ANSC 273
Swine Production & Management
SPRING 2009

Instructor: Clay Carlson  
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Office Hours: MW 11:00-1:00 or by appointment.

Class Schedule: Lecture: Thursday 2:00 – 4:00 p.m  
Lab: Thursday 4:00 - 7:00 p.m.


Additional resource: Pork Industry Handbook: Purdue University.  
https://www.ces.purdue.edu/new/

Reading assignments from this handbook will be available online from Vista.

Recommended Websites: 
National Pork Producers Council and Pork Board  
http://www.porkboard.com  
http://www.nppc.org/indexchoose.html  
Pig and Pork News: http://porknet.com  
Pork Magazine: http://porkmag.com  
Pork News: http://thepigsite.com

Course Content: The basic principles of swine management including breeding, genetics, reproduction, nutrition, health and disease, growth and efficiency, carcass composition and quality. A complete overview of the Swine Industry, production systems and business analysis, as well as the societal issues related to manure management and environmental considerations. One field trip is planned to cover the commercial, purebred and processing segments of the industry and will count as 2 lab periods. Students will be required to develop a business plan for a swine operation of their choosing and present it to the class.

Course grading:  
7 quizzes (75 pts each)  
525 pts  
Paper  
100 pts  
Presentations  
50 pts  
Attendance/Participation  
100 pts

Total: 775 pts

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Remember—students earn grades, teachers merely assign them, do your best at all times.
**Date:**  
**Lecture:**

1/29  **Week 1: Introduction and Industry Background Information**  
*Chapter 1:* Domestication and Early History (pages 1-11)  
*Industry Issues and Current Affairs: Overview from National Pork Producers*  
**Activity:**  
- CSU Chico Swine Facility, tour and management SOP’s  
- Herd Health/ Herd Management  
- Swine Jeopardy – what do you really know about pigs?  
- Business plan student projects

2/5  **Week 2: Reproduction**  
*Chapter 5:* Reproductive Biology: Reading assignment: page 51- 65.  
Reproductive efficiency in managing the breeding herd PIH-45  
Infectious Swine Reproductive Diseases PIH-59  
Trouble-shooting Swine Reproductive Failure PIH-96  
Estrus Detection and A.I. PIH-64  
**Activity:** Estrous detection and A.I.

2/12  **Week 3: Basic Pig Anatomy/Physiology/Immunology**  
*Chapter 4:* Applied Anatomy and Physiology: Reading assignment: page 34 – 50.  
Basic anatomy, blood collections, blood parameters.  
**Basics of Immunology** PIH-122  
**Activity:** Quiz 1 (Week 1&2)  
- Collect blood samples for whole herd checks – vaccine validation  
- Spin blood, collect serum and ship to diagnostic laboratory  
- Titer analysis – what does it say about vaccine success or failure  
- Blood analysis: Red Blood Cell and White Blood Cell counts/ PCV

2/19  **Week 4: Farrowing Management**  
*Chapter 18:* Management of Sows before/during and after farrowing: 275-290  
Care of sow during farrowing and lactation PIH-46  
Baby Pig Management PIH-18  
**Activity:**  
- Processing litters.  
- Fetal pig dissections.
2/26  **Week 5: Breeding and Genetics**

*Chapter 6: Pig Genetics*

*Chapter 7: Modern Breeds of Pigs*

**Genetic Principles and their application PIH-106**

**Activity:** Quiz 2 (Week 3&4):
- Selection guidelines – what to look for in replacement females
- Questions and Activities Chapter 6, Page 79: 1 – 5.

3/5  **Week 6: Nutrition & Ration Formulations**

*Chapter 10: Nutrients & Nutrition*  
**Reading assignment:** page 121 – 146.

*Chapter 11: Feed Resources:*  
**Reading assignment:** page 148– 173.

*Chapter 12: Formulating Diets for Pigs:*  
**Reading assignment:** page 175 – 192.

**Activity:**
- Ration formulations exercises
- Mixing rations for the unit

3/12  **Week 7: Pork Quality and Safety**

*Chapter 9: Pork Composition and Quality:* pages 110-119

Porcine stress syndrome PIH-26

Carcass evaluation PIH-42

Factors that reduce pork value PIH 135

**Activity:** Quiz 3 (Week 5&6)

- Carcass Evaluation – Meats laboratory

3/19  **Week 8: Spring Break**

3/26  **Week 9: Housing and Environment**

*Chapter 13: Creating a Comfortable Microenvironment for Pigs:* (page 194-206)

The snvssonment in swine housing:SPH 54

Space Requirements: PIH 55

Swine Farrowing units; Grower/finisher units; Nurseries: PIH 10, 11 & 70

**Activity:**
- Housing video: NPPC
- Building survey and assessment

4/2  **Week 10: Waste Management**

*Chapter 16: Waste and Nutrient Management:* pages 259 - 266

Legal guidelines for swine manure management: PIH-35

Systems for runoff control: PIH-21

Lagoon management: PIH 62

**Activity:** Quiz 4 (Week 7 & 8)
- Waste management video
- Waste management assessment at the ATRC
- Questions and Activities for Chapter 16

4/9  **Week 11: Biosecurity and Disease Prevention**  
*Chapter 20:* Management of Pig Health: sanitation, pig flow, vaccination programs and common diseases  
**Techniques to Eliminate Disease PIH-139**  
**Preventing the Introduction of Disease through Biosecurity PIH-79**  
**Facility Sanitation Procedures PIH-80**  
**Activity:**  
- On-farm sanitation measures – hands-on – clean the unit  
- Review of biosecurity plan

4/16  **Week 12: Herd Management**  
*Chapter 17:* Management of the Breeding Herd : pages 267-274  
**Performance Guidelines for the Swine Operation PIH-100**  
**Calculating swine schedules PIH 113**  
**Stages program for herd analysis**  
**Activity:** **Quiz 5 (Week 10 & 11): Field Trip credit**

4/23  **Week 13: Production Systems**  
Strategic decisions and business plans for pork production operations PIH-48  
**Determining capital requirements PIH 49**  
**Activity:** Field Trip credit

4/30  **Week 14: Production Systems**  
*Chapter 14:* Production Systems for Adult Pigs: 207-224  
*Chapter 15:* Production Systems for Growing Pigs: 225-257  
**Activity:** **Quiz 6 (Week 12 & 13): Work on Business Plans**

5/7  **Week 15: Production Systems**  
Business Analysis of Two-Litter pasture systems (farrow to finish) PIH 13  
Business Analysis of Two groups of sows farrow to finish PIH 14  
Business Analysis of high investment vs. low investment operations (high intensity systems vs. low intensity systems) PIH 16 & 83  
**Activity:** Work on Business Plans

5/14  **Week 16: Presentations**

5/21  **Week 17:** Final 12 - 1:50 p.m. (Quiz 7: Week 14 & 15)