

Agr 495 – Animal Breeding and Genetics Fall 2007

Instructor:

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Office hours by appointment**

Reference texts:

Understanding Animal Breeding, Second Edition, Richard M. Bourdon

Course Description:

General principles and applications of genetics in the production of Livestock species will be presented. Methods for the selection and improvement of livestock and modern genetic technologies will also be addressed.

Course Objectives:

The course will provide students with a basic understanding of Mendelian genetics and methods by which these principles can be applied for the improvement of livestock species. Statistical methods, mating systems and methods of animal selection will be discussed to enable the student to apply these tools to livestock production. New horizons in reproductive technology will also be discussed to provide the student with a basic understanding of new and developing methods of animal improvement and modification.

Grading:

Lecture Exam 1 – 20%

Lecture Exam 2 – 20%

Lecture Exam 3 – 20%

Power Point Presentations – 20%

Final Exam (Comprehensive including Power Point presentation material) – 20%.

Students with an A average are exempt from the final pending perfect class attendance.

Final Grade Scale:

89.5 and above A

79.5 - 89.49 B

69.5 - 79.49 C

59.5 - 69.49 D

59.49 and below F

Course Outline:

Chapter 3 - Mendelian Genetics

Chapter 8 - Statistics and their Application to Quantitative Traits

EXAM 1

Chapter 1 - What Is The Best Animal?

Chapter 2 - How are Animal Populations Improved?

Chapter 4 - Genes in Populations

Chapter 5 - Simply Inherited Polygenic Traits

EXAM 2

Chapter 6 - Selection for Simply-Inherited Traits

Chapter 7 - The Genetic Model for Quantitative Traits

Chapter 9 - Heritability and Repeatability

Chapter 10 - Factors Affecting the Rate of Genetic Change

Chapter 11 - Genetic Predictions

Chapter 12 - Large Scale Genetic Evaluation

Chapter 13 - Correlated Response to Selection

Chapter 14 - Multiple Trait Selection

EXAM 3

Chapter 16 – Mating Strategies Based on Animal Performance

POWER POINT PRESENTATIONS to include:

INBREEDING

OUTBREEDING

HYBRID VIGOR

Chapter 19 – Crossbreeding Systems

Chapter 20 – Biotechnology and Animal Breeding

Chapter 21 – Commonsense Animal Breeding

Review

FINAL EXAM – Comprehensive including Power Point Presentations. **Students with an A average are excused from the final pending perfect class attendance (no unexcused absences).**

Attendance Policy:

Attendance will be kept daily. Each Student is given one unexcused absence. After that, each unexcused absence will result in a one point deduction from the final average. If you plan to miss a class, please talk to me in advance to determine if the absence is to be excused.

Academic Dishonesty:

All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in the academic exercises both in and out of the classroom. Any student found guilty if dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including, but not limited to,

cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials.

Classroom Rules of Conduct:

Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus impedes the mission of the University. Cellular telephones and pagers must be turned off before class begins and will not be permitted to be used as calculators. Students are prohibited from using tobacco products in the classroom and laboratory. Inappropriate behavior will not be permitted in the class room or laboratory and disruptive students may be reported to the Dean of Students for disciplinary action in accordance with university policy.

Americans with Disabilities Act:

It is the policy of Sam Houston State University than no otherwise qualified disabled individual shall, solely by reason of his or her handicap, be excluded from the participation in, be denied the benefits of, or be subject to discrimination under any academic or Student Life program or activity. Disabled students may request help with academically related problems stemming from individual disabilities from their instructors, school/department chair, or by contacting the Chair of the Committee for Continuing Assistance for Disabled Students and Director of the Counseling Center, Lee Drain Annex, or by calling (936)294-1720.

If you have a disability that may adversely affect your work in class, I encourage you to register with the SHSU Counseling Center and talk to me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. **NOTE:** No accommodation can be made until you register with the Counseling Center.

Religious Holidays:

Section 51.911(b) of the Texas Education Code requires that an institution of higher education excuse a student from attending class or other related activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence.

University policy 861001 provides the procedures to be followed by the student and the instructor. A student desiring to absent himself/herself from a scheduled class in order to observe (a) religious holy day(s) shall present to each instructor involved a written statement concerning the religious holy day(s). This request must be made in the first fifteen days of the semester or the first seven days of a summer session in which the absence(s) will occur. The instructor will complete a form notifying the student of a reasonable timeframe in which the missed assignments and/or examinations are to be completed.

Instructor Evaluation: You will be asked to complete a course/instructor evaluation form toward the end of the semester.

