

Vet Science and Advanced Animal Science - Year at a Glance - 2025/2026

1st Nine Weeks - Vet Science 9wk Start Date: 8/11/25 - 9wk End Date: 10/10/25

- **Unit 01: FFA/SAEs- 17 of Days in Unit**
 - **TEKS in this Unit:**
 - **Vet Science: 127.51 (d)**
 - (2) The student develops a supervised agricultural experience program. The student is expected to:
 - (A) plan, propose, conduct, document, and evaluate a supervised agricultural experience program as an experiential learning activity; and
 - (B) use appropriate record-keeping skills as they relate to the supervised agricultural experience program.
 - (3) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:
 - (A) participate in youth agricultural leadership opportunities;
 - (B) review and participate in a local program of activities; and
 - (C) create or update documentation of relevant agricultural experience such as community service, professional, or classroom experiences.
 - **Adv. Animal Sci.: 127.52 (d)**
 - (6) The student develops a supervised agricultural experience program. The student is expected to:
 - (A) plan, propose, conduct, document, and evaluate a supervised agricultural experience program as an experiential learning activity; and
 - (B) use appropriate record-keeping skills in a supervised agricultural experience program.
 - (7) The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:
 - (A) participate in youth agricultural leadership opportunities;
 - (B) review and participate in a local program of activities; and
 - (C) create or update documentation of relevant agricultural experience such as community service, professional, or classroom experiences.
 - **Target Completion Date:** 9/5/25
- **Unit 02: Breeds - 43 of Days in Unit**
 - **TEKS in this Unit:**
 - **Vet Science: 127.51 (d)**
 - (8) The student understands proper animal handling as it relates to characteristics and behavior. The student is expected to:
 - (A) identify animal breeds according to characteristics;
 - (B) identify and compare normal and abnormal behavior within and among various animal species; and
 - (C) identify and discuss correct handling and restraint protocols for large and small animal species such as muzzling, lateral recumbency, sternal recumbency, jugular venipuncture, and haltering.
 - **Adv. Animal Sci.: 127.52 (d)**
 - (8) The student analyzes the history, domestication, and evaluation of

3rd Nine Weeks - Advanced Animal Science 9 wk Start Date: 1/6/26 -9wk End Date: 3/6/26

- **Unit 05: Body Systems/Anatomy & Physiology/Terminology - 18 of Days in Unit**
 - **TEKS in this Unit:**
 - **Vet Science: 127.51 (d)**
 - (7) The student communicates the importance of medical terminology, evaluates veterinary terms to discover their meanings, and demonstrates the ability to use terms correctly. The student is expected to:
 - (A) analyze Greek and Latin prefixes, suffixes, and roots to determine the meaning of veterinary terms;
 - (B) identify, pronounce, and spell veterinary terms appropriately; and
 - (C) use directional anatomy terms appropriately for large and small animal species.
 - (9) The student explains anatomy and physiology of animals. The student is expected to:
 - (A) identify the parts and functions of the skeletal, muscular, respiratory, circulatory, digestive, endocrine, and nervous systems for large and small animal species; and
 - (B) describe the interrelationships among animal body systems.
 - **Adv. Animal Sci.: 127.52 (d)**
 - (10) The student examines and compares anatomy and physiology in animals. The student is expected to:
 - (A) compare the external anatomy of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;
 - (B) identify the anatomical structures and physiological functions of the skeletal, muscular, circulatory, genitourinary, respiratory, nervous, immune, and endocrine systems of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs; and
 - (C) investigate and describe the interrelationship among animal body systems.
 - **Target Completion Date:** 1/30/25
- **Unit 06: Labs - 19 of Days in Unit**
 - **TEKS in this Unit:**
 - **Vet Science: 127.51 (d)**
 - (17) The student identifies veterinary pharmacology procedures and skills. The student is expected to:
 - (A) identify veterinary medications according to their classification, schedule, form, routes of administration, and methods of administration;
 - (B) explain handling, storage, distribution, protocols, and laws for veterinary medications, including controlled substances;
 - (C) calculate dosage for large and small animal species using factors such as concentration of drug, weight of animal, and prescribed dosage;
 - (D) prepare a veterinary prescription label with identifiers that are required by the United States Food and Drug Administration;

animals, including canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs. The student is expected to:

- (A) research and describe the history, including evolution, domestication, and introduction of species to countries, of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;
 - (B) analyze and describe how changes in the global food market impact the animal production industry; and
 - (C) evaluate breeds of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorph based on purpose and conformation.
- **Target Completion Date:** 11/7/25

- (E) identify and explain the equipment and instruments used to safely administer medications for large and small animal species; and
- (F) research and present emerging trends in veterinary pharmacology such as internet pharmacies, herbal supplements, organic labeling, and extra-label and off-label use of medications.
- (4) The student understands safety and health practices associated with working in veterinary medicine. The student is expected to:
 - (A) explain the importance of safe practices such as handling, restraint, and proper use of tools and equipment when working with animals;
 - (B) identify and discuss transmission and prevention of zoonotic diseases in large and small animal species;
 - (C) describe sanitation methods to prevent the spread of pathogens and maintain asepsis in sterile environments;
 - (D) locate, interpret, and implement safety data sheets (SDS) for handling chemicals;
 - (E) demonstrate and explain safe usage of clinical tools and equipment; and
 - (F) perform proper disposal of sharps and biohazards.
- (11) The student evaluates an animal's health during a clinical examination. The student is expected to:
 - (A) describe the characteristics and signs of a healthy and an unhealthy animal;
 - (B) identify ranges for healthy vital signs for large and small animal species such as temperature, pulse, respiration, hydration, and capillary refill time;
 - (C) demonstrate the proper procedures for obtaining vital signs for large and small animal species and interpret vital sign measurements to determine the health of the animal;
 - (D) describe effects of age, stress, and environmental factors on vital signs of animals;
 - (E) explain procedures for physical examinations for large and small animal species;
 - (F) explain the anatomical regional approach to assess an animal's health;
 - (G) apply mathematical skills to calculate weight and linear body measurement for large and small animal species and to convert between measurement systems; and
 - (H) analyze tables, charts, and graphs to interpret large and small animal patient and clinical data.
- (13) The student examines various aspects of veterinary laboratory procedures. The student is expected to:
 - (A) explain the procedures used in collecting, handling, and preparing fecal, blood, and urine specimens for large and small animal species;
 - (B) explain veterinary procedures used in examining fecal, blood, and urine specimens; and
 - (C) analyze and compare normal and abnormal results obtained in veterinary laboratory procedures.
- (16) The student identifies imaging equipment and understands how to safely operate and maintain equipment. The student is expected to:
 - (A) research and explain the parts and function of imaging equipment such as an ultrasonograph, endoscope, electrocardiograph, and radiograph;
 - (B) explain safety, maintenance, and operation procedures of imaging equipment;
 - (C) demonstrate patient restraint and positioning methods used for imaging purposes of large and small animal species; and
 - (D) differentiate between the images from various imaging equipment.

- **Target Completion Date:** 2/27/25

- **Unit 07: Scientific Engineering Practices (Research) - 10 of Days in Unit**
 - **TEKS in this Unit:**
 - **Adv. Animal Sci.: 127.52 (d)**
 - (2) Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - (A) ask questions and define problems based on observations or information from text, phenomena, models, or investigations;
 - (B) apply scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems;
 - (C) use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards;
 - (D) use appropriate tools such as dissection equipment, standard laboratory glassware, microscopes, various prepared slides, measuring devices, micropipettors, hand lenses, thermometers, hot plates, laboratory notebook, timing devices, cameras, Petri dishes, laboratory incubators, models, diagrams, and samples of biological specimens, syringes, needles, scalpels, microscope slides, cover slips, artificial insemination equipment, and drench gun;
 - (E) collect quantitative data using the International System of Units (SI) and qualitative data as evidence;
 - (F) organize quantitative and qualitative data using calculators, computers, software, laboratory notebook, recordkeeping system, and reliable sources;
 - (G) develop and use models to represent phenomena, systems, processes, or solutions to engineering problems; and
 - (H) distinguish between scientific hypotheses, theories, and laws.
 - (3) Scientific and engineering practices. The student analyzes and interprets data to derive meaning, identify features and patterns, and discover relationships or correlations to develop evidence-based arguments or evaluate designs. The student is expected to:
 - (A) identify advantages and limitations of models such as their size, scale, properties, and materials;
 - (B) analyze data by identifying significant statistical features, patterns, sources of error, and limitations;
 - (C) use mathematical calculations to assess quantitative relationships in data; and
 - (D) evaluate experimental and engineering designs.
 - (4) Scientific and engineering practices. The student develops evidence-based explanations and communicates findings, conclusions, and proposed solutions. The student is expected to:
 - (A) develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories;
 - (B) communicate explanations and solutions individually and collaboratively in a variety of settings and formats; and

- (C) engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence.
- (5) Scientific and engineering practices. The student knows the contributions of scientists and recognizes the importance of scientific research and innovation on society. The student is expected to:
 - (A) analyze, evaluate, and critique scientific explanations and solutions by using empirical evidence, logical reasoning, and experimental and observational testing so as to encourage critical thinking by the student;
 - (B) relate the impact of past and current research on scientific thought and society, including research methodology, cost-benefit analysis, and contributions of diverse scientists as related to the content; and
 - (C) research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field in order to investigate STEM careers.
- **Target Completion Date:** 3/23/25

2rd NineWeeks -Vet Science 9wk Start Date: 10/15/25 - 9wk End Date: 12/18/25

● **Unit 03: Parasites & Diseases - 10 of Days in Unit**

○ **TEKS in this Unit:**

■ **Vet Science: 127.51 (d)**

- (12) The student analyzes how diseases and parasites affect animal health. The student is expected to:
 - (A) describe the process of immunity and disease transmission for large and small animal species;
 - (B) identify and describe pathogens for large and small animal species and the diseases they cause;
 - (C) describe the effects that diseases have on various body systems for large and small animal species;
 - (D) identify parasites for large and small animal species using common and scientific names;
 - (E) describe life cycles of parasites found in large and small animal species;
 - (F) explain how parasites found in large and small animal species are transmitted and explain the effects on the host;
 - (G) describe parasitic diagnostic procedures for large and small animal species; and
 - (H) describe treatment protocols for parasites found in large and small animal species.

■ **Adv. Animal Sci.: 127.52 (d)**

- (14) The student analyzes how diseases and parasites affect animal health. The student is expected to:
 - (A) examine how factors such as geographic location, age, genetic composition, and inherited diseases influence the health of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;
 - (B) describe the process of immunity and disease transmission of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;
 - (C) identify and describe pathogens and the diseases they cause in canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;
 - (D) describe the effects that diseases have on various body systems of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;
 - (E) research and explain the methods of prevention and control for diseases of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;
 - (F) identify parasites of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs using common and scientific names;
 - (G) describe the life cycles of various parasites and relate them to animal health issues;
 - (H) explain how parasites are transmitted and the effect they have on canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;
 - (I) conduct or simulate parasite diagnostic tests; and

4th Nine Weeks -Advanced Animal Science 9 wk Start Date: 3/16/26-9wk End Date: 5/21/25

● **Unit 08: Meats - 9 of Days in Unit**

○ **TEKS in this Unit:**

■ **Adv. Animal Sci.: 127.52 (d)**

- (15) The student discusses livestock market readiness and harvesting methods. The student is expected to:
 - (A) explain the stages of animal growth and development and how they relate to market readiness;
 - (B) evaluate market class and grades of livestock;
 - (C) compare harvesting methods for various species using the scientific and engineering design process;
 - (D) research and describe federal and state meat inspection standards such as safety, hygiene, and quality control standards;
 - (E) identify wholesale and retail cuts of meat and correlate to major muscle groups; and
 - (F) research animal by-products and explain their impact on society.

○ **Target Completion Date:** 4/7/25

● **Unit 09: Reproduction & Genetics/Cells - 8 of Days in Unit**

○ **TEKS in this Unit:**

■ **Adv. Animal Sci.: 127.52 (d)**

- (9) The student defines how an organism grows and how specialized cells, tissues, and organs develop. The student is expected to:
 - (A) compare cells to show specialization of structure and function;
 - (B) explain cell division, including mitosis and meiosis;
 - (C) explain cell differentiation in the development of tissues and organs; and
 - (D) identify and explain the biological levels of organization in animals.
- (12) The student understands the principles of molecular genetics and heredity. The student is expected to:
 - (A) explain Mendel's laws of inheritance and predict genotypes and phenotypes of offspring using a Punnett square;
 - (B) use a Punnett square and assign alleles to justify genotype and phenotype predictions;

- (J) explain the methods of prevention, control, and treatment of parasites of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs.
 - **Target Completion Date:** 11/21/25
- **Unit 04: Tools - 11 of Days in Unit**
 - **TEKS in this Unit:**
 - **Vet Science: 127.51 (d)**
 - (15) The student identifies and discusses surgical-assisting procedures and skills. The student is expected to:
 - (A) explain the veterinary protocol for pre-surgical and post-surgical care of a patient;
 - (B) identify tools and equipment used in veterinary surgical procedures;
 - (C) describe methods used in the preparation, sterilization, and opening of surgery packs; and
 - (D) describe veterinary surgical procedures such as spaying, castration, dehorning, docking, dental prophylaxis, and tooth extraction.
 - **Adv. Animal Sci.: 127.52 (d)**
 - (2) Scientific and engineering practices. The student, for at least 40% of instructional time, asks questions, identifies problems, and plans and safely conducts classroom, laboratory, and field investigations to answer questions, explain phenomena, or design solutions using appropriate tools and models. The student is expected to:
 - (A) ask questions and define problems based on observations or information from text, phenomena, models, or investigations;
 - (B) apply scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems;
 - (C) use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards;
 - (D) use appropriate tools such as dissection equipment, standard laboratory glassware, microscopes, various prepared slides, measuring devices, micropipettors, hand lenses, thermometers, hot plates, laboratory notebook, timing devices, cameras, Petri dishes, laboratory incubators, models, diagrams, and samples of biological specimens, syringes, needles, scalpels, microscopes slides, cover slips, artificial insemination equipment, and drench gun;
 - (E) collect quantitative data using the International System of Units (SI) and qualitative data as evidence;
 - (F) organize quantitative and qualitative data using calculators, computers, software, laboratory notebook, recordkeeping system, and reliable sources;
 - (G) develop and use models to represent phenomena, systems, processes, or solutions to engineering problems; and
 - (H) distinguish between scientific hypotheses, theories, and laws.
 - **Target Completion Date:** 12/15/25

- (C) identify the parts of the nucleotide and differentiate between the nucleotides found in deoxyribonucleic acid (DNA) and ribonucleic acid (RNA); and
 - (D) explain the functions of DNA and RNA.
 - (13) The student applies the principles of reproduction and breeding to animal improvement. The student is expected to:
 - (A) describe and compare reproductive anatomy of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;
 - (B) analyze and compare reproductive cycles and phases of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;
 - (C) correlate the reproductive cycles and phases to animal behavior;
 - (D) research breeding systems, including grading up, crossbreeding, linebreeding, and inbreeding, and explain the advantages and disadvantages of each using the scientific and engineering design process; and
 - (E) research breeding methods, including embryo transfer, artificial insemination, and natural mating, and explain the advantages and disadvantages of each using the scientific and engineering design process.
 - **Target Completion Date:** 4/17/25
- **Unit 10: Nutrition/Digestive Systems/Feed Rations - 6 of Days in Unit**
 - **TEKS in this Unit:**
 - **Vet Science: 127.51 (d)**
 - (10) The student determines the importance of animal nutrition in maintaining a healthy animal. The student is expected to:
 - (A) identify sources of nutrients and classes of feeds for large and small animal species;
 - (B) identify feed additives for large and small animal species and describe how additives affect the food supply;
 - (C) analyze dietary needs and feed-quality issues for large and small animal species and their effect on feeding practices; and
 - (D) research and compare the nutritional value of feeds such as prescription, commercial, homemade, fad, and raw diets for large and small animal species.
 - **Adv. Animal Sci.: 127.52 (d)**
 - (11) The student understands the anatomical structures and physiological functions of the digestive system to determine nutritional requirements of ruminant and non-ruminant animals. The student is expected to:
 - (A) describe the structures and functions of the digestive systems of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;
 - (B) identify and describe sources of nutrients and classes of feeds for canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;
 - (C) identify and describe the feed additives and supplements used to meet the nutritional requirements of canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;
 - (D) formulate rations based on different nutritional requirements, including age, gestation, lactation, sex, and purpose, for canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;
 - (E) analyze feeding practices in relation to nutritional requirements, including age, gestation, lactation, sex, and purpose, for canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;
 - (F) analyze feed quality issues and determine their effect on the health of

- canine, feline, bovine, equine, caprine, porcine, ovine, poultry, and lagomorphs;
 - (G) research and compare the nutritional value of feeds for all species discussed;
 - (H) identify forage plants used for livestock grazing and analyze the protein levels of each; and
 - (I) research grazing practices such as rotational grazing and deferred grazing and explain the advantages and disadvantages of each using the scientific and engineering design process.
 - **Target Completion Date:** 4/27/25
- **Unit 11: Professional Standards & Employability Skills/Effective Management & Marketing Strategies - 6 of Days in Unit**
 - **TEKS in this Unit:**
 - **Vet Science: 127.51 (d)**
 - (1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - (A) identify career, education, and entrepreneurship opportunities for a chosen occupation in the field of veterinary science and develop a plan for obtaining the education, training, and certifications required;
 - (B) model professionalism by continuously exhibiting appropriate work habits, solving problems, taking initiative, communicating effectively, listening actively, and thinking critically;
 - (C) model appropriate personal and occupational safety and health practices and explain the importance of established safety and health protocols for the workplace;
 - (D) analyze and interpret the rights and responsibilities, including ethical conduct and legal responsibilities, of employers and employees; and
 - (E) describe and demonstrate characteristics of good citizenship in the agricultural workplace, including promoting stewardship, community leadership, civic engagement, and agricultural awareness and literacy.
 - (6) The student evaluates effective management approaches and marketing strategies to determine their importance to the success of veterinary practices such as clinics and hospitals. The student is expected to:
 - (A) describe how the human-animal bond impacts veterinary practices when working with clients and their animals;
 - (B) identify and demonstrate skills needed to communicate effectively with clients and veterinary professionals;
 - (C) identify marketing strategies and explain how marketing affects the success of a veterinary practice; and
 - (D) research and discuss how electronic technology such as computer programs, medical records, hospital-to-hospital communication, and tablets is used in a veterinary practice.
 - **Adv. Animal Sci.: 127.52 (d)**
 - (1) The student demonstrates professional standards/employability skills as required by business and industry. The student is expected to:
 - (A) identify career, education, and entrepreneurship opportunities for a chosen occupation in the field of veterinary science and develop a plan for obtaining the education, training, and certifications required;
 - (B) model professionalism by continuously exhibiting appropriate work habits, solving problems, taking initiative, communicating effectively, listening actively, and thinking critically;
 - (C) model appropriate personal and occupational safety and health practices and explain the importance of established safety and health

