



NATIONAL
FFA ORGANIZATION

Veterinary Science Handbook

2017-2021

Purpose

The purpose of the 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:

It is highly recommended that participants wear FFA Official Dress for the written portion of the event.

All participants must wear either scrubs (top and bottoms) or polo with slacks. All participants must wear closed toe, closed heel and flat shoes (no clogs, sandals or flip-flops). No jewelry may be worn on the second day of this event. This includes rings, bracelets, earrings and exposed body piercings.

TOOLS AND EQUIPMENT:

- Equipment provided: pencils, calculators, clipboards and paper.
- The specific tools and equipment needed to complete practicums will be provided.
- 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. Sixty minutes will be given for the exam.

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)

One problem which includes several 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.

CURRENT EVENTS (100 POINTS)

The current event activity will allow students to utilize critical thinking and problem-solving skills. Thirty minutes total will be allowed to complete this portion of the event. Participants will be provided a current event topic in the superintendent letter. The current event portion could be a blend of writing and digital evaluation. Written responses may range from short answers to essays.

IDENTIFICATION (100 POINTS TOTAL)

Participants will identify 24 equipment, 14 parasites and 12 breeds/species for a total of 100 points (two points per item). Thirty minutes will be given for this activity. Identification lists are located at the end of this handbook.

EQUIPMENT (48 POINTS)

Participants will identify 24 pieces of equipment (actual equipment and photos).

PARASITES/MICROSCOPIC (28 POINTS)

Participants will identify 14 parasites (specimen and photos)

BREEDS (24 POINTS)

Participants will identify 12 breeds of small and large animals (photos).

PRACTICUMS (100 POINTS)

Clinical Procedure Practicum (100 points)

Participants will be given two clinical procedure activities to complete (50 points each). **(Rotation Group A even Years/B Odd years.)** Participants are expected to talk through the clinical procedure steps to a judge as they are being scored. Judges may ask participants for clarification on steps performed. All clinical procedure scorecards can be found at the end of this handbook.

Clinical Procedures Practicums

Group A (Even Years)

Administering Aural Medication

Administering an Intramuscular Injection

Filling a Syringe for Injection

Opening a Surgery Pack

Removal of Sutures

Administer Oral Tablet/Capsule

Group B (Odd Years)

Administering Ophthalmic Medication
 Administering a Subcutaneous Injection
 Bandage Removal
 Fecal Flotation with Fecalyzer
 Prepare a Surgical Pack for Sterilization
 Surgical Site Preparation
 Prescription Filling

Handling and Restraining Practicum (60 points)

Participants will be given two handling/restraint activities to complete (30 points each). **Rotation Group A even Years/B Odd years.** Participants are expected to talk through the handling and restraining steps to a judge as they are being scored. Judges may ask participants for clarification on steps performed. All handling and restraining scorecards can be found at the end of this handbook.

Handling and Restraining Practicums**Group A (Even Years)**

Applying Elizabethan Collar
 Snare Restraint of the Pig
 Haltering a Horse
 Restraint of the Small Dog for Jugular Venipuncture
 Applying a Gauze Dog Muzzle
 Restraint of the Cat for Cephalic IV Catheter Placement
 Restraint of the Cat in Lateral Recumbency for Femoral Venipuncture
 Removing a Cat from a Cage and Placing in Cat Bag

Group B (Odd Years)

Removing Dog from Floor Level Cage to Restrain for Lateral Saphenous Venipuncture
 Placing a Tail Tie
 Haltering Ruminants
 Restraint of the Dog for Cephalic Venipuncture
 Applying a Nylon Dog Muzzle
 Restraint of a Rabbit
 Restraint of the Cat for Jugular Venipuncture
 Applying a Cat Muzzle

Team Activity (400 points)

Teams will conduct research using local veterinarians and veterinary resources based on the annual topic posted on the CDE webpage in November. 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
Current Event	50	200
Identification	100	400
Math Application Exam	100	400
Handling and Restraining Exam	60	240
Clinical Procedures Practicum	100	400
Team Activity		400
	510	2,440

Tie Breakers

Team tiebreakers will be settled in the following order:

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

Individuals tiebreakers will be settled in the following order:

1. Combined practicum 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:

- 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://agrillifebookstore.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://agrillifebookstore.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

Non-Verbal (60 pts)					
Indicators	Poor	Average	Good/Very Good	Possible	Score
A. Attention (eye contact)	Eye contact does not allow connection with the speaker. Occasionally looks at someone or some groups (less than 50% of the time)(0-10 pts.)	Eye contact is mostly effective and consistent. Mostly looks around the audience (60-80% of the time). (11-19 pts.)	Eye contact constantly used as an effective connection. Constantly looks at the entire audience (90-100% of the time). (20-30 pts.)	30	
B. Mannerisms	Has mannerisms that pull from the effectiveness of the presentation. (0-5 pts)	Sometimes has distracting mannerisms that pull from the presentation. (6-10 pts.)	Does not have distracting mannerisms that affect effectiveness. (11-15 pts.)	15	
C. Gestures	Occasionally gestures are used effectively. Hands are not used to emphasize talking points; hand motions are sometimes distracting. Lacks positive body language; slumps. (0-5 pts)	Usually uses purposeful gestures. Hands are sometimes used to express or emphasize. Occasionally slumps; sometimes negative body language. (6-10 pts.)	Gestures are purposefully and effective. Hand motions are expressive, and used to emphasize talking points. Great posture (confident) with positive body language. (11-15 pts.)	15	
Oral (120 pts.)					
Indicators	Poor	Average	Good/Very Good	Possible	Score
A. Speaking without hesitation	Speaks articulately, but frequently hesitates. Frequently hesitates or has long, awkward pauses while speaking. (0-10 pts.)	Speaks articulately, but sometimes hesitates. Occasionally has the need for a long pause or moderate hesitation when speaking. (11-19)	Speaks very articulately without hesitation Never has the need for unnecessary pauses or hesitation when speaking. (20-30 pts.)	30	
B. Tone	Has difficulty using an appropriate tone. Pace is too fast; nervous. Pronunciation of words is difficult to understand; unclear. (0-10 pts.)	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. (11-19 pts.)	Appropriate tone is consistent. Speaks at the right pace to be clear. Pronunciation of words is very clear and intent is apparent. (20-30 pts.)	30	
C. All members participated	Two or less team members took an active role in the presentation. (0-19 pts.)	Three team members took an active role in the presentation. (20-39 pts.)	All team members took an active role in the presentation. (40-60 pts.)	60	
Content (200 pts)					
Indicators	Poor	Average	Good/Very Good	Possible	Score
A. Role Accuracy	Inaccurately defines the roles of the veterinary team. (0-25 pts.)	Somewhat accurate in defining roles of the veterinary team. (26-50 pts.)	Fully accurate in defining roles of the veterinary team. (51-75 pts.)	75	
B. Veterinary process research	Does not demonstrate researched knowledge of the veterinary process. (0-25 pts.)	Demonstrates somewhat researched knowledge of the veterinary process. (26-50)	Demonstrates researched knowledge of the veterinary process. (51-75 pts.)	75	
C. Q&A Demonstrates Knowledge of topic	Answers show little knowledge of the subject. Evidence is lacking to support the answer. (0-11 pts.)	Answers show some knowledge of the subject. Some evidence, but lacking in strength. (12-23)	Answer shows thorough knowledge of the subject. Support answer with strong evidence. (24-35 pts.)	35	
D. Q&A speaking unrehearsed	Shows nervousness or seems unprepared when speaking unrehearsed. Seems to ramble or speaks before thinking. (0-11 pts.)	Speaks unrehearsed mostly with comfort and ease, but sometimes seems nervous or unsure. Is able to speak effectively, has to stop and think, and sometimes gets off focus. (12-23)	Speaks unrehearsed with comfort and ease. Is able to speak quickly with organized thoughts and concise answers. (24-35 pts.)	35	
				TOTAL	

Current Events Rubric

100 points

NAME		MEMBER NUMBER	
CHAPTER	STATE		

INDICATOR	Very strong evidence of skill is present	Moderate evidence of skill is present	Strong evidence of skill is not present	Points Possible	Total Score
WRITTEN COMMUNICATION					
	5-4 points	3-2 points	1-0 points		
Spelling/ grammar (sentence structure, verb agreement, etc.)	Spelling and grammar are extremely high quality. <ul style="list-style-type: none"> Two or fewer spelling errors are present. Two or fewer grammar errors are present. 	Spelling and grammar are adequate. <ul style="list-style-type: none"> Three to five spelling errors are present. Three to five grammar errors are present. 	Spelling and grammar are less than adequate. <ul style="list-style-type: none"> Six or more spelling errors are present. Six or more grammar errors are present. 	5	
Writing style	Writing style is selectively appropriate for the intended audience. <ul style="list-style-type: none"> The style chosen has obviously been well thought-out based on the specific audience. 	Thought was given to the intended audience, and the style reflects the purpose for communicating with that audience. <ul style="list-style-type: none"> Most language is appropriate for the intended audience. 	Writing style does not show intent to connect with different types of audiences, style is more for a generic reader. <ul style="list-style-type: none"> Some language used might be confusing for some audiences 	5	
	8-10 points	4-7 points	0-3 points		

Message	Communicates ideas extremely clearly as well as extremely focused. Thoughts are very interesting and understandable. <ul style="list-style-type: none"> ● All main ideas are supported by clear and vivid details. ● Clearly organized and concise by remaining on target, is completely focused with obvious construction and strong introduction, body and conclusion layout. 	Communicates ideas clearly and concisely, and message is interesting and understandable. <ul style="list-style-type: none"> ● Most of the main ideas are supported by sufficient details. ● Good organization with few statements out of place or lacking in clear construction. 	Communicates ideas clearly, but message is difficult to understand. <ul style="list-style-type: none"> ● None of the main ideas are supported by sufficient details. ● Little to no organization is present and is sometimes awkward and lacking construction. 	10	
WRITTEN CONTENT					
Subject knowledge	Covers topic in-depth with details and examples. <ul style="list-style-type: none"> ● Subject knowledge is excellent. 	Includes essential knowledge about the topic. <ul style="list-style-type: none"> ● Subject knowledge appears to be good. 	Includes essential information about the topic but there are one to two factual errors.	10	
Critical thinking/problem-solving skills	Uses general methods, in an orderly manner, for finding solutions to specific problems. <ul style="list-style-type: none"> ● Evaluates evidence and assesses conclusions. ● Develops and defends a reasonable position or argument. 	Uses limited critical thinking skills in determining solutions to problems. <ul style="list-style-type: none"> ● Develops moderate defense to conclusion for position or argument. 	Uses weak critical thinking skills in determining solutions to problems. <ul style="list-style-type: none"> ● Develops weak defense to conclusion for position or argument. 	10	
Inductive reasoning skills	Establishes a logical, systematic process of achieving certain ends with accuracy and efficiency. <ul style="list-style-type: none"> ● Gathers together particular observations in the form of premises. ● Moves from specific premises to a general conclusion. 	Establishes a shallow reasoning process of achieving certain ends. <ul style="list-style-type: none"> ● Gathers together limited observations in the form of premises. ● Moves from incomplete specific premises to a general conclusion. 	Establishes an inadequate reasoning process of achieving certain ends. <ul style="list-style-type: none"> ● Incompletely gathers observations in the form of specific premises. ● Inadequately formulates a general conclusion. 	10	
TOTAL POINTS					

Clinical Procedures Practicum

Administering Aural Medication

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student successfully administered the proper amount of medication into the ear canal. <ul style="list-style-type: none"> ● Ear pinna held upright ● Correct amount of medication was administered without contamination 	20	
The student massages the base of the outside of the ear canal causing a swishing sound from the medication moving around in the ear canal.	15	
The student wipes any solution that may have leaked onto the outside of the ear flap or hair.	15	
TOTAL POINTS	50	

Clinical Procedures Practicum

Administering Ophthalmic Medication

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student wipes any discharge from the patient's eye using a gauze sponge or cotton ball.	8	
The student opens the end of the ophthalmic medicine	6	
The student uses the index finger and thumb to pull the upper and lower lids apart to open the eye. The student's thumb pulls the lower lid down and the index finger pulls the upper lid upward. The student's other finger may rest on the head of the animal.	12	
While resting the hand holding the medication on the head of the patient, the student applies the drops or ointment gently into the eye without touching the eye, counting each drop or applying the proper amount of ointment without contamination.	12	
The student releases the eyelids.	6	
The student allows the animal to blink to move the medication throughout the eye.	6	
TOTAL POINTS	50	

Clinical Procedures Practicum

Administering an Intramuscular Injection

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student selected the proper site for administration.	10	
The student directs the needle through the skin and into the muscle.	10	
The student aspirates; if no blood is noted, inject.	10	
The student withdraws the needle and places in the sharps container.	10	
The student massages the area where the injection was given and praises the patient.	10	
TOTAL POINTS	50	

Clinical Procedures Practicum

Administering a Subcutaneous Injection

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student lifts the skin using the thumb and forefinger forming a triangle or tent with the skin.	10	
The student inserts the needle into the skin at the base of the tent or triangle parallel to the body.	10	
The student aspirates; looking for any signs of blood entering the syringe; if no blood enters the syringe, the student administers the injection.	10	
The student withdraws the needle and places in the sharps container.	10	
The student rubs the injection site and praises the patient.	10	
TOTAL POINTS	50	

Clinical Procedures Practicum

Bandage Removal

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student chooses the bandage scissors and holds in proper orientation.	10	
The student keeps the blade flat against the body and the tip raised slightly upward in contact with bandage.	10	
The student begins cutting each layer from the distal end moving proximally.	10	
The student gently removes each layer of bandage.	10	
The student notes the status of the unbandaged area and states if it is normal or if there are any problems.	6	
The student cleans up work area.	4	
TOTAL POINTS	50	

Clinical Procedures Practicum

Filling a Syringe for Injection

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student determines the amount to be placed in the syringe.	6	
The student selects the proper-sized syringe.	8	
The student inserts the syringe into the top of the bottle.	6	
The student places the bottle upside down in one hand and holds securely.	6	
The student withdraws the proper volume.	6	
The student removes the syringe from the bottle.	6	
The student gently taps or snaps the edge of the syringe to remove any air bubbles, or slightly expel the air by pushing the end of the plunger.	6	
The student places syringe in the sharps container.	6	
TOTAL POINTS	50	

Clinical Procedures Practicum

Fecal Flotation with Fecalyzer

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student selected about ¼ teaspoon of feces and placed it into a fecalyzer.	6	
The student added enough flotation solution to fill the fecalyzer about half full.	6	
The student mixed the feces into solution until no large fecal particles remain.	6	
The student places insert into fecalyzer.	6	
The student filled the vial with more solution until there was a visible meniscus at the top.	6	
The student placed a cover slip on top of the fecalyzer.	6	
The student allowed the vial to sit undisturbed for 10-15 minutes.	6	
The student carefully removed the cover slip without tilting it and placed it on a microscope slide.	8	
TOTAL POINTS	50	

Clinical Procedures Practicum

Opening a Surgery Pack

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student placed the surgery pack on a clean, dry surface.	4	
The student removed or tore the tape securing the package.	4	
The student opened the first flap away from them.	8	
The student opens the side flaps without reaching across open pack.	8	
The student opens the last flap towards them.	8	
The student opened the pack without contamination.	12	
The student stepped away so the surgeon or scrub nurse could complete the opening of the pack.	6	
TOTAL POINTS	50	

Clinical Procedures Practicum

Prepare a Surgical Pack for Sterilization

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student gathered the appropriate instruments and instrument pan if applicable.	5	
The student gathered additional supplies if applicable.	10	
The student selected the appropriate packaging material and chemical indicator.	10	
The student assembled the pack correctly by following the instructions on the checklist or recipe.	10	
The student placed the chemical indicator in the correct area of the pack.	10	
The student properly wrapped, secured and labeled the pack.	5	
TOTAL POINTS	50	

Clinical Procedures Practicum

Surgical Site Preparation

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student applied antiseptic scrub to clipped area.	8	
The student prepped the clipped area with a clean surgical sponge beginning at the incision site moving in a circular motion and worked toward the edges.	8	
The student did not bring the sponge back to the incision site once it was moved away from the incision site.	8	
The student discarded the sponge once it reached the edge of the clipped area.	8	
The student wiped the clipped area with a rinse solution using a clean surgical sponge following the same pattern as when scrubbing with the antiseptic.	8	
The student repeated the scrub and rinse a minimum of three times or until the final rinse sponge was clean.	10	
TOTAL POINTS	50	

Clinical Procedures Practicum

Prescription Filling

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student reads and verbally interprets prescription.	10	
The student selects the correct drug and concentration.	20	
The student places the pill counting tray on the pharmacy counter with the channel to the left and the open plate in front of him/her.	1	
The student pours the medication tablets or capsules onto the tray plate.	1	
The student opens the channel cover.	1	
The student uses a spatula or tongue depressor to push groups of tablets or capsules into the channel.	1	
When the student has counted the desired amount of medication, he/she closes the channel cover. The student tilts the tray to return the unused medicine into the stock bottle.	4	
The student lifts the tray to place the channel spout into the medicine vial and transfers medication.	4	
The student places the lid on the vial and sets it on the counter.	1	
The student appropriately fills out label with prescription information.	7	
TOTAL POINTS	50	

Clinical Procedures Practicum

Removal of Sutures

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student clearly visualized and inspected the incision site.	10	
If there were problems with the incision site, the student informed the veterinarian. If there were no problems, the student removed the sutures.	10	
The student chose the correct tool to remove the sutures.	10	
The student placed the curved blade underneath the suture for removal and removed the suture.	15	
The student did not cause unnecessary harm or discomfort to the patient.	5	
TOTAL POINTS	50	

Clinical Procedures Practicum

Administer Oral Tablet/Capsule

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student reads and interprets the veterinarian's order.	10	
The student selects the correct drug and concentration.	20	
The student was able to open the mouth of the animal.	5	
The student maintained control of the head or muzzle during the administration of the medication.	5	
The student used an appropriate technique to encourage the patient to swallow.	5	
The student was able to control the animal in a manner that was adequate to administer the medication yet did no harm to the patient.	5	
TOTAL POINTS	50	

Handling and Restraining Practicum

Removing a Cat from a Cage and Placing in Cat Bag

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student opens the cage door and calls the cat by name.	2	
The student scruffs the cat with one hand and lifts it up.	3	
The student cradles the cat's abdomen with their other hand and removes the cat from the cage.	2	
With the cat still scruffed, the student places the cat under one arm close to their body and closes the cage door with their free hand.	3	
The student carries the cat close to their body to the exam table.	3	
The student scruffs the cat and lifts it into the bag in one swift motion while supporting the hind end.	4	
The student wraps the Velcro strap around the cat's neck and immediately zips up the bag.	4	
The student uses the proper zippered opening to expose the front limb.	4	
To remove the cat, the student removes the Velcro strap first, then unzips the bag and removes the cat by scruffing and supports hind end.	5	
TOTAL POINTS	30	

Handling and Restraining Practicum

Applying a Cat Muzzle

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student opens the cage door and calls the cat by name.	2	
The student scruffs the cat with one hand and lifts it up.	2	
The student cradles the cat's abdomen with their other hand and removes the cat from the cage.	2	
With the cat still scruffed, the student places the cat under one arm close to their body and closes the cage door with their free hand.	2	
The student places cat on table.	2	
The student selects a muzzle of appropriate size for the cat.	5	
The student places the cat in sitting or sternal position on exam table.	2	
The student positions the muzzle properly in his/her hands.	3	
The student approaches the cat from behind with the muzzle in both hands while another person restrains cat.	3	
The student brings the muzzle up to the cat's face in one swift motion.	4	
The student secures the muzzle.	3	
TOTAL POINTS	30	

Handling and Restraining Practicum

Restraint of the Cat in Lateral Recumbency for Femoral Venipuncture

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student places the cat on an examination table.	3	
The student scruffs the cat with one hand and lifts it off of the table enough to grasp both hind legs with his/her other hand or reach under cat to grasp both hind limbs.	8	
The student lays the cat on its side with the hind legs stretched rearward.	7	
The student tucks top rear leg and tail while occluding with side of hand.	8	
The student spoke to the patient in a calm and affectionate manner during the procedure.	4	
TOTAL POINTS	30	

Handling and Restraining Practicum

Restraint of the Cat for Jugular Venipuncture

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student places the cat in sternal recumbency with its chest close to the edge of the table.	6	
The student controls and lifts the head up by placing thumb and forefingers over top of head, fingers firm on zygomatic arches (below eyes).	7	
The student's other hand grasps the front legs and extends them down off the edge of the table.	7	
The student uses arm and elbow to restrain the cat's body close to the student's body.	6	
The student spoke to the patient in a calm and affectionate manner during the procedure.	4	
TOTAL POINTS	30	

Handling and Restraining Practicum

Restraint of the Dog for Cephalic Venipuncture

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student places a noose leash on the dog.	2	
The student restrains the dog in sternal recumbency.	5	
The student stands on the dog's right side; wrapping his/her right arm around the dog's neck.	5	
The student holds the dog's left forelimb with elbow in the palm of his/her hand; extend the limb forward toward the person performing the procedure.	6	
With the elbow of the dog in his/her palm, the student rotates his/her thumb up so it is on top of the limb at the bend of the elbow.	6	
The student occludes the vessel with the thumb, rotates the thumb laterally.	6	
TOTAL POINTS	30	

Handling and Restraining Practicum

Applying a Gauze Dog Muzzle

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student selects proper type of material and length.	4	
The student places the dog in sitting or sternal position on exam table or floor.	2	
The student makes a loop in the gauze and approaches the dog from behind.	6	
The student places the loop on the dog's face with the tie on top.	6	
The student quickly tightens the loop, and then crosses the ends under the dog's face.	6	
The student brings the ends back behind the dog's head under the ears and ties in a quick-release bow.	6	
TOTAL POINTS	30	

Handling and Restraining Practicum

Applying a Nylon Dog Muzzle

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student selects appropriate muzzle.	4	
The student places the dog in sitting or sternal position on exam table or floor.	2	
The student comes from behind the dog's head with the muzzle in one hand in the correct position.	7	
The student brings the muzzle up to the dog's face and slips it on while grasping the strap with the other hand.	6	
The student secures the muzzle.	5	
The student checks for proper fit (one finger inserted under the strap).	6	
TOTAL POINTS	30	

Handling and Restraining Practicum

Removing Dog from Floor Level Cage to Restrain for Lateral Saphenous Venipuncture

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student places a leash in one hand with a large loop open in the correct position (in the "P") and ready to place over the dog's head.	2	
While blocking the opening, the student opens the cage door enough to slip the hand holding the leash into the cage.	2	
The student slips the leash over the neck of the dog and gently tightens the leash around the neck.	2	
The student opens the door and allows the dog to exit the cage.	1	
The student lifts the dog and places on the table.	1	
The student places his/her right arm across the dog's neck and reaches between the front legs to grasp the dog's right forelimb in right hand.	4	
The student places left arm over the dog's back and reaches for the dog's right rear limb; just proximal to the hock.	5	
With the dog's body close, the student gently lifts the limbs while allowing the dog's body to lay on the table; the dog should be on its right side.	5	
The student allows the dog to relax for a couple seconds, not releasing the grasp on the limbs.	3	
The student uses left hand to hold the limb tightly in the area just distal to the stifle, which will occlude the vein.	5	
TOTAL POINTS	30	

Handling and Restraining Practicum

Restraint of the Small Dog for Jugular Venipuncture

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student puts a noose leash on the dog and has the dog sit.	3	
The student places one arm around the dog's neck and places the other arm around the dog's back to grasp the forelimbs.	6	
The student pushes the dog's back with his/her body to encourage the dog to lie down.	6	
The student holds the head up under the jaw, away from the chest (can be achieved by cupping hand underneath the muzzle and by pushing the head upward.)	8	
The student's other hand grasps the front legs and extends them over the end of the table.	7	
TOTAL POINTS	30	

Handling and Restraining Practicum

Restraint of the Dog for Cephalic Venipuncture

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student places a noose leash on the dog.	2	
The student restrains the dog in sternal recumbency.	5	
The student stands on the dog's right side; wrapping his/her right arm around the dog's neck.	5	
The student holds the dog's left forelimb with elbow in the palm of his/her hand; extend the limb forward toward the person performing the procedure.	6	
With the elbow of the dog in his/her palm, the student rotates his/her thumb up so it is on top of the limb at the bend of the elbow.	6	
The student occludes the vessel with the thumb, rotates the thumb laterally.	6	
TOTAL POINTS	30	

Handling and Restraining Practicum

Restraint of a Rabbit

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student approaches the rabbit calmly and quietly.	4	
The student scruffs the rabbit with one hand while gently lifting the front end.	6	
The student's other hand immediately reaches under the hind limbs and holds them (not allowing the hind limbs to dangle).	7	
The student rests the rabbit's body on the arm with the hand holding the hind limbs.	6	
The scruffing hold is released and the hand is moved to hold the rabbit's outside front leg.	7	
TOTAL POINTS	30	

Handling and Restraining Practicum

Haltering Ruminants

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
Without quick movements and loud noises, the student properly approaches the patient at a 45 degree angle to the patient's left shoulder.	5	
The student places crown piece of halter over ears, then slips nose through nosepiece.	6	
The student properly adjusts the halter such that the nose band crosses over bridge of nose halfway between the nostrils and eyes.	7	
The student ensures that the adjustable portion of the nose band is under the chin, not across the bridge of the nose.	6	
The student keeps the standing end or lead rope portion on the left side of the cow.	6	
TOTAL POINTS	30	

Handling and Restraining Practicum

Haltering a Horse

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
Without quick movements and loud noises, the student properly approaches the patient at a 45 degree angle to the patient's left shoulder.	5	
The student places end of the lead rope over the horse's neck and passes sufficient length of lead to form a handheld loop around the horse's neck.	5	
Holding the handheld loop in their right hand, with their left hand, the student slip the nose-band of the halter over the nose.	5	
Student releases the lead rope and with their right hand under the horse's neck, the student passes the crown strap over the head and behind the ears and attaches the end to the appropriate place on the halter.	5	
The student snaps the end of the lead to the lead ring of the halter and undrapes the lead rope from the horse's neck.	4	
The student adjusts the halter so it is snug enough that the nose piece could not fall over the end of the nose, but not so tight that the halter cut or rubbed the horse or restricted jaw movement or breathing.	6	
TOTAL POINTS	30	

Handling and Restraining Practicum

Placing a Tail Tie

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student lays the rope over the tail at the tip of the tail bone.	6	
The student folds all the tail hairs up over the rope.	6	
The student passes the short end of the rope behind the tail, and makes a fold or bight in it.	6	
The student passes the fold or bight over the folded tail and under the rope, which is looped around the tail.	6	
The student pulls tight.	6	
TOTAL POINTS	30	

Handling and Restraining Practicum

Applying Elizabethan Collar

Participant must talk through practicum steps with judge.

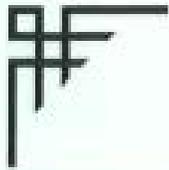
CRITERIA	Points Possible	Points Earned
The student chooses the correct size of E-collar for the patient.	6	
The student correctly prepared the E-collar for placement.	6	
The student correctly placed the E-collar on the animal.	6	
Placement was adequately secured so the animal could not remove the E-collar.	6	
The E-collar was secured such that the animal's breathing was not restricted.	6	
TOTAL POINTS	30	

Handling and Restraining Practicum

Snare Restraint of the Pig

Participant must talk through practicum steps with judge.

CRITERIA	Points Possible	Points Earned
The student, standing next to the patient, guided the loop of the snare into the mouth and over the nose or upper jaw	4	
The student made sure the loop is inserted far enough into the patient's mouth	5	
The student pulled the loop tight when it is in the proper position	5	
The student kept the loop tight while moving to the front of the patient	5	
The student maintained the pressure on the snare so that the patient could not escape.	5	
The student kept control of the patient until the patient ceased to struggle.	4	
The student released the patient after the procedure was completed	2	
TOTAL POINTS	30	



HORTICULTURE
CDE# 105482

Incorrect Mark: Correct Mark:

Team Name: _____
 This is a practice exam. Only VET SCIENCE questions will be graded for actual competition.

Team Number	State	Last Name	First Name
0-0-0-0			
1-1-1-1	A	A A A A A A A A A A A A	A A A A A A A A
2-2-2-2	B	B B B B B B B B B B B B	B B B B B B B B
3-3-3-3	C	C C C C C C C C C C C C	C C C C C C C C
4-4-4-4	D	D D D D D D D D D D D D	D D D D D D D D
5-5-5-5	E	E E E E E E E E E E E E	E E E E E E E E
6-6-6-6	F	F F F F F F F F F F F F	F F F F F F F F
7-7-7-7	G	G G G G G G G G G G G G	G G G G G G G G
8-8-8-8	H	H H H H H H H H H H H H	H H H H H H H H
9-9-9-9	I	I I I I I I I I I I I I	I I I I I I I I
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	Q	Q Q Q Q Q Q Q Q Q Q Q Q	Q Q Q Q Q Q Q Q
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5-5
6-6
7-7
8-8
9-9

Place	Placing Classes									Place	
	Class										
	1	2	3	4	5	6	7	8	9		
1	1234									1234	1
2	1243									1243	2
3	1324									1324	3
4	1342									1342	4
5	1423									1423	5
6	1432									1432	6
7	2134									2134	7
8	2143									2143	8
9	2314									2314	9
10	2341									2341	10
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12	2431									2431	12
13	3124									3124	13
14	3142									3142	14
15	3214									3214	15
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19	4123									4123	19
20	4132									4132	20
21	4213									4213	21
22	4231									4231	22
23	4312									4312	23
24	4321									4321	24

Team Activity	
Team	Ind.
0-0	0-0
1-1	1-1
2-2	2-2
3-3	3-3
4-4	4-4
5-5	5-5
6-6	6-6
7-7	7-7
8-8	8-8
9-9	9-9

Practicums (Judges)					
1	2	3	4	5	6
SCENARIO	HANDLING 1	HANDLING 2	CLINICAL 1	CLINICAL 2	

Assessment	
1	A B C D 8
2	A B C D 9
3	A B C D 10
4	A B C D 11
5	A B C D 12
6	A B C D 13
7	A B C D 14
8	A B C D 15
9	A B C D 16
10	A B C D 17
11	A B C D 18
12	A B C D 19
13	A B C D 20
14	A B C D 21
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16	A B C D 23
17	A B C D 24
18	A B C D 25
19	A B C D 26
20	A B C D 27
21	A B C D 28
22	A B C D 29
23	A B C D 30
24	A B C D 31
25	A B C D 32

Exam	
1	A B C D 26
2	A B C D 27
3	A B C D 28
4	A B C D 29
5	A B C D 30
6	A B C D 31
7	A B C D 32
8	A B C D 33
9	A B C D 34
10	A B C D 35
11	A B C D 36
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14	A B C D 39
15	A B C D 40
16	A B C D 41
17	A B C D 42
18	A B C D 43
19	A B C D 44
20	A B C D 45
21	A B C D 46
22	A B C D 47
23	A B C D 48
24	A B C D 49
25	A B C D 50

Exam 2/Team	
1	A B C D
2	A B C D
3	A B C D
4	A B C D
5	A B C D
6	A B C D
7	A B C D
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TEST

