

**Sul Ross State University**  
**ANSC 5324**  
**Anatomy and Physiology**  
**Spring 2025**

**Instructor:** Dr. Jamie Boyd

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**Office hours:** MWF 9:30-12:30

or by appointment

**Course description:** Expand upon the basic principles of anatomy and physiology of farm animals, emphasizing ruminant and equine digestive physiology. Individual systems will be discussed as well as topics from current scientific discussions and publications.

**Required Text:** Functional Anatomy and Physiology of Domestic Animals. 4<sup>th</sup> edition or 5<sup>th</sup> edition. Reece, Wiley-Blackwell.

**Purpose of the course:** The course is designed to expand the students understanding of the basic and fundamental concepts of domestic animal anatomy and physiology. Individual systems will be discussed as well as topics relevant in current scientific discussions and publications.

**Student Learning Outcomes:**

1. Students will demonstrate knowledge of domestic animal anatomy and physiology at the advanced level.
2. Be able to discuss species differences as related to various organ systems structure and function.
3. Understand the integration of organ systems in the function of the total body.
4. Understanding of the directional terms utilized in the study of anatomy and physiology.

**Departmental Projected Learning Outcomes:**

- a) Recognize and be able to utilize animal breeds from a variety of domestic species.
- b) Comprehend the role of nutrition in the production of food animals.
- c) Understand the processes involved in producing meat products from a variety of domestic food animals.
- d) Select breeding animals using genetic information.

**Assessment measures:** At the end of this course, students should have a basic understanding of the concepts and principles of animal anatomy and physiology. Each student's success in achieving these results will be based on a minimal of 70% or better on all exams, quizzes, and other assignments.

**Recommendations for Success:** In order to succeed in this class, I recommend that you dedicate at a minimum two hours of study time per class hour each week. The material covered in this course cannot be learned adequately in only a couple days, it is cumulative and each day's material will build on the previous day. I strongly encourage you to come to class with any questions and ask them. I am also available outside of class if you have further questions in person or via email.

**Methods of instruction:** This course consists of lecture sessions to provide the basic concepts related to animal physiology. The course is writing intensive, which means that a large component of the final grade will come from writing activities distributed throughout the semester.

**Accommodations:** Students who believe that they may need accommodation in this course are encouraged to contact the Counseling and Accessibility Services Office: Ferguson Hall 112 (432-837-8203) as soon as possible to ensure that such accommodations are implemented in a timely fashion.

**Academic integrity:** Students are expected to submit original work without unauthorized assistance. Academic dishonesty, which includes cheating, unauthorized collaboration, plagiarism, fabrication, multiple submissions, and aiding

and abetting, will result in a grade of 0 on the work in question. Subsequent instances of academic dishonesty may result in more serious sanctions.

**Examinations and grading:** The grade you earn is your responsibility! **There will be no extra-credit opportunities.** Your course grade will be based on the following components:

**Exams and Quizzes:** There will be four exams administered throughout the semester. The dates of the exams are noted on the syllabus. The fourth exam will be a comprehensive final exam. There will also be 8 quizzes throughout the semester. There will be no make-up exams or quizzes without prior approval or a valid doctor's excuse. You must talk to me "live". Voice or email messages are not considered valid excuses.

**Case Studies:** Case studies will be provided via Blackboard. The assignments will contain pertinent information about the physiological pathology of an animal. Students will research the symptoms and provide an explanation as to the potential cause of the pathology and if possible treatment options, survivability and long-term prognosis. Responses should be 1-3 pages typed and will be submitted via Blackboard. No email responses will be accepted.

**Physiology in the News:** Select either a popular press source or newsworthy publication in which an article on animal physiology is published. Write a 2 to 3-page review of this article, where you provide a short introduction, a summary of what the article says, and then a paragraph of your thoughts and opinions on the topic or research presented in the article. Below you will find the rubric that will be used in grading your papers, so please review this before you write your first review. You are not required but are encouraged to utilize other reference material in your article review. The review will be submitted via Blackboard and you **must include a copy of the original article with your submission. Automatic 10pt deduction if the original article is not submitted. No email responses will be accepted.**

**Rubric:**

- Clearly and effectively respond to the assignment (10pt)
- Demonstrate a thorough understanding and interpretation of the article by summarizing and addressing relevant questions raised by the article (10pt)
- Introduction (5pt)
- Body of the summary (15pt)
- Conclusion (5 pts)
- Correct grammar, word usage, spelling, and punctuation (5pt)

**Other Considerations:** Exams may include multiple-choice, fill-in-the-blank, short answer, identification, diagrams, and matching questions. Common abbreviations for terms may be used on exams, quizzes, and assignments after the abbreviation has been defined by using the complete term once. The final exam is comprehensive (non-negotiable). Due dates for all assignments will be announced on Blackboard or on the attached class schedule. **Late assignments will be accepted for 4 days following the initial due date and time with a 20% penalty per day late.**

**Points available:**

3 1-hour exams (100 pts each)	300 points
8 quizzes (25 pts each)	200 points
Case Studies (2 @ 50pts each)	100 points
Physiology in the News (2 @ 50pts each)	100 points
<u>Final Exam</u>	<u>150 points</u>
<b>Total</b>	<b>850 Points</b>

\* I reserve the right to give an unannounced quiz at any time during the semester.

**Grading scale:**

- A = 90-100%
- B = 80-89.99%
- C = 70-79.99%

D = 60-69.99%

F = 59.99% or below

**Schedule of class sessions:** This information should be treated as an outline. There may be some alterations in the sequence of topics.

**Scheduled Quizzes are indicated below with (\*)**

<u>Date</u>	<u>Lecture (Chapter)</u>
Jan 15-17	Introduction (1) Epithelial tissue (1)
Jan 20-24*	Connective tissue (1)
Jan 27-31*	Endocrine system (6) <b>end exam 1 material</b>
Feb 3-7	<b>Exam 1 opens on 2/7 and closes at midnight 2/9</b> Nervous system (4)
Feb 10-14*	Skeletal system (7)
Feb 17-21	Joints (7)
Feb 24-28*	Muscle (8) <b>end exam 1 material</b>
Mar 3-7	<b>Exam 2 opens on 3/7 and closes at midnight 3/9</b>
Mar 10-14*	Hematology (3) <b>Physiology in the News 1- due by midnight 3/16</b>
Mar 17-21	<b>Spring Break</b>
Mar 24-28	Cardiovascular system (9)
Mar 31-Apr 4*	Respiratory system (10) <b>end exam 3 material</b>
Apr 7-11	<b>Exam 3 opens on 4/11 and closes at midnight on 4/13</b>
Apr 14-18	Urinary system (11) <b>Physiology in the News 2- due by midnight 4/20</b>
Apr 21-25*	Digestive systems (12)
Apr 28-30*	Review

**The final exam opens on 5/2/25 and closes at midnight on 5/4/25**

**Dates to Remember:**

Sunday, March 2nd (midnight)- Case Study 1 due on Blackboard

Sunday, April 6th (midnight)- Case Study 2 due on Blackboard

**Instructor's Bibliography:**

Anatomy and Physiology of Farm Animals. 7<sup>th</sup> edition. 2009. Frandson, Wilke, and Fails. Wiley-Blackwell.

Veterinary Anatomy and Physiology. A clinical laboratory manual. 2<sup>nd</sup> edition. 2011. Cochran. Delmar Publishing.

Introduction to Anatomy and Physiology. 2012. Rizzo. Delmar Publishing.

Principles of Animal Physiology. 2<sup>nd</sup> edition. 2008. Moyes and Schulte. Pearson Education, Inc.

Seely's Anatomy and Physiology. 10<sup>th</sup> edition. 2013. Vanputte, Regan, and Russo. McGraw-Hill.

Spurgeon's Color Atlas of Large Animal Anatomy. 2006. McCracken, Kainer, and Spurgeon. Wiley-Blackwell.

Ruminant Anatomy: A Photo Atlas. 2013. Dunn. Clemson University.

Companion Animal Anatomy: A Photo Atlas. 2014. Dunn. Clemson University.