



ANS 319: Anatomy and Physiology of Domestic Animals

Course Narrative:

This course concentrates on the anatomy and physiology of skeletal, respiratory, muscle, digestive and reproductive systems within livestock species. The normal structure and functions of these systems will be emphasized.

Objectives/ Rationale:

- Develop an understanding animal anatomy and corresponding physiology
- Discuss in scientific terms anatomy of animals
- Comparative analysis of livestock

Meeting Times: Monday, Wednesday and Friday (MWF); 8am- 8:50am

Meeting Location: AG/ET 253

Instructor Information:

Instructor: Landon Sullivan, PAS

Office Location: AG/ET 233G

Office Hours: Open Door or by appointment

University Email Address: Landon.Sullivan@tamuc.edu

Suggested textbooks and materials:

Materials: 70-page spiral notebook and writing utensil

Text: various; not required

Resources Needed: Students should obtain a 70-page spiral notebook and writing utensil to be utilized in every class.

Instructional Method:

- Notes should be taken daily.
- Daily quizzes will be given with no notice (students should be prepared to take one each class).
- A midterm and final exam may be assigned OR exams following discussions of systems
- Article summaries, power point presentations, field experience, quizzes and other projects may be assigned at any time throughout the course.

The syllabus/schedule are subject to change.

Student Learning Outcomes (SLOs):

At the completion of this course, students should be able to:

- Express knowledge of general anatomy
- Discuss anatomy and physiology of muscular, skeletal, neural, circulatory, endocrine, digestive and reproductive systems in various species of livestock
- Discuss regulation of reproduction by manipulation of the endocrine system
- Illustrate, identify and describe female reproductive anatomy, female endocrinology (hypo-pituitary-gonadal hormonal cascade) and female reproductive cycles, seasonality oogenesis, folliculogenesis, ovulation, and the corpus luteum
- Illustrate, identify and describe male reproductive anatomy, endocrinology (hypo-pituitary-gonadal hormonal cascade) and spermatogenesis
- Discuss sexual behavior, fertilization, maternal recognition of pregnancy
- Recognize embryonic and fetal development, sexual differentiation, placentation, endocrinology of pregnancy and parturition
- Discuss stages of parturition, lactation and puberty
- Compare ovarian structures of cattle and horses.
- List primary anatomical structures of the male and female reproductive systems.
 - a. List the source and site of action for the following: FSH, GnRH, PGF₂^{alpha}, LH, E₂, T and P₄
- Distinguish autocrine, paracrine, and endocrine signaling.
- List the primary anatomical structures of the circulatory system.
- Distinguish primary functions of red blood cells and white blood cells.
- Discuss blood flow from heart-to-heart
- Describe the primary functions of the muscle system
- List types of muscles and where we find those
- Describe deciduous teeth
- Compare teeth in cattle to horses
- Identify major bones of the skeletal system within livestock species
- Describe ligaments, tendons and cartilage
- Recognize and identify surface anatomy of livestock
- Discuss regulation of reproduction by manipulation of the endocrine system
- Describe cornified epithelium
- Illustrate and identify the primary components of the monogastric, ruminant, and avian digestive systems
- Discuss the stomach (regions, cells and function)
- Discuss the small intestine (components and functions)
- Discuss the large intestine (components and functions)
- Discuss the digestive roles of the liver, gall bladder and pancreas
- Discuss other systems (components and structures, including but not limited to: skeletal, digestive, muscular, respiratory, circulatory)
- Describe myogenesis, osteogenesis, adipogenous
- Compare hyperplasia and hypertrophy
- Describe the role(s) of tails

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Assessment Techniques:

- Pre-evaluation
- daily quizzes
- course portfolio
- midterm evaluation
- final evaluation

Dress and Conduct:

Students are expected to wear or have immediate access to clothing practical for handling livestock, including but not limited to: boots (shoes that cover and protect entire foot), pants and shirts that protect skin of extremities as well as a hat (caps or some type of lid to protect eyes and cranium).

In the event we travel off campus, students are expected to exhibit courtesy, respect, kindness and grace to all participants and hosts; failure to represent TAMUC in a professional manner during such an event can result in administrative withdrawal from the course or further disciplinary action.

Course Requirements and Grading:**Portfolio: 50%**

The portfolio or course journal grade is the primary work required for a grade and includes the students' notes (70page spiral notebook) completed throughout the course. The portfolio/ journal will be graded based on the contents of notes presented each day, organization, and overall appearance.

- Rubric for Portfolio: Complete 20%; Chronological Order 20%; Legible 20%; Condition 20%; Submitted Timely 20%

Daily Assignments/ Quizzes: 30%

Daily assignments/ quizzes are assigned each day to review information portrayed in the previous lesson and bring students to a teachable moment for the new/ next lesson.

Projects: 20%

Exams, article summaries, power point presentations, field experience, quizzes and other projects may be assigned at any time throughout the course

The point outline is tentative and is subject to change at the instructor's discretion. The guideline below is applicable to the actual total amount of points given.

Grading Scale (%)	
90 – 100	A
80 – 89	B
70 – 79	C
60 – 69	D
Below 60	F

Course Policies: Technology and Media

- Cell Phones – the use of a cell phone is acceptable during the duration of this course BUT **noise from a cell phone is not tolerated**. Students should expect to be dismissed from class upon engaging in talking or texting on cell phone devices
- Lap Tops, Tablets – are also welcomed but the majority of notes, daily assignments, quizzes and exams must be handwritten
- Social Media – photos and videos recorded during lecture or any field/ laboratory exercises are **NOT** to be shared via social media without the direct consent of the instructor. Posting intellectual property can result in severe legal and academic consequences.

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

YouSeeU Virtual Classroom Requirements:

<https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>

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.

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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 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>

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](#).

<https://inside.tamuc.edu/campuslife/campusservices/studentRights/Code%20of%20Conduct.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](#) webpage and [Procedure 13.99.99.R0.01](#).

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

<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](#)

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

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

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.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

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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 162

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

Fax (903) 468-8148

Email: studentdisabilityservices@tamuc.edu

Website: [Office of Student Disability Resources and Services](http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/)

<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 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.

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Week 1	<p>Express knowledge of general anatomy</p> <p>Recognize embryonic and fetal development, sexual differentiation, placentation, endocrinology of pregnancy and parturition</p> <p>Discuss anatomy and physiology of muscular, skeletal, neural, circulatory, endocrine, digestive and reproductive systems in various species of livestock</p> <p>Illustrate, identify and describe male and female reproductive anatomy, female endocrinology and female reproductive cycles, seasonality oogenesis, folliculogenesis, ovulation, and the corpus luteum</p> <p>Illustrate, identify and describe male reproductive anatomy, endocrinology and spermatogenesis</p> <p>Discuss stages of parturition, lactation and puberty</p> <p>Illustrate and identify the primary components of the monogastric, ruminant, and avian digestive systems</p> <p>Discuss other systems (components and structures, including but not limited to: skeletal, digestive, muscular, respiratory, circulatory, adrenal)</p>
Week 2-4	
Week 5-8	
Week 7-9	
Week 9-15	
Week 14-16	
Week 15-16	
<p>NOTE:</p> <p>This is a tentative schedule, which is subject to change at anytime during the duration of the semester.</p> <p>In addition to a midterm and final exam, students should take notes daily, be prepared for quizzes daily; additionally, there will be three or more projects assigned throughout the course</p>	

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