INSTRUCTOR: Dr. John Michael Mehaffey  
Room 103  
Agriculture Building

OFFICE HOURS: MW 10 – 12 pm; TR 11 – 12 pm  
Office: 936-468-4319  
Cell: 806-790-4330  
E-mail: mehaffeyjm@sfasu.edu

LECTURE: MW 9 – 9:50 am Agriculture Room 121

LECTURE MATERIALS: PQA Plus V 4.0 Handbook


REQUIRED SUPPLIES

Students will need to purchase a pair of rubber boots and coveralls/scrubs to wear during class. Otherwise, clean clothes that have not been exposed to other swine must be worn when visiting the swine center. STUDENTS MUST NOT BE AROUND SWINE FOR A MINIMUM OF 72 HOURS PRIOR TO ENTERING THE SWINE CENTER.

COURSE DESCRIPTION

This course will explore how the interactions of breed selection, environmental conditions, mating systems, reproductive physiology, and nutrition all affect the final product in the production swine. The student will gain experience and knowledge as it applies to the commercial and show pig industries.

Course Credit Hour Justification

ANSC 3242 (ANS 341) – Swine Production (2 credits lecture, 1 credit lab). The lecture and lab are taken concurrently. The points for the lecture and lab are combined into one grade for the course. The class meets three times a week (two 50-minute lectures and one 110-minute lab) for 15 weeks and also meets for a 150-minute final exam. Students are required to take 5 major quizzes and a comprehensive final project/presentation. Students are also required to complete Pork Quality Assurance Certification and a video presentation to be completed outside of normal class time. These requirements take at least 6 hours of out-of-class student work each week to complete.
Objectives

1. To be able to identify breeds of swine.
2. To evaluate swine for breeding production and market purposes.
3. To be able to read and mark ear notches on market hogs.
4. To gain a knowledge in swine production practices including management, nutrition, reproduction and general health, by obtaining PQA Plus certification.
5. To gain understanding of managing a swine operation.

Lecture Attendance

Attendance is mandatory, if you are late or asked to leave for any reason you will be counted absent. You will be given three absences, for each absence after three your grade will be reduced by a letter grade. Further absences will result in the automatic failure of this course.

Lab Attendance

Laboratory attendance is mandatory. If a student misses more than TWO laboratory sessions, for any reason, this will result in FAILURE of the course. Students will be graded on lab participation.

Authorized absences: The only absences that will be authorized are:
ABSENCE FOR A UNIVERSITY APPROVED FIELD TRIP OR ACTIVITY: These must be cleared at least one week in advance of the major examination. If not cleared in an appropriate fashion, a grade of zero will be assigned for the missed examination.
ABSENCE FOR A DEATH OR SERIOUS ILLNESS IN THE IMMEDIATE FAMILY: A letter of explanation from the physician or minister who attended the patient or was in charge of the funeral services, respectively, must verify this. This letter must be within 14 days following the missed examination or the grade of zero will be assigned.
ABSENCES RESULTING FROM PERSONAL ILLNESS THAT IS TOO SEVERE OR CONTAGIOUS FOR THE STUDENT TO ATTEND CLASS: A letter of explanation from a physician on official letterhead must verify this. This letter must be within 14 days following the missed examination or the grade of zero will be assigned.
ABSENCE FOR A LEGAL PROCEDURE, ADMINISTRATIVE PROCEDURE, OR MILITARY DUTY: The instructor must be notified at least one week in advance of the major examination and have a verification letter on official letterhead. If not cleared in an appropriate fashion, a grade of zero will be assigned for the missed examination.
ABSENCE FOR A RELIGIOUS OBSERVANCE: The instructor must be notified at least one week in advance of the major examination. If not cleared in an appropriate fashion, a grade of zero will be assigned for the missed examination.
ABSENCE FOR A MANDATORY ADMISSION INTERVIEW FOR
PROFESSIONAL SCHOOL WHICH CANNOT BE RESCHEDULED: The instructor must be notified at least one week in advance of the major examination and have a notification from the appropriate individual on official letterhead.

Classroom Etiquette

The instructor expects senior students to show simple etiquette in class. This includes, the following, at least:

- Be on time for class
- Remove any hats during class
- Wear shoes, shirts, pants or skirts that you would wear if you were on a job that included interacting with other professionals
- Do not read the paper or read on-line material while in class
- Do not check e-mail or web pages while in class
- Turn off your cell phone
- Do not eat in class. You may bring a drink if in a closed/covered cup
- Be polite and professional to other students and to guests
- Greet your fellow classmates and the instructor with a simple good morning or hello
- Be attentive in class; participate in discussions
- We are here to learn and we require a healthy, respectful positive environment

Violation of etiquette rules may result in loss of points or removal from class.

Student Learning Outcomes

1. Student will demonstrate competence of technical subject matter in animal and poultry sciences (ANS 131)
2. The student will demonstrate effective oral and written communication skills
3. The student will exhibit leadership and other interpersonal skills needed for career placement and advancement
4. The student will exhibit problem-solving skills based on quantitative and analytical reasoning
5. The student will demonstrate knowledge of farm and ranch skills. (ANS 131)

Program Learner Outcomes

1. The student will demonstrate competence of technical subject matter areas in agriculture including plant and animal sciences, agricultural economics, and mechanized agriculture.
2. The student will exhibit problem-solving skills based on quantitative and analytical reasoning.
3. The student will demonstrate effective communication skills
4. The student will exhibit leadership and other interpersonal skills needed for career placement and advancement.
**Student Academic Dishonesty Policy (4.1)**

Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism. **Definition of Academic Dishonesty:** Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one’s own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one’s paper without giving the author due credit. Please read the complete policy at [http://www.sfasu.edu/policies/student_academic_dishonesty.pdf](http://www.sfasu.edu/policies/student_academic_dishonesty.pdf)

**Course Grades Policy (5.5)**

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. Please read the complete policy at [http://www.sfasu.edu/policies/5.5_course-grades.pdf](http://www.sfasu.edu/policies/5.5_course-grades.pdf)

**Academic Accommodation for Students with Disabilities Policy (6.1)**

To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to [http://www.sfasu.edu/disabilityservices/](http://www.sfasu.edu/disabilityservices/)

**Responsible Use of Technology**

It is expected that all students will only use cell phones, PDAs, laptop computers, MP3 players and other technology outside of class time or when appropriate in class. Answering a cell phone, texting, listening to music or using a laptop computer for matters unrelated to the course may be grounds for dismissal from class or other penalties.
Acceptable Student Behavior
Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy 10.4). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed. Please read the complete policy at http://www.sfasu.edu/policies/student-code-of-conduct_10.4.pdf

Farm Plan Project

Farm Plan-This project will be graded as follows:
- Genetics/Breeding Program-15 points
- Housing, Facilities & Equipment-15 points
- Health plan-15 points
- Marketing plan-15 points
- Pig Flow/Cash flow-30 points
- Final written report-100 points
- Final oral report/Final-100 points

Total 300 points

Your project should address these core questions:
- How much does it take for you to live annually?
- What are your production costs per pig? (feed, facilities, health)
- How much will you mkt your pigs for?
- How many sows/marketable pigs will it take to hit your annual cost of living minus taxes?
- How else can you accrue money from this gift you have been given?
- How will you finance expansion?

The final written report will be due on April 27th and student presentations will be during the final on May 6th.

Each student will complete the project with a partner. You will be asked to develop a complete production plan for a commodity or niche swine production operation. Your grandparents have left you 100 acres of Bahia grass pasture land in Nacogdoches County Texas in a trust that stipulates you must use these assets for pork production for five years. The farm is relatively secluded, has a perimeter fence, a small equipment shed, a few outdoor farrowing huts, and five 3rd parity crossbred sows your Grandpa used to raise and sell a few meat hogs.
In short, you must put together a management plan detailing ALL receipts and expenditures showing that you can operate at a profit by the 5th year and beyond or you will lose it all. All other capital improvements, breeding stock purchase, equipment, etc. will be 100% financed. Each portion of the project turned in throughout the semester is to include capital costs, operating expenses and all expenses associated with that portion of the project. You are a recent SFASU Animal Science graduate with an entrepreneurial spirit, you are single, have no children, and will not have any appreciable off-farm income for these first five years. It is up to you to develop a feasible, profitable swine operation under these guidelines. It is now time to utilize all of the knowledge you have gained in your college careers, plus the realistic view to make the correct management and financial decisions. This project will be considered PROFESSIONAL. Treat this opportunity as if it was your own operation and the profit or loss of the operation was in your own hands.

**Supporting Material:**
- Pork [www.porkmag.com](http://www.porkmag.com)
- National Pork Board [http://www.pork.org](http://www.pork.org)
- Feedstuffs [www.feedstuffs](http://www.feedstuffs)
- Chicago Mercantile Exchange [www.cme.com](http://www.cme.com)
- Journal of Animal Science [www.asas.org](http://www.asas.org)
- National Swine Improvement Federation [www.nsif.com](http://www.nsif.com)
- Pork Information Gateway (PIG) [www.porkgateway.com](http://www.porkgateway.com)
- Daily Livestock Report [www.dailylivestockreport.com](http://www.dailylivestockreport.com)
- AgWeb [http://www.agweb.com/](http://www.agweb.com/)
- American Assoc. of Swine Veterinarians [https://www.aasv.org/](https://www.aasv.org/)

**Attend Farrowing:**

Each student must attend a sow-litter farrowing and assist with the birth of the litter. The farrowing schedule will be made available to the students. Students will be assigned a sow and given her estimated farrowing date. Students must check her delivery status and be present at birth of the litter. The litter birth must be recorded in still and/or video. The sow should be aided where necessary. Students will document an aspect of the piglet birth process as one writing/video assignment.

Students will be responsible for the following activities about their sow and litter:
• Be present at birth
• Dry off each piglet, ear notch it, weigh it, record the weight and time of birth and pig sex, and place it near a teat to suckle
• At three (3) days of age, “process” the litter; this will include
  • Castrate the male piglets
  • Dock tails
  • Give supplemental iron injection (100 mg)
  • Provide antibiotics or vaccinations as directed by the swine herdsman
• At exactly 21 days of age, weigh each piglet and the sow – this is weaning age
• After weaning, breed the sow by AI with farm staff help
• Prepare a 1-page farrowing report, that includes the following information:
  ▪ Sow pre-farrowing weight
  ▪ Sow 21-day weaning weight
  ▪ Sow weight change (growth or weight loss)
  ▪ Time of each piglet birth and average interval between births
  ▪ Sex of each piglet
  ▪ Individual piglet birth weights, total litter birth weight and average piglet birth weight
  ▪ Individual piglet 21-day weaning weights, total litter weaning weight, and average piglet 21-day weaning weight
  ▪ Average piglet daily gain from birth to weaning
  ▪ Causes of piglet morality
  ▪ Preweaning mortality %
  ▪ Indicate any vaccinations or treatments that the sow or piglet’s received
  ▪ Short narrative on the birth process and the life of the litter, and general observations
  ▪ Be sure to include a second sheet with your report that is the results of your Biosecurity audit
• The Farrowing Report and Biosecurity Audit form are due: **April 28, 2020**
Facebook Video Project

Swine Production class is a writing intensive class. This semester, teams of students will prepare one video and upload it to the Swine Center Facebook page. For these projects, students must follow these steps:

1. Students will assign:
   a. primary writer/author, secondary and tertiary authors; the written script must list the authors in order of contribution (the one that contributes most will be the first author listed)
   b. team members (videographer, editor, actors, etc.)
2. Write the script
3. Have script approved as technically correct
4. Shoot video
5. Edit video
6. Upload video

Each video will have the following features:

1. In one of four categories (see below)
2. 5 minutes or less in duration
3. Will contain more than one “scene” (ex., pigs, talking head, machines, interview, computer screens, animation, graphics, etc.)
4. Must contain key words SFASU Swine Production 2020 and be uploaded to the SFASU Facebook page.

Categories of Video (each group will produce one from each category):
1. Society Issue
   a. World hunger.
   b. Environmental issues.
      i. Air quality
      ii. Water quality
      iii. Soil health
   c. Animal welfare
      i. Gestation sow housing
      ii. Lactation sow housing
      iii. Castration
      iv. Transportation
      v. Space during finishing
      vi. Tail docking
   d. Food safety
   e. Diet-health issues with pork
   f. Worker health or safety
2. How-to; hands-on pig husbandry having to do with piglet birth or litter processing
3. Science-based educational topic in the areas of:
a. Nutrition  
b. Genetics  
c. Meats  
d. Reproductive Physiology  
e. Environmental management (air quality, ventilation, temperature)  
f. Waste management  

4. Open to anything creative, for example:  
a. Swine Influenza  
b. Farm economics  
c. Pigs as a biomedical species for research  
d. Xenotransplantation  
e. Husbandry tasks other than litter processing (ex., handling pigs, loading trucks, routine pig health checks, etc.).

Grading of Video Project

The grading of the Video project will be according to the following criteria:  

50% Script (technical correctness, writing style, understandability, creativity)  
10% Student peer-review of final product  
10% Length (4-5 minutes target)  
10% Depth of topic covered  
10% Creativity and entertainment/educational impression  
10% Number of views  
100%
### SWINE PRODUCTION

**TENTATIVE SCHEDULE**

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<tr>
<th>Week</th>
<th>Monday</th>
<th>Wednesday</th>
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<tr>
<td>1 – 1/15</td>
<td>NO CLASS</td>
<td>Introduction</td>
</tr>
<tr>
<td>2 – 1/20</td>
<td>NO CLASS</td>
<td>World, US and Regional Pork Industry</td>
</tr>
<tr>
<td>3 – 1/27</td>
<td>Biosecurity, Herd Health</td>
<td>Production Systems</td>
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<tr>
<td>4 – 2/3</td>
<td>Genetics &amp; Breeding</td>
<td>Genetics &amp; Breeding</td>
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<td>5 – 2/10</td>
<td>Gestation Management</td>
<td>Gestation Management</td>
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<td>6 – 2/17</td>
<td>Reproduction</td>
<td>Reproduction</td>
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<td>7 – 2/24</td>
<td>Farrowing</td>
<td>Farrowing</td>
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<td>8 – 3/2</td>
<td>Nutrition</td>
<td>Nutrition</td>
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<tr>
<td>9 – 3/9</td>
<td>NO CLASS</td>
<td>NO CLASS</td>
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<tr>
<td>10 – 3/16</td>
<td>Nutrition</td>
<td>Marketing</td>
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<tr>
<td>11 – 3/23</td>
<td>Nursery Management</td>
<td>Nursery Management</td>
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<tr>
<td>12 – 3/30</td>
<td>Nutrient Management</td>
<td>Grow/Finish Management</td>
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<td>13 – 4/6</td>
<td>Grow/Finish Management</td>
<td>Carcass Merit</td>
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<td>14 – 4/13</td>
<td>Pork Quality</td>
<td>Pork Quality</td>
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<td>15 – 4/20</td>
<td>Efficiency</td>
<td>Efficiency</td>
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<tr>
<td>16 – 4/27</td>
<td>Show pigs Industry</td>
<td>Marketing Show pigs</td>
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<tr>
<td>17 – 5/6</td>
<td>FINAL</td>
<td>Presentations</td>
</tr>
</tbody>
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**FINAL EXAM WEDNESDAY, MAY 6th @ 8 AM!**

**GRADING SYSTEM:**

- A = 90 %
- B = 80 - 89 %
- C = 70 - 79 %
- D = 60 - 69 %
- F = LESS THAN 60 %

**POINT SYSTEM:**

- DISCUSSION QUIZZES 250
- FARM PLAN PROJECT 300
- FARROWING REPORT 100
- VIDEO PROJECT 100
- LAB PARTICIPATION 200
- ETIQUETTE, PARTICIPATION, SERVICE 50

**TOTAL** 1000
Lecture Quizzes

Students will take 5 major quizzes throughout the semester over material covered in lecture. These will be worth 50 points apiece and may consist of matching, true/false, multiple choice, short answer or essay questions.

SWINE PRODUCTION LABORATORY

TENTATIVE SCHEDULE

Week 1  Introduction to Swine Center and Establish Partners
Week 2  Breed ID & Animal Well-Being
Week 3  Bio-Security and Public Health Risks
Week 4  Environment
Week 5  Workplace Safety
Week 6  Food Safety
Week 7  Feeding and Nutrients Requirements
Week 8  No Lab
Week 9  Parturition and Litter Management
Week 10  No Lab
Week 11  Estrus Detection and Heat Synchronization
Week 12  Estrus Detection and Heat Synchronization
Week 13  Selection and Evaluation of Market and Breeding Swine
Week 14  Site Assessment
Week 15  Lab Final