

ASCI 110: SWINE SCIENCE

Proposer:**Name:**

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Effective Term:

Fall 2021

Credit Status:

Credit - Degree Applicable

Subject:

ASCI - Animal Science

Course Number:

110

Catalog Title

Swine Science

Catalog Description

Study of the principles and practices of purebred and commercial pork production throughout California, the United States and the World. Emphasis is on the importance of breeds, breeding principles, selection, nutrition, environmental management, health, marketing, and record-keeping to ensure scientifically-based management decisions and consumer acceptance. Laboratory required.

Method of Instruction:

Laboratory
Lecture and/or Discussion
Distance Education (Emergency Addendum)

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

Oral presentations

Problem solving assignments or activities

Short answer quizzes or exams

Skill demonstrations

Written essays or extended papers

Course Topics:

Course Topics	
1	The Swine Industry a) History and development b) Distribution c) Advantages and disadvantages d) Industry outlook and trends
2	Issues and Regulations in the Swine Industry a) Animal rights/welfare b) Food safety regulations c) Environmental issues
3	Economics of pork production a) Supply and waste management b) Costs of production c) Market niches
4	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
5	Feeding Swine a) Nutrient requirements for various stages of growth and maintenance b) Common feedstuffs for swine c) Forms of feed Ration formulation d) Feed additives e) Feed efficiency
6	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

- 7 Care and Management of the Swine Herd
 a) Feeding and management of boars
 b) Feeding and management of gilts and sows
 c) Prior to breeding
 d) Estrus
 e) Gestation
 f) Reproduction management
 g) Artificial insemination
 h) Semen handling
 i) Estrus synchronization
- 8 Establishing and Maintaining a Swine Herd
 a) Major Breeds of swine in the United States
 b) Identification
 c) Advantages/Disadvantages
 d) Genetic and physical basis for selection
 e) Reproductive efficiency
 f) Carcass characteristics
 g) Performance testing measures
 h) Purebred and crossbred mating systems
- 9 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

Course Objectives:

Course Objectives	
1	Describe the factors influencing the development of the swine industry.
2	Utilize ultrasound to determine pregnancy in gilts and sows, and evaluate carcass traits in live swine.
3	Utilize modern identification and data management systems.
4	Discuss nutrient requirements and feeding programs for various stages of swine production.
5	Administer pharmaceutical products (such as vaccines) to swine utilizing industry accepted methods that are in compliance with the Pork Quality Assurance program.
6	Evaluate potential career opportunities related to the swine industry.
7	Demonstrate ethical and safe methods for moving, handling and restraining swine.
8	Review the essential equipment and facilities for a complete farrow-to-finish swine production unit.
9	Explain the criteria utilized by the USDA for market classification and grading of live swine and pork carcasses.
10	Analyze the most important swine diseases and parasites as well as the principles of their control including prevention and management.
11	Outline procedures utilized in swine production (i.e. semen collection and artificial insemination).
12	Describe the major segments of the swine industry.
13	Discuss animal welfare, environmental and food safety issues in the swine industry.
14	Perform veterinary procedures commonly utilized in pork production operations.
15	Evaluate and rank classes of feeder, market and breeding swine based on visual conformation and performance data.
16	Identify anatomical features of swine.
17	Identify common breeds of swine and list their respective economically important strengths.

Course Outcomes:

Course Outcomes	
1	Upon completion of this course, students will be able to list and define accepted practices for selecting and maintaining a breeding herd of swine.
2	Upon completion of this course, students will be able to identify and suggest treatment and prevention for most common swine diseases and parasites.

- 3 Upon completion of this course, students will be able to identify and classify the five most popular breeds of swine in the U.S.

Assignments:

Assignment Type:	Details
Reading	Read Chapter 14: Swine Health from the textbook Swine Production.
Lab	<p>ASCI 110: Swine Science Swine Facility Construction 25 Points</p> <ul style="list-style-type: none"> • Need to design a single site swine facility with an unlimited budget. <ul style="list-style-type: none"> o You need to include a farrowing barn, nursery barn, and a grower-finisher barn. # Need to accommodate 50 sows. # Include lights, walls, and ventilation, feed and water delivery systems, waste system, pen sizes and number of pens. # It may be easiest to only map out one barn per piece of paper. • I want detail and drawn in a way to depict your detail. <ul style="list-style-type: none"> o Please have drawings as well as a short write up describing the purpose of your facility design. • Requirements of paper <ul style="list-style-type: none"> o Double space 12 point Times New Roman Font for the writing portion. o Please turn in as a complete document. • Proper grammar and sentence structure will be included in grade.
Homework	<p>ASCI 110: Introduction to Animal Science Swine Breed PowerPoint 25 Points</p> <ul style="list-style-type: none"> • Create 4-7 slides (5 minute presentation) about your swine breed you picked in class. <ul style="list-style-type: none"> o Brief history of breed o Characteristics o Important Facts o Any other pertinent information • Proper grammar, use of pictures and layout of slides will be included in your grade. • Make sure you use proper citations when appropriate
Writing	<p>ASCI 110: Swine Science (50 points)</p> <p>As his consultant, you need to help him design a farrow to finish swine operation. You need to design an adequate facility for this operation from the ground up. Additionally, you need to develop a breeding, nutritional, and animal health program for your swine herd. Also, how are you going to market your swine products produced. Over the course of the semester we have adequately covered this industry, so you have gained the knowledge to successfully complete the assignment.</p>

Textbooks or other support materials

Resource Type:	Details
Manuals	Pig Health. J. Carr, S. Chen, F. Connor, R. Kirkwood, and J. Segales. Taylor & Francis. 2018. 9781498704724.
Books	Pigs A Guide to Management. N. Beynon. Crowood Press. 2nd Edition. 2014. 978-1847977526
Books	Swine Production. Holden & Ensminger. Prentice Hall. 7th edition. 2006. 0-13-113461-2

Transferable to CSU

Yes - Approved

CSU General Education

Transferable to CSU

Other Degree Attributes

Degree Applicable

Not a Basic Skills Course

Additional Attachment

3:20:2018 COS Animal Science Advisory Committee Meeting Agenda.docx

2017-2018 COS Animal Science Advisory Members.docx



3:20:2018 COS Animal Science Advisory Committee Meeting Minutes.docx
Spring 2020 COS Animal Science Advisory Committee Meeting Agenda.docx
Spring 2020 COS Animal Science Advisory Responses:Recommendations.docx
Spring 2020 COS Animal Science Advisory Committee Background and Discussion Information.docx
ROM ASCI 110 DLA Form.pdf

Banner Title:

Swine Science

Curriculum Committee Approval Date:

10/01/2020

Academic Senate Approval Date:

10/14/2020

District Governing Board Approval Date:

11/09/2020

Course Control Number:

CCC000062314