to economic viability questions which will be addressed on the final.

Given in a classroom lecture, laboratory activities, and video presentations, students will be able to identify protocols for prevention and treatment of diseases and parasites in a high density hog production facility. in written testing with a grade of 70% or higher, reflecting industry standards.

Given in classroom discussion, laboratory activities, and video presentations, students will be able to review multiple facilities and designs, both at COS and various commercial industry facilities to make a cost analysis and projected income statements. Students will complete a cost analysis and feasibility study on the final exam to 70% or higher accuracy based upon industry standards.

Given in a classroom lecture and laboratory exercise, students will be able to identify the characteristics strengths and weaknesses of the five most popular breeds in the U.S. Students will be tested in written form and able to meet industry standards for the five most popular breeds.

Institutional Outcomes

1. Communicate effectively for a given purpose within the specific context of a communication event.
2. Use appropriate creative and analytic methods to interpret ideas, solve problems, and present conclusions.
3. Write coherently and effectively, adjusting to a variety of audiences and purposes, while taking into account others' writings and ideas.
4. Locate, evaluate, and use information from a variety of sources to take action or make a decision.

Assignments
Lab Content:
In a lab setting students will do a "3 day processing" of a litter of pigs. This includes clipping of needle teeth, vaccination with iron detran, ear notching and tail clipping.

TEXTS AND SUPPLIES:
Textbooks may include, but are not limited to:

TEXTBOOKS:

MANUALS:
1. Purdue University. *Pork Industry Handbook*, Purdue University, 01-10-2008

PERIODICALS:

MATERIALS FEE: $0

OTHER:
1. Pork Report (Magazine) National Hog Farmer (Magazine)

Honors Course Outline Addendum

ORIGINATOR: Bob Britton

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