Instructor Information

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Office Hours: M/W/F: 8:00-9:00 AM; TU/TH: 8:00 – 9:00 AM
Or by Appointment/Zoom

Course Information

Course Number and Title: ANSC 4386 - Principles of Animal Breeding
Course Day and Time: Tuesday and Thursday 5:00 -6:15 PM
Location: Agriculture Building Room 121

Course Description:
Selection and systems of breeding livestock. Traits of economic importance. Genetic and statistical principles as they apply to farm animal selections. Prerequisites: BIO 1307 and 12 semester hours of animal science or consent of instructor.

Course Objective:
This course is designed to serve the basic animal breeding requirements for Animal Science, Equine Emphasis, and Pre-Vet students.

Credit Hour Justification: (3 credits) The class meets two days a week for 1 hour and 15 minutes for 15 weeks and also meets for a 2-hour final exam. Students are required to take weekly quizzes, three major exams and final examination. Students are also required to submit at least five assignments that are completed outside of normal class time. These requirements take at least 6 hours of out-of-class student work each week to complete.

Learning Outcomes

Student Learning Outcomes:
Students will understand the fundamentals of animal selection, breeding, and genetics, in addition to a variety of concepts and skills necessary for animal owners and breeders to understand.

Course Level Student Learning Objectives:
1. Demonstrate a basic understanding of Mendalian theory and genetic terms.
2. Estimate phenotypic probability using a Punnett square.
3. Identify types of gene action in specific cases.
4. Estimate the breeding values of individuals based on lifetime averages, sib information, progeny information, and pedigree information.
5. Recognize genetically selected mating in cattle, sheep, goats, and pigs.
6. Discern uses for recordkeeping systems.

Program Level Student Learning Outcomes:
1. The student will demonstrate competence of applied subject associated with all areas of animal breeding, genetics, and selection.
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.

Textbook and Materials

Suggested Textbook:  
Supplemental Textbooks:

*Molecular and Quantitative Animal Genetics* 1st edition, Hasan Khatib. IBSN # 978-1-118-67740-7

### Grading & Course Requirements

**Grading Policy**
90%+ = A (Ex. using pts. 639-710); 80-89% = B; C=70-70%; D=60-69%; F<60%

**Grading**
Grades will be determined by the following:

**Number of assignments may change at the discretion of the instructor.**
Anticipated points and/or percentages for grading are as follows:

- 3 - Hour exams over lecture material 300
- 10 – Homework assignments 200
- 15 - Quizzes 300
- Final Exam 200

Total 1,000

**Attendance:** Expected and Encouraged. Students will sign an attendance sheet daily as record of their attendance. It is each individual student’s responsibility to ensure they sign the daily attendance record, as failure to do so is documented as an absence. For absences to be considered excused, advanced notice is preferred, documentation upon return to class is required. Only excused absences will be allowed to make up missed work, including homework assignments, quizzes, exams, and project(s).

**SFA ATTENDANCE POLICY**
Absences At the discretion of the instructor, students may be excused from attendance for reasons such as health, family emergencies, or student participation in approved university-sponsored events. When possible, students should notify their instructors in advance about absences. Students are responsible for providing documentation in a timely manner to the instructor for each absence. The instructor determines whether such documentation is satisfactory. Students missing classes, other than for university-sponsored trips, should contact the Dean of Students Office and request that an absence notification be sent to the instructor(s). The notification is not an excuse, and is not evaluated by the Dean of Students Office. The notification is only provided as a courtesy to the student and the student's instructor(s). If participating in university-sponsored events, announcements in mySFA may constitute official notification. Faculty members sponsoring activities that require their students to be absent from other classes must submit to the Provost and Executive Vice President for Academic Affairs an explanation of the absence, including the date, time, and an alphabetical
listing of all attending students. If approved by the Provost and Executive Vice President for Academic Affairs, this information will be posted on mySFA. Whether absences are excused or unexcused by the instructor, a student is still responsible for all course content and assignments. Students with accepted excuses may be permitted to make up work for absences equaling no more than 15% of the scheduled course meeting time for the term, depending on the nature of the missed work. The timeline for completing make-up work will be determined by the instructor.

Student Responsibilities

- Attend all lectures
- Sign an attendance sheet daily
- Read required materials prior to lecture
- Restrict discussion in class to material in hand and related topic
- Meet all announced deadlines for assignments
- Do not inhibit or interfere with other students from listening and learning (See Acceptable Classroom Behavior)

Make-up Exams/Late Assignments

Only students with a documented (doctors note, letter from instructor/coach, or other approved documentation) legitimate (illness, family emergency, university/college sponsored events) reason for missing an exam or assignment will be allowed to make up exams or turn in late assignments. If an illness caused the student to miss an exam then the student must provide a doctor’s excuse/note/documentation and complete the make up the exam or turn in missed assignment within one week (7 days) from the date the exam was administered or due date of assignment. Students who do not follow these guidelines will not be allowed to make up the exam and will receive a zero (0) for the exam or assignment missed.

Electronic Device Policy

CELL PHONES AND OTHER ELECTRONIC DEVICES MUST BE SILENCED AND PUT AWAY BEFORE CLASS BEGINS.

Responsible Use of Technology

It is expected that all students will only use cell phones, PDAs, laptop computers, MP3 players and related devices outside of class time or when appropriate in class. Answering a cell phone, texting, listening to music or using a laptop for matters unrelated to the course may be grounds for dismissal from class or other penalties (See Electronic Device Policy above).

Policies

Academic Integrity (4.1)

The Code of Student Conduct and Academic Integrity outlines the prohibited conduct by any student enrolled in a course at SFA. It is the responsibility of all members of all faculty, staff, and students to adhere to and uphold this policy.

Articles IV, VI, and VII of the new Code of Student Conduct and Academic Integrity outline the violations and procedures concerning academic conduct, including cheating, plagiarism, collusion, and misrepresentation. Cheating includes, but is not limited to: (1) Copying from the test paper (or other assignment) of another student, (2) Possession and/or use during a test of materials that are not authorized by the person giving the test, (3) Using, obtaining, or attempting to obtain by any means the whole or any part of a non-administered test, test key, homework solution, or computer program, or using a test that has been administered in prior classes or semesters without permission of the Faculty member, (4) Substituting for another person, or permitting another person to substitute for one’s self, to take a test, (5) Falsifying research data, laboratory reports, and/or other records or academic work offered for credit, (6) Using any sort of unauthorized resources or technology in completion of educational activities.
Plagiarism is the appropriation of material that is attributable in whole or in part to another source or the use of one’s own previous work in another context without citing that it was used previously, without any indication of the original source, including words, ideas, illustrations, structure, computer code, and other expression or media, and presenting that material as one’s own academic work being offered for credit or in conjunction with a program course or degree requirements.

Collusion is the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on academic dishonesty, including disclosing and/or distributing the contents of an exam.

Misrepresentation is providing false grades or résumés; providing false or misleading information in an effort to receive a postponement or an extension on a test, quiz, or other assignment for the purpose of obtaining an academic or financial benefit for oneself or another individual or to injure another student academically or financially. For additional information, go to https://www.sfasu.edu/docs/hops/04-106.pdf.

**Withheld Grades Semester Grades (HOP policy 02-206)**
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 coursework 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 to compute the grade point average. For additional information, go to https://www.sfasu.edu/docs/hops/02-206.pdf.

**Students with Disabilities**
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 promptly may delay your accommodations. For additional information, go to sfasu.edu/disabilityservices.
Student Wellness and Well-Being
SFA values students’ overall well-being, mental health and the role it plays in academic and overall student success. Students may experience stressors that can impact both their academic experience and their personal well-being. These may include academic pressure and challenges associated with relationships, emotional well-being, alcohol and other drugs, identities, finances, etc.

If you are experiencing concerns, seeking help, SFA provides a variety of resources to support students’ mental health and wellness. Many of these resources are free, and all of them are confidential.

On-campus Resources:
The Dean of Students Office (Rusk Building, 3rd floor lobby)
sfasu.edu/deanofstudents
936.468.7249
dos@sfasu.edu

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. 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 will 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.

Mental Health Policy
SFASU values students’ mental health and the role it plays in academic and overall student success. SFA provides a variety of resources to support student’s mental health and wellness. Many of these resources are free, and all of them are confidential.

On-campus Resources:
SFASU Counseling Services
www.sfasu.edu/counselingservices
3rd Floor Rusk Building
936-468-2401

SFASU Human Services Counseling Clinic
www.sfasu.edu/humanservices/139.asp
Human Services Room 202
936-468-1041

Crisis Resources:
Burke 24-hour crisis line 1(800) 392-8343
Suicide Prevention Lifeline 1(800) 273-TALK (8255)
Crisis Text Line: Text HELLO to 741-741
## Course Lecture Schedule

**Course Schedule may change at the discretion of the instructor.**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topics Covered</th>
<th>Chapter(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/18 Th</td>
<td>Introduction and Syllabus</td>
<td>-----------</td>
</tr>
<tr>
<td>1/23 Tu</td>
<td>Genetic Terminology; Mitosis &amp; Meiosis;</td>
<td>3</td>
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<tr>
<td>1/25 Th</td>
<td>Punnett Square; Types of Inheritance</td>
<td>3</td>
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<tr>
<td>1/30 Tu</td>
<td>Principles of Population Genetics</td>
<td>3</td>
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<tr>
<td>2/1 Th</td>
<td>Principles of Population Genetics</td>
<td>3</td>
</tr>
<tr>
<td>2/6 Tu</td>
<td>Principles of Population Genetics</td>
<td>3</td>
</tr>
<tr>
<td>2/8 Th</td>
<td>Improving Populations</td>
<td>2</td>
</tr>
<tr>
<td>2/13 Tu</td>
<td><strong>Review</strong></td>
<td>-----------</td>
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<tr>
<td>2/15 Th</td>
<td><strong>Exam 1</strong></td>
<td>2&amp;3</td>
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<tr>
<td>2/20 Tu</td>
<td>Genetic Change</td>
<td>10</td>
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<tr>
<td>2/22 Th</td>
<td>Genetic Prediction</td>
<td>11</td>
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<tr>
<td>2/27 Tu</td>
<td>Simply Inherited &amp; Polygenetic Traits</td>
<td>5</td>
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<tr>
<td>2/29 Th</td>
<td>Selection for Simply Inherited Traits</td>
<td>6</td>
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<tr>
<td>3/5 Tu</td>
<td>Genetic Model for Qualitative Traits</td>
<td>7</td>
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<tr>
<td>3/7 Th</td>
<td>Statistics &amp; Quantitative Traits</td>
<td>8</td>
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<tr>
<td>3/12 Tu</td>
<td><strong>NO CLASS – SPRING BREAK</strong></td>
<td>-----------</td>
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<tr>
<td>3/14 Th</td>
<td><strong>NO CLASS – SPRING BREAK</strong></td>
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<tr>
<td>3/19 Tu</td>
<td>Large Scale Genetic Evaluation</td>
<td>12</td>
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<tr>
<td>3/21 Th</td>
<td>Expected Progeny Differences and Review</td>
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<tr>
<td>3/26 Tu</td>
<td><strong>Exam 2</strong></td>
<td>5–8, 10-12</td>
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<tr>
<td>3/28 Th</td>
<td>Heritability and Repeatability</td>
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<tr>
<td>4/2 Tu</td>
<td>Heritability and Repeatability</td>
<td>9</td>
</tr>
<tr>
<td>4/4 Th</td>
<td>Breeding Systems</td>
<td>19</td>
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<tr>
<td>4/9 Tu</td>
<td>Beef Cattle Breeding</td>
<td>19</td>
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<tr>
<td>4/11 Th</td>
<td>Defects in Cattle Genetics</td>
<td>20</td>
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<tr>
<td>4/16 Th</td>
<td>Dairy Cattle Breeding</td>
<td>20</td>
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<tr>
<td>4/18 Th</td>
<td>Swine Breeding</td>
<td>20</td>
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<tr>
<td>4/23 Th</td>
<td>Commonsense Animal breeding</td>
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<tr>
<td>4/25 Th</td>
<td>Biotechnology</td>
<td>20</td>
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<tr>
<td>4/30 Tu</td>
<td><strong>Exam 3</strong></td>
<td>9 – 12, 17, 18, 20</td>
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<tr>
<td>5/2 Th</td>
<td>Big Picture Discussion</td>
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<tr>
<td>5/ TH</td>
<td><strong>Final Exam</strong></td>
<td>1 – 12, 17, 18, 20</td>
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