

ANS 310
Genetics of Livestock Improvement
Spring 2014
Syllabus

Lecture: M W F 8:00 – 9:00 AM
AGIT 255

Instructor:

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Text: Understanding Animal Breeding, 2nd (2000) Edition (Highly Recommended)
Richard M. Bourdon
Prentice Hall Publishing

Grading:

Quizzes and Homework	20%	90%+	A
Exams (2)	50%	80 - 89.9%	B
Friday Feb. 14 th		70 - 79.9%	C
Friday Mar. 28 th		60- 69.9%	D
Final Exam	30%	59.9% -	F
Monday May 5 th 8-10 AM			

Quizzes or homework will begin on Jan 22 and will be handed out on Wednesday to be returned at the start of the following class period or taken in class on Friday. A total of 10 quizzes will be counted towards the final grade.

Exams will be given during the entire class period. Exam formats may include T/F, matching, multiple choice, and short answer. Some exams and quizzes will require math so you will need to bring a calculator. A smart phone/cell phone/tablet will not be allowed to use on the exam.

Students with Disabilities:

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library
Room 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamuc.edu

Learning Outcomes

1. Understand and define all breeding and genetics terms presented in lecture.
2. Understand Mendelian inheritance, the components of the genetic model, and difference between qualitative and quantitative traits.
3. Calculate population gene and genotypic frequencies.
4. Calculate the probability that an individual is a carrier of a particular gene and understand how that changes depending on the group of females the sire is mated to.
5. Calculate F_x and R_{xy}
6. Calculate estimates of statistical parameters necessary to describe a population and understand the application of each.
7. Understand difference between hybrid vigor and inbreeding depression.
8. Understand different selection methods including tandem selection, independent culling methods and selection index methods.
9. Understand the uses of breed complementary, assortative mating, inbreeding, and outbreeding
10. Describe the difference between individual, maternal and paternal heterosis
11. Describe different crossbreeding systems presented in class and understand advantages and disadvantages of each.
12. Understand how marker-assisted selection works and how it impacts genetic predictions today.