



ANIMAL BREEDING ANS 309.01E

Fall 2025
TR 8:00-9:15
Location

INSTRUCTOR INFORMATION

Instructor: **Dr. Douglas Eborn**
Office Location: **AG/ET 233D**
Office Hours: **MWR 1:00-3:00**
Office Phone: **903.886.5676**
Office Fax: 903.886.5990
University Email Address: **Douglas.Eborn@etamu.edu**
Preferred Form of Communication: **Email**
Communication Response Time: **24 hours**

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Suggested Textbook: Understanding Animal Breeding, 2nd Edition (2000)

Author: Richard M. Bourdon

Publisher: Prentice Hall Publishing

ISBN-10: 0130964492 | ISBN-13: 978-0130964496

The textbook listed above is the source for much of the material that will be presented in class with some exemptions. It *is not required* but may be useful for supplementary reading and practice problems.

The syllabus/schedule are subject to change.

Course Description

The aim of this course is to address methods used to improve livestock genetically. This begins by selection of individuals based on genetic merit followed by mating strategies to create particular genetic combinations. Topics covered include heritability and estimation of breeding values, basic population genetics and the use of inbreeding/crossbreeding in mating systems. The use of genomics and DNA markers will also be addressed.

Prerequisites: ANS 1319 Introduction to Animal Science and
 MATH 1314 US-College Algebra

Student Learning Outcomes

Students successfully completing the course should be able to:

1. Explain and define all breeding and genetics terms presented in lecture.
2. Describe 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 those changes depending on the group of females the sire is mated to.
5. Calculate estimates of statistical parameters necessary to describe a population and understand the application of each.
6. Explain the cause and effects of hybrid vigor and inbreeding depression.
7. Describe different selection methods including tandem selection, independent culling methods and selection index methods.
8. Describe how marker-assisted selection works and how it impacts genetic predictions today.
9. Explain what breeding values are and how they estimated. Demonstrate how EPDs are to be used appropriately.

COURSE OVERVIEW

Course material

Course material will be provided in face-to-face lectures during the scheduled course time. Copies of the lecture slides will also be provided to download and print either before or after lecture.

The syllabus/schedule are subject to change.

COURSE SPECIFIC PROCEDURES/POLICIES

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

General Guidelines

1. Attentiveness in class is suggested but not required. However, if you choose otherwise, do not:
 - Talk to your neighbors
 - Use an electronic device or text

Attendance/Lateness

Attendance is expected and will be taken at the beginning of class. Future opportunities such as potential extra credit assignments may be based on attendance.

Exams

4 exams will be given throughout the semester including the comprehensive final. Questions will include T/F, multiple choice, matching, short answer, and fill in the blank. Exams and quizzes will require math so you will need to bring a simple calculator. In addition, each exam may include a “take-home” or project-based section. Instructions and due dates for the additional work will be provided.

All students are to take the in-class exams at the time they are scheduled unless you have an approved excuse. If a makeup is written it may be more difficult, not easier, for the student.

Tentative Exam Dates

Thursday September 18th

Thursday October 16th

Thursday November 13th

Final: Tuesday, December 9th 8:00 A.M.

The syllabus/schedule are subject to change.

Quizzes

Online quizzes will be given weekly. In class quizzes announced or unannounced may also be given. No late quizzes will be accepted. 1 or 2 quizzes will be dropped at the end of the semester.

Assignment

Homework will be given regularly throughout the semester. This will include math problems such as gene frequencies, probabilities, and simple calculation of breeding values. In each instance examples will be provided with answer keys. Also, homework may include assignment to use and compare EPDs in different breeds or species.

Due Dates/Late or Missing Work

Due dates for exams/quizzes/assignments will be given during class, posted on the D2L course page, and by email. If a student is unable to meet the due date, they must contact the instructor prior to seek accommodations.

All students are to take the in-class exams at the time they are scheduled unless you have a great excuse or made prior arrangements with the instructor. If an exam is given at a different time, an alternative makeup exam may be more difficult, not easier, for the student.

The student must take responsibility to notify the instructor in a timely matter for consideration and accommodation due to school activities, emergencies, or other circumstances. Validation may be required.

Late Work: Late homework may be turned in by the following class period for 50% deduction.

Grading

Final grades in this course will be based on the following scale:

Exams = 50%	A = 90%-100%
Quizzes = 30%	B = 80%-89%
Homework = 20%	C = 70%-79%
	D = 60%-69%
	F = 59% or below

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COURSE CALENDAR

8/26/2026	#1 Intro to Animal Breeding
8/28/2026	#2 Selection
9/2/2026	#3 Mendelian Genetics
9/4/2026	#3 Mendelian Genetics
9/9/2026	#4 Population Genetics
9/11/2026	#4 Population Genetics
9/16/2026	Catch Up/Exam Review
9/18/2026	Exam #1
9/23/2026	#5 Selection - Simply Inherited Traits
9/25/2026	#6 Genetic Model for Quantitative Traits
9/30/2026	#6 Genetic Model for Quantitative Traits
10/2/2026	#7 Statistics
10/7/2026	#8 Heritability
10/9/2026	#9 Repeatability
10/14/2026	Catch Up/Exam Review
10/16/2026	Exam #2
10/21/2026	#10 Genetic Prediction
10/23/2026	#10 Genetic Prediction
10/28/2026	#11 Rate of Genetic Change
10/30/2026	#12 Large Scale Evaluation
11/4/2026	#13 EPDs
11/6/2026	#13 EPDs
11/11/2026	Catch Up/Exam Review
11/13/2026	Exam #3
11/18/2026	#14 Pedigree Matings
11/20/2026	#15 Inbreeding Coefficient
11/25/2026	#16 Outcrossing
11/27/2026	Thanksgiving Break - No Class
12/2/2026	#17 Crossbreeding Systems
12/4/2026	#18 Marker Assisted Selection
12/4/2026	Last Class Day
12/9/2026	Final Exam 8:00 A.M.

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August 2025	8th	August Mini 1st Class Day
	11th	August Mini 80% Withdrawal Refund Deadline
	11th	<i>*August Mini Drop for Nonpayment</i>
	13th	August Mini 50% Withdrawal Refund Deadline
	20th	August Mini Last Day to Withdraw (no refund)
	22nd	August Mini Last Class Day
	24th	Fall Last Day to Withdraw with 100% Refund
	25th	Fall 1st Class Day
	28th	Fall Last Day to Add without Instructor & Dean Approval
	29th	Fall 80% Withdrawal Refund Deadline
September 2025	1st	Labor Day- Campus Closed
	8th	Fall 70% Withdrawal Refund Deadline
	10th	Fall Census Day (last day to Drop with 100% refund)
	15th	Fall 50% Withdrawal Refund Deadline
	15th	<i>*Fall Drop for Nonpayment (15th Class Day)</i>
	22nd	Fall 25% Withdrawal refund Deadline
October 2025	20th	**Registration Open – Masters/Doctoral
	22nd	**Registration Open – 2nd Bach/Seniors
	27th	** Registration Open – Juniors
	29th	**Registration Open – Sophomores/Freshmen
	30th	Fall Last Day to Drop (no refund)
November 2025	21st	Fall Last Day to Withdraw (no refund)
	27th-28th	Thanksgiving Break- Campus Closed 27th-28th
December 2025	5th	Fall Last Class Day
	6th-12th	Fall Finals Week
	12th	Fall Graduate Commencement
	13th	Fall Undergraduate Commencement
	15th	Winter Mini 1st Class Day
	16th	Winter Mini 80% Withdrawal Refund Deadline
	16th	<i>*Winter Mini Drop for Nonpayment</i>
	18th	Winter Mini 50% Withdrawal Refund Deadline
TBD	Winter Break – Offices Closed	

TECHNOLOGY REQUIREMENTS

LMS

All course sections offered by East Texas A&M University have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

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LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm

Zoom Video Conferencing Tool

https://inside.etamu.edu/campuslife/CampusServices/CITESupportCenter/Zoom_Account.aspx?source=universalmenu

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@etamu.edu.

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a East Texas A&M campus open computer lab, etc.

COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

STUDENT RESPONSIBILITIES FOR COURSE

CWID and Password

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@etamu.edu.

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Technology-Related Issues

Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a ETAMU campus open computer lab, etc.

TECHNOLOGY REQUIREMENTS AND SUPPORT

Minimal Technical Skills Needed

Students will need reliable computer and internet access for this course. Students must be able to effectively use myLeo email, myLeo Online D2L, and Microsoft Office.

Learning Management System (LMS) – D2L

All course sections offered by East Texas A&M University have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are the technical requirements:

- View the [Learning Management System Requirements Webpage](#).
- Learn more on the [LMS Browser Support Webpage](#).

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found on the [Brightspace Support Webpage](#).

COMMUNICATION AND SUPPORT

Interaction with Instructor Statement

If you have any questions or are having difficulties with the course material, please contact your instructor. Correspondence will always be through university email (your “myLeo” mail) and announcements in myLeo online (D2L). You will not RECEIVE email through D2L, so be sure to check your ETAMU email for communication. Students are encouraged to check university email daily.

Include the Following in Emails with Instructor:

- Course name and subject in the subject line
- Salutation (Good afternoon, Dr. Jackson)
- Proper email etiquette (no “text” emails – use proper grammar and punctuation)

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- Student name and CWID after the body of the email (possibly add to student signature on email)

COURSE AND UNIVERSITY PROCEDURES/POLICIES

University Specific Procedures

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.

<https://inside.etamu.edu/admissions/registrar/documents/studentGuidebook.pdf>.

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum:

<https://www.britannica.com/topic/netiquette>

ETAMU Attendance

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedures 13.99.99.R0.01](#)

<http://www.etamu.edu/admissions/registrar/generalInformation/attendance.aspx>

Academic Integrity

Students at East Texas A&M University are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

[Undergraduate Academic Dishonesty University Procedure 13.99.99.R0.03](#)

[Undergraduate Student Academic Dishonesty Form](#)

[Graduate Student Academic Dishonesty University Procedure 13.99.99.R0.10](#)

[Graduate Student Academic Dishonesty Form](#)

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Use of Artificial Intelligence

East Texas A&M University acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources

Students with Disabilities-- ADA Statement

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

East Texas A&M University
Velma K. Waters Library Rm 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@etamu.edu

Website: [Student Disability Services](http://www.etamu.edu/student-disability-services/)

<https://www.etamu.edu/student-disability-services/>

Nondiscrimination Notice

East Texas A&M University will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

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Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in East Texas A&M University buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and ETAMU Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

East Texas A&M Supports Students' Mental Health

The Counseling Center at East Texas A&M University, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit www.etamu.edu/counsel

Mental Health and Well-Being

The university aims to provide students with essential knowledge and tools to understand and support mental health. As part of our commitment to your well-being, we offer access to Telus Health, a service available 24/7/365 via chat, phone, or webinar. Scan the QR code to download the app and explore the resources available to you for guidance and support whenever you need it.



<http://telusproduction.com/app/5108.html>

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