Tennessee FFA Association

Veterinary Science Handbook

2017-2021

Purpose

The purpose of the Tennessee Veterinary Science Career Development Event is to promote college and career readiness by providing opportunities to develop technical knowledge and demonstrate practical skills in the field of veterinary science.

Objectives

Participants will demonstrate professional ethics, decision-making, business competency, communication and problem-solving skills.

Participants will demonstrate technical competency with small and large animals in the areas of:

- Anatomy and physiology
- Clinical procedures
- Identification
- Health and safety
- Medical terminology
- Veterinary math applications

Event Rules

Teams will consist of four members with all four members' scores counting toward total team score.

DRESS CODE:

FFA Official Dress is NOT required for this event. Participants must wear either scrubs (top and bottoms; solid color) or polo with slacks. All participants must wear closed toe, closed heel and flat shoes (no clogs, sandals or flip-flops).

TOOLS AND EQUIPMENT:

- Equipment provided by student: pencils, non-programmable calculators, and clear, transparent clipboards
- FFA will provide the specific tools and equipment needed to complete practicums.
- Any participant in possession of an electronic device in the event area is subject to disqualification.

Event Rules

INDIVIDUAL ACTIVITIES

WRITTEN EXAM (100 POINTS)

The objective exam is designed to determine team members' broad understanding of the veterinary science field. The written exam will consist of 50 questions. Forty minutes will be given for the exam. All test questions will come from the previous five years of National FFA Veterinary Science Written Exams located on FFA.ORG. A test bank of the previous five years National FFA Exams will be maintained and updated annually by FFA State Staff on the Downloads Tab of tnffa.org.

Topics for the exam may include:

- Behavior
- Disease (causes and sources, signs and clinical signs)
- Medical terminology
- Medical records
- Anatomy/physiology
- Regulations (OSHA: Federal Occupational Safety and Health Administration; GHS: Globally Harmonized System for Hazard Communication; SDS: Safety Data Sheets)
- Patient management
- Facility management
- Practice management
- Genetics
- Nutrition
- Husbandry

MATH APPLICATIONS EXAM (100 POINTS)

The number of practicum questions will vary based on the type of activity that is assigned. Participants will have 30 minutes to complete the entire math application practicum. Questions may include conversions, dose calculations, dilutions, cost calculations and invoices.

IDENTIFICATION (100 POINTS TOTAL)

Participants will identify equipment, parasites and breeds/species for a total of 100 points (two points per item). Forty minutes will be given for this activity. Identification lists are located at the end of this handbook.

EQUIPMENT (50 POINTS)

Participants will identify pieces of equipment (actual equipment and photos). They will also need to have general knowledge about the use for each item.

PARASITES/MICROSCOPIC (30 POINTS)

Participants will identify parasites (specimen and photos) and explain the life cycles of selected parasites.

Participants will identify microscopic organisms.

BREEDS (20 POINTS)

Participants will identify breeds of small and large animals (photos).

After all individual activities are scored, only the top ten teams will participate in the team activity. All other teams will be released.

Team Activity (500 points)

Teams will conduct research using local veterinarians and veterinary resources based on the annual topic posted on the National FFA CDE webpage on FFA.ORG in November of each year. The Team Activity Topic will also be updated annually and posted on the Downloads page on tnffa.org. The team will be provided a specific scenario when they begin their team activity. They will have a total of 15 minutes to prepare their presentation. Teamwork will be assessed during the plan development time.

Teams will evaluate the information provided and prepare the questions, diagnostics and recommendations as well as explain steps and procedures for the veterinary process in their plan. Teams need to determine what aspects of veterinary medicine and roles are most important to demonstrate based on the annual topic.

After preparation the team will be required to give an oral presentation for a maximum of 15 minutes explaining decisions made by the team. All team members are expected to participate in the presentation. The team will then be required to answer questions from judges regarding the decisions reached by their team.

Resources provided for the team activity may include diagnostic information like blood work, synopsis of disease state, treatment recommendations and cost information.

Scoring

ACTIVITIES	Individual Points	Team Points
Written Exam	100	400
Identification	100	400
Math Application Exam	100	400
Team Activity		500
	720	1,700

TIEBREAKERS

Team tiebreakers will be settled in the following order:

1. Combined individual Identification total score
2. Combined individual written exam total score

Individuals tiebreakers will be settled in the following order:

1. Combined identification score
2. Written exam score

Resources

This list of references is not intended to be all inclusive.

Other sources may be utilized, and teachers are encouraged to make use of the very best instructional materials available. Make sure to use discretion when selecting website references by only using reputable, proven sites. The following list contains references that may prove helpful during event preparation. The most current edition of resources will be used.

Past CDE materials and other resources are available by logging in to
https://www.ffa.org/participate/cdes/veterinary-science

WRITTEN EXAM:

- Previous five years National Vet Science Written Exams located on FFA.ORG – A test bank will be posted on the Downloads page of tnffa.org and updated annually

- Small Animal Care and Management. Warren. ISBN: 978-1-4180-4105-2

- McCurnin's Clinical Textbook for Vet Technicians 8th edition- ISBN 978-1-4377-2690-0

- An Illustrated Guide to Veterinary Medical Terminology. Romich. ISBN: 978-1-4354-2012-0

- Official Guide: Maintaining and Cleaning Surgical Instruments. Stow.: *https://www.ffa.org/SiteCollectionDocuments/cde_vetsci_guide_maintaining_clearing_surgical_instruments.pdf*

- Veterinary Science: Preparatory Training for the Veterinary Assistant. Faries. ISBN: 978-0-9849115-0-9. Order online: *https://agrilifebookstore.org/publications_browse2.cfm?keywordid=4*

- Introduction to Veterinary Science. Lawhead, Baker. ISBN: 978-1-4283-1225-8

- *http://todaysveterinarypractice.navc.com/*

- Veterinary Assisting: Fundamentals and Applications. Vanhorn, Clark. ISBN: 978-1-4354-5387-6

- Clinical Procedures & Handling/Restraining Practicums :

- Veterinary Assisting: Fundamentals and Applications. Vanhorn, Clark. ISBN: 978-1-4354-5387-6

- McCurnin's Clinical Textbook for Vet Technicians 8th edition- ISBN 978-1-4377-2690-0

- Manual of Clinical Procedures in Dogs, Cats, Rabbits & Rodents. Crow, Walshaw, Boyle. ISBN: 978-0813813042

- Veterinary Science: Preparatory Training for the Veterinary Assistant. Faries. ISBN: 978-0-9849115-0-9. Order online: *https://agrilifebookstore.org/publications_browse2.cfm?keywordid=4*

IDENTIFICATION:

- Veterinary Instruments and Equipment: A Pocket Guide. Sonsthagen. ISBN: 978-0323032032 *http://loudoun.nvcc.edu/vetonline/vet121/instruments.htm*

- *https://www.spectrumsurgical.com/product/10-0227/Surgical-Instrument-Flash-Cards.php*

- American Kennel Club – *http://www.akc.org/index.cfm*

- Cat Fanciers' Association – *http://www.cfa.org/client/breeds.aspx*

- American Rabbit Breeders Association – *http://www.arba.net/*

MATH PRACTICUM:

- Medical Mathematics and Dosage Calculations for Veterinary Professionals. Bill, Robert. ISBN: 978-08138263

- Essential Calculations for Veterinary Nurses and Technicians. Terry Lake and Nicola Green. ISBN 978-0-7020-2930-1

- *https://www.ffa.org/SiteCollectionDocuments/Math%20Resource.pdf*

Equipment and Materials Identification List

100. Ambubag
101. Anesthetic machines
102. Autoclave
103. Autoclave tape indicator
104. Backhaus towel clamps
105. Balling gun
106. Bandaging material — Elasticon
107. Bandaging material — roll gauze
108. Bandaging material — vet wrap
109. Bands (castration or docking)
110. Cat bag
111. Catch pole (dog snare)
112. Catheter — butterfly
113. Catheter — IV
114. Catheter — Tomcat urinary
115. Centrifuge
116. Chemical indicator strips
117. Cold sterile tray
118. Dehorner — Barnes
119. Dehorner — electric
120. Dental floats
121. Dental scaler
122. Drench gun — small ruminant
123. Ear notcher
124. Elastrator
125. Elizabethan collar
126. Emasculators
127. Endoscope
128. Endotracheal tubes
129. Fecal loop
130. Fecalyzers
131. Feeding tube for small animals
132. Fetal extractor — calf
133. Forceps — Alligator
134. Forceps — Allis tissue
135. Forceps — Babcock tissue
136. Forceps — Brown-Adson thumb
137. Forceps — Crile
138. Forceps — Kelly
139. Forceps — Halstead mosquito hemostatic
140. Forceps — Rat tooth thumb
141. Gravity feeder / J tube
142. Head gate
143. Hog snare
144. Hoof knife
145. Hoof rasp
146. IV administration set
147. Laparoscope
148. Laryngoscopes
149. Muzzle — basket
150. Muzzle — nylon
151. Needle holder — Mayo-Hegar
152. Needle holder — Olsen-Hegar
153. Obstetrical chain and handle
154. Ophthalmoscope
155. Otoscope
156. Pig tooth nippers
157. Radiology personal protective equipment
158. Rectal prolapse ring — swine
159. Rumen magnet
160. Scalpel blade
161. Scalpel handle
162. Scissors — Suture wire cutting
163. Scissors — Bandage
164. Scissors — Lister bandage
165. Scissors — Littauer suture removal
166. Scissors — Mayo dissecting
167. Scissors — Metzenbaum dissecting
168. Silver nitrate sticks
169. Small animal oxygen cage
170. Snook ovariohysterectomy hook
171. Speculum — large animal oral
172. Speculum — small animal oral
173. Speculum — vaginal
174. Squeeze chute
175. Staple remover
176. Stethoscope
177. Surgical drapes
178. Suture needle — cutting
179. Suture needle — taper
180. Syringe — automatic, multi-dose
181. Tattooing instruments — small and large
182. Tonometer
183. Tourniquet
184. Trocar and cannula
185. Twitch chain
186. Twitch human

Parasite/Microscopic Identification List

200. Blowfly (Family Calliphoridae)
201. Calcium oxalate crystals
202. Cat Warble (Genus Cuterebra)
203. Cocci (bacteria)
204. Coccidia (Genus Isospora or Eimeria)
205. Demodectic Mite (Genus Demodex)
206. Ear Mite (Family Psoroptidae ; Genus Otodectes)
207. Eosinophils
208. Epithelial cells (urine)
209. Flea Larva (Genus Ctenocephalides)
210. Flea Tapeworm Egg* (Genus Dipylidium)
211. Flea Tapeworm Segment* (Genus Dipylidium)
212. Flea Tapeworm* (Genus Dipylidium)
213. Fleas* (Genus Ctenocephalides)
214. Giardia* (Genus Giardia)
215. Heartworm Adult* (Genus Dirofilaria)
216. Heartworm Microfilaria* (Genus Dirofilaria)
217. Hookworm Adult* (Family Ancylostomatidae; Genus Ancylostoma, Uncinaria, Bunostomum or Globocephalus)
218. Hookworm Egg* (Family Ancylostomatidae; Genus Ancylostoma, Uncinaria, Bunostomum or Globocephalus)
219. Horse Bots* (Genus Gasterophilus)
220. Horse Strongyles* (Family Strongylidae; Genus Strongylus)
221. Lice — Biting (Order Mallophaga; Genus Bovicola or Trichodectes)
222. Lice — Sucking (Order Anoplura; Genus Linognathus or Hematopinus)
223. Liver Fluke (Class Trematoda; Genus Fasciola, Fascioloides or Dicrocoelium)
224. Mosquito Adult (Family Culicidae; Genus Anopheles, Culex or Aedes)
225. Mosquito Larva (Family Culicidae; Genus Anopheles, Culex or Aedes)
226. Neutrophils
227. Platelets
228. Red blood cell (erythrocyte)
229. Rod (bacteria)
230. Roundworm Adult* (Family Ascarididae or Toxocaridae; Genus Toxocara, Toxascaris, Ascaris, Parascaris or Neoascaris)
231. Roundworm Egg* (Family Ascarididae or Toxocaridae; Genus Toxocara, Toxascaris, Ascaris, Parascaris or Neoascaris)
232. Sarcoptic Mite (Family Sarcoptidae ; Genus Sarcoptes or Notoedres)
233. Struvite crystals (triple magnesium phosphate)
234. Taenia Tapeworm Egg* (Family Taeniidae; Genus Taenia)
235. Taenia Tapeworm Segment* (Family Taeniidae; Genus Taenia)
236. Taenia Tapeworm* (Family Taeniidae; Genus Taenia)
237. Tick — American Dog (Family Dermacentor; Genus variabilis)
238. Tick — Black Legged Deer (Family Ixodes; Genus scapularis)
239. Tick — Brown Dog (Family Rhipicephalus; Genus sanguineus)
240. Tick — Lonestar (Family Amblyomma; Genus americanum)
241. Whipworm Egg* (Genus Trichuris)
242. Whipworm* (Genus Trichuris)
243. Yeast (cytology)

*Asterisk indicates which parasite life cycles could have questions.

Breed/Species Identification List

DOGS

HERDING GROUP

300. Australian Cattle Dog
301. Australian Shepherd
302. Border Collie
303. Collie
304. German Shepherd Dog
305. Old English Sheepdog
306. Pembroke Welsh Corgi
307. Shetland Sheepdog

HOUND GROUP

308. Afghan Hound
309. Basenji
310. Basset Hound
311. Beagle
312. Black and Tan Coonhound
313. Bloodhound
314. Dachshund
315. Greyhound
316. Rhodesian Ridgeback

NON-SPORTING GROUP

317. Bichon Frise
318. Boston Terrier
319. Bulldog
320. Chinese Shar-Pei
321. Chow Chow
322. Dalmatian
323. Poodle

SPORTING GROUP

324. Brittany Spaniel
325. Cocker Spaniel
326. English Setter
327. German Shorthaired Pointer
328. Golden Retriever
329. Irish Setter
330. Labrador Retriever
331. Weimaraner

TERRIER GROUP

332. Bull Terrier
333. Cairn Terrier
334. Parson Russell Terrier
335. Scottish Terrier
336. West Highland White Terrier

TOY GROUP

337. Cavalier King Charles Spaniel
338. Chihuahua
339. Miniature Pinscher
340. Papillon
341. Pekingese
342. Pomeranian
343. Poodle
344. Pug
345. Shih Tzu
346. Yorkshire Terrier

WORKING GROUP

347. Bernese Mountain Dog
348. Boxer
349. Doberman Pinscher
350. Great Dane
351. Great Pyrenees
352. Mastiff
353. Newfoundland
354. Portuguese Water Dog
355. Rottweiler
356. Saint Bernard
357. Siberian Husky
358. Standard Schnauzer

CATS

359. Abyssinian
360. American Shorthair
361. Burmese
362. Maine Coon
363. Manx
364. Persian
365. Ragdoll
366. Russian Blue
367. Siamese
368. Sphynx

BIRDS

369. African Gray Parrot
370. Canary
371. Cockatiel
372. Cockatoos
373. Love Birds
374. Macaw
375. Parakeet
376. Sun Conure
377. Zebra Finch

REPTILES

378. Bearded Dragon
379. Chameleon
380. Gecko
381. Iguana

POULTRY

382. Chicken — Cornish
383. Chicken — Leghorns
384. Chicken — Plymouth Rock
385. Chicken — Rhode Island Red
386. Duck
387. Geese
388. Quail
389. Turkey

SMALL MAMMALS

390. Chinchilla
391. Ferret
392. Gerbils
393. Guinea Pig
394. Hamster
395. Hedgehog
396. Sugar Glider

RABBITS

397. Angora
398. Californian
399. Dutch
400. English Spot
401. Holland Lop
402. Mini-Rex
403. Netherland Dwarf
404. New Zealand

DAIRY CATTLE

405. Ayrshire
406. Brown Swiss
407. Guernsey
408. Holstein
409. Jersey

BEEF CATTLE

410. Angus
411. Brahman
412. Charolais
413. Hereford
414. Shorthorn
415. Simmental

HORSE

416. Appaloosa
417. Arabian
418. Belgian
419. Clydesdale
420. Morgan
421. Paint
422. Percheron
423. Quarter Horse
424. Saddlebred
425. Tennessee Walking Horse
426. Thoroughbred

GOAT

427. Alpine
428. Nubian
429. Angora
430. Boer
431. LaMancha
432. Saanen
433. Toggenburg

SHEEP

434. Columbia
435. Dorper
436. Dorset
437. Hampshire
438. Merino
439. Rambouillet
440. Southdown
441. Suffolk

SWINE

442. American Landrace
443. Berkshire
444. Chester White
445. Duroc
446. Hampshire
447. Yorkshire

Team Activity Preparation Rubric

200 points

INDICATOR	Very strong evidence of skill 5-4 points	Moderate evidence of skill 3-2 points	Weak evidence of skill 1-0 points	Points Earned	Weight	Total Score
Effective listening	Clearly evident that all team members are listening.	Listening occurs but distraction is evident.	Not listening to each other and/or talking over each other.		X 5	
Oral communication	Clearly evident that all team members are discussing the topic.	Communication occurs but side conversations are occurring or two to three members dominating.	One member dominating conversation.		X5	
Demonstrated cooperation	Clearly all team members completing tasks, sharing written and oral solutions.	Tasks primarily completed by two to three members, other members assist occasionally.	Tasks primarily completed by one member, other members contributing only slightly.		X8	
	Clearly all team members respected the input of other team members.	Most team members respected the input of other team members.	The team members did not respect the input of other team members.		X7	
Participated in the team preparation	Clearly all team members are engaged, attentive, and making notes for the full term of event.	Members are engaged and attentive with two to three making notes, participation fades over time.	One to two members form the primary team, other members participate occasionally early, fade over time.		X8	
	Clearly all team members demonstrate efficient use of his/her time in comprising the plan.	Most team members demonstrate efficient use of his/her time in comprising the plan.	One to two team members demonstrate efficient use of his/her time in comprising the plan.		X7	
					TOTAL	

Team Activity Presentation Rubric

300 points

INDICATOR	Very strong evidence of skill 5-4 points	Moderate evidence of skill 3-2 points	Weak evidence of skill 1-0 points	Points Earned	Weight	Total Score
Non-verbal – 50 points						
Attention (eye contact)	Eye contact constantly used as an effective connection. Constantly looks at the entire audience (90-100 percent of the time).	Eye contact is mostly effective and consistent. Mostly looks around the audience (60-80 percent of the time).	Eye contact does not always allow connection with the speaker. Occasionally looks at someone or some groups (less than 50 percent of the time).		X4	
Mannerisms	Does not have distracting mannerisms that affect effectiveness.	Sometimes has distracting mannerisms that pull from the presentation.	Has mannerisms that pull from the effectiveness of the presentation.		X3	
Gestures	Gestures are purposeful and effective. Hand motions are expressive, and used to emphasize talking points. Confident with positive body language.	Usually uses purposeful gestures. Hands are sometimes used to express or emphasize. Occasionally slumps; sometimes negative body language.	Occasionally gestures are used effectively. Hands are not used to emphasize talking points; hand motions are sometimes distracting. Lacks positive body language; slumps.		X3	
Oral – 50 points						
Speaking without hesitation	Speaks very articulately without hesitation. Never has the need for unnecessary pauses or hesitation when speaking.	Speaks articulately, but sometimes hesitates. Occasionally has the need for a long pause or moderate hesitation when speaking.	Speaks articulately, but frequently hesitates. Frequently hesitates or has long, awkward pauses while speaking.		X 3	
Tone	Appropriate tone is consistent. Speaks at the right pace to be clear. Pronunciation of words is very clear and intent is apparent.	Appropriate tone is usually consistent. Speaks at the right pace most of the time, but shows some nervousness. Pronunciation of words is usually clear, sometimes vague.	Has difficulty using an appropriate tone. Pace is too fast; nervous. Pronunciation of words is difficult to understand; unclear.		X 2	
All team members participated	All team members took an active role in the presentation.	Three team members took an active role in the presentation.	Two or less team members took an active role in the presentation.		X 5	

Content – 200 points						
Veterinary topic research	Demonstrates prior research and preparedness of the veterinary topic.	Demonstrates somewhat prior research and preparedness of the veterinary topic.	Does not demonstrate prior research and preparedness of the veterinary process.		X 5	
	Full understanding of disease and/or veterinary process.	Somewhat understanding of disease and/or veterinary process.	Does not understand the disease and/or veterinary proces.s		X 5	
	Full understanding of treatment protocols and/or recommendation for the topic.	Somewhat understanding of treatment protocols and/or recommendation for the topic.	Does not understand the treatment protocols and/or recommendation for the topic.		X5	
Demonstrates knowledge of topic	Presentation supports strong knowledge of the subject with good evidence of support.	Presentation supports some knowledge of the subject with fair evidence of support.	Presentation supports little knowledge of the subject with poor evidence of support.		X 15	
Q&A: Knowledge of the topic	Participants knowledge of topics: Strong knowledge with solid answers.	Participants knowledge of topics: Somewhat knowledgeable but with less concise and clear answers.	Participants knowledge of topics: Little knowledge with weak evidence of support to answers.		X5	
	Speaks unrehearsed with comfort and ease. Is able to speak quickly with organized thoughts and concise answers.	Speaks unrehearsed mostly with comfort and ease, but sometimes seems nervous or unsure. Is able to speak effectively, has to stop and think sometimes, and gets off focus.	Shows nervousness or seems unprepared when speaking unrehearsed. Seems to ramble or speaks before thinking.		X5	
					TOTAL	