



## **ANS 522.01W ANIMAL BREEDING**

**Summer I 2023**

### **INSTRUCTOR INFORMATION**

Instructor: Dr. Douglas Eborn  
Office Location: 247 AG/ET  
Office Hours: MWR 12:00-2:00  
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Preferred Form of Communication: Email  
Communication Response Time: 24 hours

### **COURSE INFORMATION**

**Prerequisites:** ANS 309 – Animal Breeding

This 3 hour semester course (3 hour lecture) covers an in depth look at the concepts and principles for selection and mating to make genetic improvement in farm animals but is applicable to many other types of animals and wildlife. It will cover selection for both qualitative and quantitative traits.

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 syllabus/schedule are subject to change.*

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. Students will be responsible for all material covered in class. Lecture notes will be available online in D2L in PDF format.

## Course Description

### Student Learning Outcomes

1. Explain and define all breeding and genetics terms presented in lecture.
2. Describe how the processes of replication, transcription, and translation create *phenotypic* diversity.
3. Describe Mendelian inheritance, the components of the genetic model, and difference between qualitative and quantitative traits.
4. Calculate population gene and genotypic frequencies.
5. Calculate the probability that an individual is a carrier of a particular gene and understand how that change depending on the group of females the sire is mated to.
6. Calculate estimates of statistical parameters necessary to describe a population and understand the application of each.
7. Calculate inbreeding coefficients.
8. Calculate levels of hybrid vigor in crossbreeding programs.
9. Explain the cause and effects of hybrid vigor and inbreeding depression.
10. Describe different selection methods including tandem selection, independent culling methods and selection index methods.
11. Describe how marker-assisted selection works and how it impacts genetic predictions today.
12. Explain what breeding values are and how they estimated. Demonstrate how EPDs are to be used appropriately.
13. Understand how selection and mating decisions are the same and different for sheep, goats, beef cattle, dairy cattle, and swine.

## COURSE REQUIREMENTS

### Minimal Technical Skills Needed

Students will need to be able to access and use the course online platform for the University, D2L. You may also need to have access and be able to use Microsoft Word, PowerPoint, or comparable programs. **Any uploaded files must be turned in as Microsoft Word or as a PDF document.** Microsoft Office is available to all University students.

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## **Instructional Methods**

- Audio or video recordings for each lecture will be posted online
- Lecture notes in PDF format will also be provided with each recording.
- Supplemental handouts may also be used throughout the semester.

## **Student Responsibilities or Tips for Success in the Course**

Students are expected to have learned the material from the previous lecture. That means that students should review and study new material between each lecture and be comfortable with the all the previous material.

Students are encouraged to have the lecture notes available in either printed or electronic forms that can be used to make additional notes when using the recordings.

## **GRADING**

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

A = 90%-100%

B = 80%-89%

C = 70%-79%

D = 60%-69%

F = 59% or Below

## **Assessments**

### **1. EXAMS**

- Three online exams will be given through the course. The last exam may be a comprehensive final.
- It is anticipated that the exam will be open for 2-3 days once it is posted.

Tentative Dates:

- 1) Wednesday June 14<sup>th</sup>
- 2) Monday June 26<sup>th</sup>
- 3) Wednesday July 5<sup>th</sup>

### **2. QUIZZES**

- 6 quizzes will be available every Monday and Wednesday of the semester except when there is an exam.

### **3. HOMEWORK**

- Homework will also be given throughout the semester

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#### 4. MAKE-UP WORK

- All students are to take the 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 emergencies or other circumstances. Validation may be required.
- Late work may be completed or turned in for 3 days after which it will no longer be accepted. 15% will be deducted for each day that it is late.

## TECHNOLOGY REQUIREMENTS

### LMS

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

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

Zoom Video Conferencing Tool

[https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom\\_Account.aspx?source=universalmenu](https://inside.tamuc.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@tamuc.edu](mailto:helpdesk@tamuc.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

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use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC 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>

## **COURSE SPECIFIC PROCEDURES/POLICIES**

### **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.

### **University Specific Procedures**

#### **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](http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx).

<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

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>

#### **TAMUC Attendance**

For more information about the attendance policy please visit the [Attendance](http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx) webpage and [Procedure 13.99.99.R0.01](http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx).

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

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<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

### **Academic Integrity**

Students at Texas A&M University-Commerce 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 13.99.99.R0.03](#)  
[Undergraduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/documents/13.99.99.R0.03UndergraduateStudentAcademicDishonestyForm.pdf>

[Graduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/academics/graduateschool/faculty/GraduateStudentAcademicDishonestyFormold.pdf>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

### **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**

Texas A&M University-Commerce

Velma K. Waters Library Rm 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: [studentdisabilityservices@tamuc.edu](mailto:studentdisabilityservices@tamuc.edu)

Website: [Office of Student Disability Resources and Services](#)

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

### **Nondiscrimination Notice**

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the

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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.

### **Campus Concealed Carry Statement**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce 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 A&M-Commerce 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.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

### **A&M-Commerce Supports Students' Mental Health**

The Counseling Center at A&M-Commerce, 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.tamuc.edu/counsel](http://www.tamuc.edu/counsel)

### **COURSE OUTLINE / CALENDAR**

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