



CTSO Course Alignments: Veterinary Science

Below you will find standards for the Veterinary Science course aligned with competitive events from appropriate career and technical student organizations (CTSOs). Knowing the aligned events for your organization will allow you to have additional tools for teaching course standards, as well as increase student engagement and preparation in your CTSO activities. The final column recommends potential tools from other CTSO organizations. Even if your students are not participating in these organizations, available rubrics, tools, and materials can also add to the instructional resources at your disposal for best teaching your content.

Important to note: While the aligned activities below can be important tools in teaching course standards, it is important to note that events may not cover a standard in its entirety and should not be the sole instructional strategy used to address a standard.

	STANDARD	ALIGNED FFA COMPETITIVE EVENTS/PROGRAMS	OTHER POTENTIAL CTSO TOOLS & RESOURCES
1	Explore and compare local and regional career opportunities in the veterinary science industry using information from local job postings and Tennessee labor data. Describe in a written or visual representation the knowledge, skills, and abilities necessary for a selected occupation in veterinary science. (TN Reading 1, 2; TN Writing 4)	<ul style="list-style-type: none"> • FFA: Job Interview 	<ul style="list-style-type: none"> • TSA: Career Preparation • HOSA: Job Seeking Skills, Veterinary Science • FCCLA: Job Interview, Career Investigation, Entrepreneurship • SkillsUSA: Job Interview, Entrepreneurship, Employment Application Process
2	Review common laboratory safety procedures for tool and equipment operation in the agricultural and biosystems engineering laboratories, including but not limited to accident prevention and control procedures. Demonstrate the ability to follow safety and operational procedures in a lab setting and complete a safety test with 100 percent accuracy. (TN Reading 3; ARNR CS)		<ul style="list-style-type: none"> • HOSA: Biomedical Laboratory Science • SkillsUSA: Occupational Health and Safety • TSA: Biotechnology Design
3	Compare and contrast the safety hazards associated with clinical and field settings. Review safety hazard case studies and recommend research-based practices to prevent the safety hazard in the future. (TN Reading 1, 9)	<ul style="list-style-type: none"> • FFA: Veterinary Science 	<ul style="list-style-type: none"> • SkillsUSA: Occupational Health and Safety

4	Review common laboratory safety procedures for tool and equipment operation in the veterinary science laboratories, including but not limited to accident prevention and control procedures. Demonstrate the ability to follow safety and operational procedures in a lab setting and complete a safety test with 100 percent accuracy. (TN Reading 3)		<ul style="list-style-type: none"> • SkillsUSA: Occupational Health and Safety
5	<p>Demonstrate in a live setting or in a presentation the ability to follow procedures precisely for the following areas:</p> <ol style="list-style-type: none"> Animal restraint and handling in clinical or field settings Sanitation, disinfection, and sterilization procedures to prevent transfer of zoonotic diseases Material safety data sheets (MSDS) interpretation (TN Reading 3)	<ul style="list-style-type: none"> • FFA: Veterinary Science 	<ul style="list-style-type: none"> • HOSA: Prepared Speaking, Veterinary Science • TSA: Prepared Presentation
6	Gather and compare information from a variety of authoritative sources (such as professional associations or non-profit organizations) on the philosophical, social, moral, and ethical issues encountered in the veterinary profession. Debate their implications for practitioners of veterinary science by developing claim(s) and counterclaim(s) supported by reasoning and evidence from research. (TN Reading 1; TN Writing 1, 4, 7, 8, 9)	<ul style="list-style-type: none"> • FFA: Agricultural Issues 	<ul style="list-style-type: none"> • FBLA: Business Ethic • HOSA: Biomedical Debates • TSA: Debating Technological Issues
7	<p>Citing specific textual evidence from legislation and news media, summarize local, state, and federal laws that regulate policies and procedures in veterinary medicine pertaining to:</p> <ol style="list-style-type: none"> Animal rights and welfare Professional licensing Liability of veterinary staff U.S. Food and Drug Administration (FDA), U.S. Department of Agriculture (USDA), and U.S. Environmental Protection Agency (EPA) regulations for veterinary drugs and biologicals Occupational Safety and Health Administration (OSHA) regulations for workplace safety (TN Reading 1, 2; TN Writing 7, 9)	<ul style="list-style-type: none"> • FFA: Veterinary Science 	<ul style="list-style-type: none"> • HOSA: Prepared Speaking, Researched Persuasive Speaking • TSA: Prepared Presentation
8	Identify common clinical terminology, abbreviations, and symbols relating to the diagnosis, pathology, and treatment of animals. (TN Reading 4)	<ul style="list-style-type: none"> • FFA: Veterinary Science 	<ul style="list-style-type: none"> • HOSA: Veterinary Science
9	Recognize various states of cellular homeostasis to identify infections, diseases, and mutations. (TN Biology I 1; TN Biology II 1)	<ul style="list-style-type: none"> • FFA: Veterinary Science 	<ul style="list-style-type: none"> • HOSA: Veterinary Science

10	Review fundamental concepts pertaining to tissue and organ systems by comparing and contrasting the structure and function of different tissue types, including epithelial, connective, muscle, and nervous tissues. Summarize in written or presentation format how cellular differentiation allows for specialized tissue development. (TN Writing 2, 4; TN Biology I 1; TN Biology II 1)	<ul style="list-style-type: none"> • FFA: Veterinary Science 	<ul style="list-style-type: none"> • HOSA: Veterinary Science
11	Identify and research the major body systems, including skeletal, muscular, respiratory, digestive, nervous, integumentary, urinary, and reproductive system. Develop models to compare and contrast between different species of small and large domesticated animals. (TN Reading 7; TN A&P 1, 2, 5, 6)	<ul style="list-style-type: none"> • FFA: Veterinary Science 	<ul style="list-style-type: none"> • HOSA: Veterinary Science
12	Perform nutritional assessment techniques, including body condition scoring and life stage to determine the nutritional status of animals. Apply this information to recommend balanced rations, providing written and oral justification to support recommendations. (TN Reading 1, 3, 9; TN Writing 2)	FFA: Veterinary Science	<ul style="list-style-type: none"> • HOSA: Veterinary Science
13	Research the relationships of diseases and disorders to digestion, absorption, and metabolic processes using case studies, instructional materials, and scholarly journals. Assess the impact of various diseases and disorders on the maintenance of optimum nutrition levels in the body. (TN Reading 1, 2, 5, 9)	<ul style="list-style-type: none"> • FFA: Veterinary Science 	<ul style="list-style-type: none"> • HOSA: Veterinary Science
14	Correctly identify and describe the function of common equipment used in the clinical area of a veterinary practice, including but not limited to examination tools, radiology equipment, ultrasound equipment, surgical equipment and testing equipment. Develop a checklist including safe use and maintenance for specific equipment. (TN Reading 2, 9; TN Writing 4, 8, 9)	<ul style="list-style-type: none"> • FFA: Veterinary Science 	<ul style="list-style-type: none"> • HOSA: Veterinary Science
15	Demonstrate, in a live setting or in a presentation, physical examination procedures in the following areas: a. Identification of exam purpose, importance, and routine tasks b. Completion of new client health history report c. Identification and evaluation of factors affecting the physiological state of animals d. Identification of characteristics and signs of healthy animals e. Demonstration of procedures to accurately obtain and record vital signs f. Identification and evaluation of effects of age, stress, and environmental factors on vital signs (TN Reading 3)	<ul style="list-style-type: none"> • FFA: Veterinary Science 	

16	<p>Identify and recommend the optimum timeline for administering different types of vaccines suitable for different species. Demonstrate, in a live setting or in a presentation, the ability to:</p> <ol style="list-style-type: none"> Identify injection methods Identify appropriate anatomical injection sites Administer the injection, including the selection of appropriate equipment (TN Reading 3, 7, 9; TN Writing 2) 	<ul style="list-style-type: none"> • FFA: Veterinary Science 	
17	<p>Explain the importance of contamination prevention as related to the veterinary industry. Demonstrate, in a live setting or in a presentation, the ability to explain and follow contamination control procedures relating to the following areas:</p> <ol style="list-style-type: none"> Principles of sanitation, disinfection, antiseptics, and sterilization Exam room care and sanitation procedures Classification of sterilants, antiseptics, disinfectants, and their appropriate applications Hazardous waste management Proper techniques to fill a syringe for a prescribed dosage (TN Reading 1, 3, 7, 9) 	<ul style="list-style-type: none"> • FFA: Veterinary Science 	<ul style="list-style-type: none"> • HOSA: Veterinary Science
18	<p>Design a plan of care by interpreting patient records and treatment plans, and perform basic nursing and patient monitoring tasks. (TN Writing 2, 4, 9)</p>	<ul style="list-style-type: none"> • FFA: Veterinary Science 	
19	<p>Outline basic first aid, wound care, and bandaging procedures and compare the different procedures in relation to small and large animals. Demonstrate, in a live setting or in a presentation, the ability to follow these procedures precisely, while distinguishing between small and large animals for the following areas:</p> <ol style="list-style-type: none"> Canine cardiopulmonary resuscitation (CPR) procedures Assessment and care of common physical injuries such as cuts, abrasions, and contusions Wound therapies at different phases of healing Types and purposes of bandages, splints, slings, and casts, and indications for use Techniques for application and removal of bandages Caring of animals during the birthing process (TN Reading 3) 	<ul style="list-style-type: none"> • FFA: Veterinary Science 	<ul style="list-style-type: none"> • HOSA: Veterinary Science

20	<p>Research and explain laws and regulations related to the administration of prescription and over-the-counter medication within the veterinary industry to develop a customer fact sheet for common medicines, citing specific text from legislation. Demonstrate, in a live setting or in a presentation, the ability to follow medication administration procedures precisely, including:</p> <ol style="list-style-type: none"> Identification of common medications and their required storage, handling, and disposal Demonstration of administration techniques for topical and oral medications Interpretation of medication label and packaging information Calculate proper dosages of medications based upon label directions <p>(TN Reading 2, 3; TN Writing 2, 4, 7, 9)</p>	<ul style="list-style-type: none"> • FFA: Veterinary Science 	<ul style="list-style-type: none"> • TSA: Desktop Publishing
21	<p>Compare and contrast appropriate laboratory quality control procedures such as the proper collection, preparation, handling, and storage of biological samples, and describe their effects on obtaining accurate data from laboratory procedures. (TN Reading 8, 9; TN Writing 2, 7, 9)</p>	<ul style="list-style-type: none"> • FFA: Veterinary Science 	
22	<p>Develop a procedural check sheet to aid in conducting veterinary clinical hematology procedures such as complete blood count (CBC). Using the check sheet, demonstrate, in a live setting or in a presentation, the ability to follow clinical hematology procedures precisely in relation to the following areas:</p> <ol style="list-style-type: none"> Sample collection, preparation, and storage Microscopic examination to identify blood cells Interpretation of normal and abnormal results <p>(TN Reading 3, 7, 8)</p>	<ul style="list-style-type: none"> • FFA: Veterinary Science 	
23	<p>Explain and justify the need for conducting urinalysis and fecal analysis as related to animal health. Outline procedures for conducting clinical urinalysis to include the following:</p> <ol style="list-style-type: none"> Sample collection, preparation, and storage Physical, chemical, and microscopic examination procedures Interpretation of normal and abnormal results <p>(TN Reading 3)</p>	<ul style="list-style-type: none"> • FFA: Veterinary Science 	<ul style="list-style-type: none"> • HOSA: Veterinary Science
24	<p>Compare and contrast the role of the USDA, state veterinarians, state animal disease laws, and diagnostic labs in disease prevention and control. Explain the classification of diseases and disease processes, and identify causative factors and agents of disease in a graphical illustration or written analysis. (TN Reading 7, 9; TN Writing 2, 9)</p>	<ul style="list-style-type: none"> • FFA: Veterinary Science 	<ul style="list-style-type: none"> • HOSA: Veterinary Science

25	Explain how diseases affect the body and differentiate between clinical signs and symptoms of disease. Identify and describe the differences between clinical signs and symptoms of proper health and poor health. (TN Writing 2, 7, 9; TN Writing 2, 4, 7, 9)	<ul style="list-style-type: none"> • FFA: Veterinary Science 	<ul style="list-style-type: none"> • HOSA: Veterinary Science
26	Identify symptoms of common animal diseases and their causative agents, and summarize methods of prevention, treatment, and control by drawing evidence from informational texts or recent medical literature. (TN Reading 2, 7, 8, 9; TN Writing 2, 7, 9)	<ul style="list-style-type: none"> • FFA: Veterinary Science 	<ul style="list-style-type: none"> • HOSA: Veterinary Science
27	Describe the clinical signs of an animal with a parasite infection. Compare and contrast the symptoms of common internal and external parasite infections and summarize methods of prevention, treatment, and control between small and large animals. (TN Writing 2, 9)	<ul style="list-style-type: none"> • FFA: Veterinary Science 	<ul style="list-style-type: none"> • HOSA: Veterinary Science
28	Demonstrate effective oral and written communication skills needed in clinical settings, including but not limited to client greeting, telephone answering, appointment scheduling and management, and admission and discharge procedures. Outline the procedures for euthanasia and post mortem customer care and role-play appropriate grief counseling services for clients. (TN Reading 2, 7, 9; Writing 2, 4)	<ul style="list-style-type: none"> • FFA: Veterinary Science 	
29	Identify the types of medical records required in veterinary practices. Explain, justify, and demonstrate correct procedures for the completion and filing of veterinary records and related documentation in a professional and legal manner. (TN Reading 1, 7, 9; TN Writing 2, 9)	<ul style="list-style-type: none"> • FFA: Veterinary Science 	
ALL	CAN BE USED WITH ALL/MOST STANDARDS	<ul style="list-style-type: none"> • FFA: Agriscience Fair, Veterinary Science 	<ul style="list-style-type: none"> • FCCLA: Illustrated Talk, Chapter in Review Display, Chapter in Review Portfolio • HOSA: Veterinary Science • SkillsUSA: Career Pathways Showcase, Job Skills Demonstration A, Job Skills Demonstration O, Prepared Speech, Extemporaneous Speaking, Chapter Display • TSA: Prepared Presentation