Texas CTE

Veterinary Science (One Credit) (2024)

Implementation. A

1 **The provisions of this section shall be implemented by school districts beginning with the 2025-2026 school year.** A.1

2 **School districts shall implement the employability skills student expectations listed in §127.15(d)(2) of this chapter (relating to Career and Technical Education Employability Skills) as an integral part of this course.** A.2

General requirements. This course is recommended for students in Grades 11 and 12. Prerequisite: Equine Science, Small Animal Management, or Livestock and Poultry Production. Students shall be awarded one credit for successful completion of this course. B

b **General requirements. This course is recommended for students in Grades 11 and 12. Prerequisite: Equine Science, Small Animal Management, or Livestock and Poultry Production. Students shall be awarded one credit for successful completion of this course.** B

Introduction. C

1 **Career and technical education instruction provides content aligned with challenging academic standards and relevant technical knowledge and skills for students to further their education and succeed in current or emerging professions.** C.1

2 **The Agriculture, Food, and Natural Resources Career Cluster focuses on the production, processing, marketing, distribution, financing, and development of agricultural commodities and resources, including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.** C.2

3 **Veterinary Science covers topics relating to veterinary practices, including practices for large and small animal species. To prepare for careers in the field of animal science, students must attain academic knowledge and skills, acquire technical knowledge and skills related to animal systems and the workplace, and develop knowledge and skills regarding career opportunities, entry requirements, and industry expectations. To prepare for success, students need opportunities to**

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learn, reinforce, apply, and transfer knowledge and skills and technologies in a variety of settings. C.3

4 **Students are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.** C.4

5 **Statements that contain the word "including" reference content that must be mastered, while those containing the phrase "such as" are intended as possible illustrative examples.** C.5

Knowledge and skills. D

1 **The student develops a supervised agricultural experience program. The student is expected to:** D.1

A plan, propose, conduct, document, and evaluate a supervised agricultural experience program as an experiential learning activity; and D.1.A

B use appropriate record-keeping skills as they relate to the supervised agricultural experience program. D.1.B

2 **The student develops leadership skills through participation in an agricultural youth organization. The student is expected to:** D.2

A participate in youth agricultural leadership opportunities; D.2.A

B review and participate in a local program of activities; and D.2.B

C create or update documentation of relevant agricultural experience such as community service, professional, or classroom experiences. D.2.C

3 **The student understands safety and health practices associated with working in veterinary medicine. The student is expected to:** D.3

A explain the importance of safe practices such as handling, restraint, and proper use of tools and equipment when working with animals; D.3.A

B identify and discuss transmission and prevention of zoonotic diseases in large and small animal species; D.3.B

C describe sanitation methods to prevent the spread of pathogens and maintain asepsis in sterile environments; D.3.C

D locate, interpret, and implement safety data sheets (SDS) for handling chemicals; D.3.D

E demonstrate and explain safe usage of clinical tools and equipment; and D.3.E

F perform proper disposal of sharps and biohazards. D.3.F

4 **The student understands current topics, professional ethics, and laws that relate to veterinary medicine. The student is expected to:** D.4

A research and discuss historical events, trends, and issues that have impacted veterinary medicine; D.4.A

B analyze topics related to veterinary medical ethics, including animal rights and animal welfare; and D.4.B

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C explain policies and procedures in veterinary medicine that reflect local, state, and federal laws. D.4.C

5 **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:** D.5

A describe how the human-animal bond impacts veterinary practices when working with clients and their animals; D.5.A

B identify and demonstrate skills needed to communicate effectively with clients and veterinary professionals; D.5.B

C identify marketing strategies and explain how marketing affects the success of a veterinary practice; and D.5.C

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. D.5.D

6 **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:** D.6

A analyze Greek and Latin prefixes, suffixes, and roots to determine the meaning of veterinary terms; D.6.A

B identify, pronounce, and spell veterinary terms appropriately; and D.6.B

C use directional anatomy terms appropriately for large and small animal species. D.6.C

7 **The student understands proper animal handling as it relates to characteristics and behavior. The student is expected to:** D.7

A identify animal breeds according to characteristics; D.7.A

B identify and compare normal and abnormal behavior within and among various animal species; and D.7.B

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. D.7.C

8 **The student explains anatomy and physiology of animals. The student is expected to:** D.8

A identify the parts and functions of the skeletal, muscular, respiratory, circulatory, digestive, endocrine, and nervous systems for large and small animal species; and D.8.A

B describe the interrelationships among animal body systems. D.8.B

9 **The student determines the importance of animal nutrition in maintaining a healthy animal. The student is expected to:** D.9

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A identify sources of nutrients and classes of feeds for large and small animal species; D.9.A

B identify feed additives for large and small animal species and describe how additives affect the food supply; D.9.B

C analyze dietary needs and feed-quality issues for large and small animal species and their effect on feeding practices; and D.9.C

D research and compare the nutritional value of feeds such as prescription, commercial, homemade, fad, and raw diets for large and small animal species. D.9.D

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10 The student evaluates an animal's health during a clinical examination. The student is expected to: D.10

A describe the characteristics and signs of a healthy and an unhealthy animal; D.10.A

B identify ranges for healthy vital signs for large and small animal species such as temperature, pulse, respiration, hydration, and capillary refill time; D.10.B

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.10.C

D describe effects of age, stress, and environmental factors on vital signs of animals; D.10.D

E explain procedures for physical examinations for large and small animal species; D.10.E

F explain the anatomical regional approach to assess an animal's health; D.10.F

G apply mathematical skills to calculate weight and linear body measurement for large and small animal species and to convert between measurement systems; and D.10.G

H analyze tables, charts, and graphs to interpret large and small animal patient and clinical data. D.10.H

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11 The student analyzes how diseases and parasites affect animal health. The student is expected to: D.11

A describe the process of immunity and disease transmission for large and small animal species; D.11.A

B identify and describe pathogens for large and small animal species and the diseases they cause; D.11.B

C describe the effects that diseases have on various body systems for large and small animal species; D.11.C

D identify parasites for large and small animal species using common and scientific names; D.11.D

E describe life cycles of parasites found in large and small animal species; D.11.E

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F explain how parasites found in large and small animal species are transmitted and explain the effects on the host; D.11.F

G describe parasitic diagnostic procedures for large and small animal species; and D.11.G

H describe treatment protocols for parasites found in large and small animal species. D.11.H

12 The student examines various aspects of veterinary laboratory procedures. The student is expected to: D.12

A explain the procedures used in collecting, handling, and preparing fecal, blood, and urine specimens for large and small animal species; D.12.A

B explain veterinary procedures used in examining fecal, blood, and urine specimens; and D.12.B

C analyze and compare normal and abnormal results obtained in veterinary laboratory procedures. D.12.C

13 The student analyzes technical veterinary procedures and skills. The student is expected to: D.13

A explain the care, maintenance, and use of equipment and instruments found in veterinary practices; D.13.A

B interpret and prepare a veterinary medical record, adhering to client and patient confidentiality; D.13.B

C explain and demonstrate routine animal care skills such as administering medications, nail trimming, bathing, dipping, grooming, ear cleaning, expressing anal sacs, dental care, placing a tail tie, and ownership identification methods; D.13.C

D explain and demonstrate therapeutic care for large and small animal species such as patient observation, maintaining and administering fluids, applying and removing bandages, removing sutures, caring for open wounds, and providing hydrotherapy physical therapy; D.13.D

E describe emergency protocols and first aid procedures for large and small animal species, including cardiopulmonary resuscitation, control of bleeding, and signs of shock; and D.13.E

F research and compare veterinary care of specialty patients, including newborns, orphans, geriatric animals, recumbent animals, and animals with disabilities. D.13.F

14 The student identifies and discusses surgical-assisting procedures and skills. The student is expected to: D.14

A explain the veterinary protocol for pre-surgical and post-surgical care of a patient; D.14.A

B identify tools and equipment used in veterinary surgical procedures; D.14.B

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C describe methods used in the preparation, sterilization, and opening of surgery packs; and D.14.C

D describe veterinary surgical procedures such as spaying, castration, dehorning, docking, dental prophylaxis, and tooth extraction. D.14.D

15 The student identifies imaging equipment and understands how to safely operate and maintain equipment. The student is expected to: D.15

A research and explain the parts and function of imaging equipment such as an ultrasonograph, endoscope, electrocardiograph, and radiograph; D.15.A

B explain safety, maintenance, and operation procedures of imaging equipment; D.15.B

C demonstrate patient restraint and positioning methods used for imaging purposes of large and small animal species; and D.15.C

D differentiate between the images from various imaging equipment. D.15.D

16 The student identifies veterinary pharmacology procedures and skills. The student is expected to: D.16

A identify veterinary medications according to their classification, schedule, form, routes of administration, and methods of administration; D.16.A

B explain handling, storage, distribution, protocols, and laws for veterinary medications, including controlled substances; D.16.B

C calculate dosage for large and small animal species using factors such as concentration of drug, weight of animal, and prescribed dosage; D.16.C

D prepare a veterinary prescription label with identifiers that are required by the United States Food and Drug Administration; D.16.D

E identify and explain the equipment and instruments used to safely administer medications for large and small animal species; and D.16.E

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. D.16.F