Anatomy and Physiology of Domestic Animals - ANS 319
Fall 2017

Instructor: Nathan Wells
Classroom: AGIT235
Class time: MWF 9:00-9:50 am
Course Credit: 3 hours
Office Hours:
Office Phone:
Office Fax:
University Email Address:

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Textbook(s) Required:

Optional

Course Description
Anatomy and Physiology of Domestic Animals. Three semester hours. Structure and function of organ systems with special reference to domestic animals.

Prerequisites: (Lvl U CHEM 108 Min Grade C or Lvl U CHEM 1407 Min Grade C) or Lvl U CHEM 211 Min Grade C

Student Learning Outcomes
At the end of the course students will be able to:
1. Identify specific organs that make up each organ system
2. Explain the functions of specific organs that make up each organ system
3. Identify specific organ systems function within the animal’s body
4. Explain the relationships of various organ systems within the animal’s body
5. Explain how all organ systems work within the body to maintain homeostasis

COURSE REQUIREMENTS

Instructional / Methods / Activities Assessments

This course will be taught using Powerpoint presentations and reference to Anatomy and Physiology texts. Each organ with a specific organ system will be covered in detail. Quizzes will be given weekly over organ location, function, and description. Exams will be given once each organ system is completed. Powerpoint presentations will be available for review once an organ system is completed.

GRADING

Quizzes will be worth 50 points each and exams will be worth 100 points each. We will cover one or more organs each lecture and have quizzes weekly on Fridays that cover organs (examples: heart, blood, blood vessels, etc.) discuss during that week. Once each organ system (example: cardiovascular system) is complete we will have an exam over that specific organ system. A final exam (100 points) will be given at the end of the semester that is comprehensive.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures

Academic Honesty
Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including (but not limited to) receiving a failing grade on the assignment, the possibility of failure in the course and dismissal from the University. Since dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. In ALL instances, incidents of academic dishonesty will be
reported to the Department Head. Please be aware that academic dishonesty includes (but is not limited to) cheating, plagiarism, and collusion.

_Cheating_ is defined as:
- Copying another's test or assignment
- Communication with another during an exam or assignment (i.e. written, oral or otherwise)
- Giving or seeking aid from another when not permitted by the instructor
- Possessing or using unauthorized materials during the test
- Buying, using, stealing, transporting, or soliciting a test, draft of a test, or answer key

_Plagiarism_ is defined as:
- Using someone else's work in your assignment without appropriate acknowledgement
- Making slight variations in the language and then failing to give credit to the source

_Collusion_ is defined as:
- Collaborating with another, without authorization, when preparing an assignment
  - If you have any questions regarding academic dishonesty, ask.
  - Otherwise, I will assume that you have full knowledge of the academic dishonesty policy and agree to the conditions as set forth in this syllabus.

**Attendance Policy**

_Students are expected to attend class and actively participate._
_Student participation/activity will be monitored by the professor._
_Students should plan to dedicate approximately 10 hours/week of time to this course. This includes time spent in class and study outside of class._

**Make up quizzes and exams**

In principle, I do not allow makeup quizzes and exams and do not believe in allowing students to complete a quiz or exam after the rest of the course has completed. My position is that everyone knows the rules of course at the beginning of the term and that it is the student’s responsibility to ensure that they plan accordingly to complete quizzes and exams in a timely manner. However, I also do understand that sometimes there are
circumstances outside one’s control that may impact timely completion of quizzes and exams. To that end, I have developed a policy on makeup work. Please note that this policy applies **ONLY** to quizzes and not exams.

I will allow a student to make up a quiz at the end of the class period following the class period that it was initially given, (example: take quiz on Monday following the Friday that quiz was scheduled.)

**Drop Course Policy**
Students should take responsibility for dropping themselves from the course according to University policy should this become necessary.

**University Specific Procedures**

**ADA Statement - 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
Go to the following email address: StudentDisabilityServices@tamuc.edu
Go to the following link: Student Disability Resources & Services

**Student Conduct**
All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See *Code of Student Conduct from Student Guide Handbook*). Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: http://www.albion.com/netiquette/corerules.html

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.
COURSE OUTLINE / CALENDAR

Every effort will be made to adhere to the course schedule as noted below. However, unforeseen circumstances may require changes to the schedule. In that case, changes will be announced via University Email and in Announcements. The professor reserves the right to change the schedule if necessary and depending on the progress of the class. I highly recommend that you follow the schedule outlined below **VERY CAREFULLY** so that you are sure to complete readings as assigned and turn your assignments in on time.

**Week 1**
Introduction to anatomy and physiology
Levels of organization
Homeostasis
Feedback mechanisms
Anatomical nomenclature

**Week 2**
Cells and cellular organelles
Water
Cell growth and differentiation
Cell function and biochemistry
Macromolecules and cellular physiology
Extracellular environment

**Week 3**
Fundamental biochemical pathways
Metabolism and energetic definitions
Production of ATP
Glycolysis and Krebs cycle
Intermediary metabolism
DNA and RNA

**Week 4**
Tissue structure and organization
Terminology and definitions
Epithelial tissue
Connective tissue
Muscle tissue
Nervous tissue
**Week 5**
Integumentary system
Skin structure and biochemical properties
Nails, claws, hoofs, and feathers
Leather

**Week 6**
Bones and skeletal system
Bone structure, development, growth, remodeling, and repair
Axial skeleton and appendicular skeleton
Avian skeleton
Joints

**Week 7**
Muscle tissue
Skeletal muscle
Cardiac muscle
Smooth muscle
Major skeletal muscle in animals

**Week 8**
Nervous system
Neurons and neurophysiology
Synaptic transmission

**Week 9**
Central nervous system
Organization of the brain and spinal cord
Peripheral and autonomic nervous system
Special senses

**Week 10**
Endocrine system
Hypophyseal-pituitary axis
Hormones of the anterior pituitary
Thyroid gland, adrenal gland, pancreas
Growth factors and Leptin

**Week 11**
Cardiovascular system
Blood and homeostasis
The heart
Blood vessels and blood flow
Heomodynamics
**Week 12**
Respiratory system
Nose and paranasal sinuses
Lungs and pleural membrane
Exchange and transport of oxygen and carbon dioxide
Control of respiration
Avian respiration

**Week 13**
Immunity
Specific immunity
Lymphatic system

**Week 14**
Urinary system
Nephrone structure and urine formation
Renal clearance
Excretion of nitrogenous wastes
Comparative urinary physiology and function

**Week 15**
Digestive system overview
Histology of the digestive tract
Enteric nervous system
Functional anatomy of the digestive system

**Week 16**
Reproduction
Female anatomy, control of cycle
Fertilization and pregnancy
Parturition and lactation
Male anatomy and spermatogenesis
Avian reproduction
Reproductive technologies