



Veterinary Science CDE

Purpose

The purpose of the Veterinary Science CDE is to provide a competitive event for agricultural education students, provide opportunities for participants to develop technical knowledge, and demonstrate practical skills in the field of veterinary science.

Sponsor

This event is sponsored by the North Carolina FFA Foundation.

State Event Superintendent

Dr. Jason Davis, State FFA Coordinator, Department of Agricultural and Human Sciences, NCSU, Box 7654, Raleigh, NC 27695-7654. Phone: 919.513.0216 Fax: 919.513.3201 Email: jason_davis@ncsu.edu

Eligibility and General Guidelines

This event is open to all FFA chapters and FFA members in good standing. FFA Members may not participate in a Career Development Event that leads to a state level event after July 1, following the high school/early college graduation. Members winning a previous state event in this area or that have participated in a previous national event in this area are ineligible.

Each chapter may send one team to compete at the state event. **Teams shall consist of three or four members. Four scores will count towards the team total (A three-member team will earn a zero for the 4th score).** No alternates are allowed in state events. Any alternate found participating in a state event will result in team disqualification.

FFA members in good standing may also participate as individuals in this event. A chapter may have up to two members participating as individuals as long as the chapter does not have a team participating in the event. Their scores will only count toward individual recognition and will not be tallied as a team score.

The use or possession of cellular phones or any other mobile electronic communication device is prohibited

during any state-level career development event. Any violation of this rule by any team member will result in total team disqualification.

FFA members participating in career development events that require the use of calculators may only use non programmable/graphing calculators that do not have the ability to communicate with other calculators. Calculators will be screened prior to the start of a CDE for acceptability. Students caught using data stored on a calculator or communicating with other calculators will result in a total team disqualification for the event.

Any member found cheating in any state-level career development event will result in total team disqualification for that event.

The North Carolina FFA Association, in keeping with the FFA mission and purposes, does not permit the use of tobacco products, e-cigarettes, vapes, or Juuls at any FFA facility or at any FFA activity.

Dress Code

Participants are required to follow the North Carolina FFA Career Development Event Dress Code. Participants in this event are required to wear long pants and an appropriate shirt with a collar or an appropriate FFA or school t-shirt. **Students may also wear scrubs.**

The North Carolina FFA Association strives to promote a positive image at all Official FFA Events. The dress code policy was established to address the issue of appropriate attire at all Official FFA Events. Members should adhere to this policy for all events. A ten percent reduction will be applied to all individual scores from a chapter if a participant from that chapter violates the dress code during that career event.

Procedures for Administering the Event Part I: Multiple Choice Exam - 100 Points

The written exam will be twenty-five (25) multiple-choice items designed to determine each team



member’s understanding of the Veterinary Science industry. All questions will come from the *Veterinary Assisting: Fundamentals and Applications* textbook written by Beth Vanhorn and Robert Clark published by CENGAGE Learning. **Students will have 30 minutes to complete the written exam.** Exam questions will come from the following topics and chapters by year:

2018 - Veterinary Medical Terminology and Abbreviations (1), Reptile and Amphibian Breed Identification and Production Management, Beef and Dairy Cattle Breed Identification and Production Management (18), Zoo and Exotic Animal Production Management (16), The Respiratory System (30), The Endocrine System (31), Animal Nutrition (37), and Veterinary Assisting Procedures (47).

2019 – Veterinary Medical Terminology and Abbreviations (1), Poultry Breed Identification and Production Management (24), Sheep Breed Identification and Production Management (22), Goat Breed Identification and Production Management (23), The Immune System (34), Microbiology and Parasitology as Disease Processes (38), Animal Nutrition (37), and Veterinary Assisting Procedures (47).

2020- Veterinary Medical Terminology and Abbreviations (1), Dog Breed Identification and Production Management (8), Avian Breed Identification and Production Management (10), Circulatory System (29), Musculoskeletal System (27), Animal Nutrition (37), and Veterinary Assisting Procedures (47)

2021 Breed Identification and Production Management (9), Rabbit Identification and Production Management (12), The Structure of Living Things (26), The Renal System (32), Animal Nutrition (37), and Veterinary Assisting Procedures (47).

2022 - Veterinary Medical Terminology and Abbreviations (1), Pocket Pet Health and Production Management (11), Ornamental Fish Identification and Production Management (14), Equine Breed Identification and Production Management (19), The Digestive System (28), The Reproductive System (33), Animal Nutrition (37), and Veterinary Assisting Procedures (47).

Part II: Math Applications Exam – 100 Points

Students will complete clinical math problems similar to those included in the National FFA CDE. **Students will have 30 minutes to complete this exam.**

Part II: Practicums – 80 Points

- A. **Clinical procedures (50 points):** Students will complete one of the following (Page numbers refer to the National FFA Veterinary Science CDE Guide 2017-2021): Administering Ophthalmic Medication page 22, Filling a Syringe for Injection Page 26, Surgical Site Preparation Page 30, Prescription Filling page 31
- B. **Handling and restraint procedures (30 points):** Students will complete one of the following (Page numbers refer to the National FFA Veterinary Science CDE Guide 2017-2021): Applying a Cat Muzzle page 35, Restraint of Cat Jugular Venipuncture page 37, Applying a Gauze Dog Muzzle page 39, Restrain of a Dog for Cephalic Venipuncture page 43

Part III: Identification - 100 Points

Each participant will identify the following (See additional pages):

- A. Equipment from amended list from National – 10 pieces
- B. Parasites from amended list from Nationals – 10 parasites
- C. Breeds from amended list from National – 5 breeds
 - 2018 – Dog breeds
 - 2019 - Large animal breeds
 - 2020 – Small animal breeds (including cats, rabbits, poultry, birds, small mammals and reptiles)

Scoring

<i>Maximum Score</i>	<i>380</i>
Multiple Choice Exam	100
Math Applications Exam	100
Clinical Procedures	50
Handling and Restraint Procedures	30
Identification	100



Procedure for Determining the State Event Winner When Scores are Tied

In the event a tie score exists, apply the following methods in sequential order until the tie is broken:

1. Compare the total team scores for the multiple choice exam and the higher scoring team is the winner.
2. Compare the total team scores for the identification component and the higher scoring team is the winner.
3. Compare the total team scores for the math exam and the higher scoring team is the winner.
4. Compare the total team scores for the clinical practicum and the higher scoring team is the winner.
5. If teams continue to be tied, a new event will be held to determine the winning team.

Procedure for Determining the High Scoring Individual When Scores are Tied

In the event that a tie score exists, apply the following methods in sequential order until the tie is broken.

1. Compare the individual scores for the identification component and the higher contestant is the winner.
2. Compare the individual scores for the math exam and the higher scoring contestant is the winner.
3. Compare the individual scores for the clinical practicum and the higher scoring contestant is the winner.
4. If individual continue to be tied present co-winners.

State Awards

The awards for the state event will be presented annually at the state FFA convention to include a team 1st, 2nd and 3rd place plaque and a travel monetary award. The high scoring individual will receive a plaque.

National Career Development Event Participation

State winning teams advancing to national career development event participation will be automatically registered for the national event. It is the

responsibility of the Chapter FFA Advisor to complete all necessary national certification forms and return them to the State FFA Coordinator by the assigned due date.

State winning CDE teams that choose not to participate at the national level should contact the state office by Sept. 1 prior to National Convention. Teams that fail to inform the state office prior to Sept. 1 will be ineligible to participate in that same CDE for the next year (chapters may appeal to the State FFA Board of Directors). Teams that do not compete at the National Convention will be required to pay back the travel award.

Primary References

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

National FFA Career Development Events: Veterinary Science CDE guide



North Carolina FFA Veterinary Science Career Development Event Equipment List

- _____ Autoclave
- _____ Autoclave tape indicator
- _____ Backhaus towel clamps
- _____ Balling gun
- _____ Bandaging material – roll gauze
- _____ Bandaging material – vet wrap
- _____ Bands (castration or docking)
- _____ Betadine
- _____ Bulb syringe
- _____ Catch pole (dog snare)
- _____ Catheter – butterfly
- _____ Catheter – IV
- _____ Catheter – tomcat urinary
- _____ Centrifuge
- _____ Clipper blades
- _____ Cold sterile tray
- _____ Dehorner
- _____ Dental equipment (float, retractor or scaler)
- _____ Drench gun-small ruminant
- _____ Ear notcher
- _____ Elastrator
- _____ Elizabethian collar
- _____ Emasculators
- _____ Endotracheal tubes
- _____ Fecal loop
- _____ Fecalyzers
- _____ Feeding tube for small animals
- _____ Fetal extractor-calf
- _____ Forceps – Alligator
- _____ Forceps – Allis tissue
- _____ Forceps – Babcock tissue
- _____ Forceps – Brown-Adson thumb
- _____ Forceps – Halstead mosquito hemostatic
- _____ Forceps – Kelly
- _____ Hoof equipment (knife or rasp)
- _____ IV administration set
- _____ Laryngoscopes
- _____ Muzzle – nylon
- _____ Obstetrical chain and handle
- _____ Needle holder (Mayo-Hegar or Olsen Hegar)
- _____ Ophthalmoscope
- _____ Otoscope
- _____ Paste gun
- _____ Pig tooth nippers
- _____ Pill counting tray
- _____ Rumen magnet
- _____ Scalpel blade
- _____ Scalpel handle
- _____ Scissors – (bandage, lister bandage, littauer suture removal, mayo dissecting, metzenbaum dissecting)
- _____ Silver nitrate sticks
- _____ Small animal oxygen cage
- _____ Snook ovariohysterectomy hook
- _____ Staple remover
- _____ Stethoscope
- _____ Surgical drapes
- _____ Syringe
- _____ Tattooing instruments – small & large
- _____ Tourniquet



North Carolina FFA Veterinary Science Career Development Event Parasites/Microscopic ID

- _____ Blowfly (Family Calliphoridae)
- _____ Cat Warble (Genus Cuterebra)
- _____ Cocci (bacteria)
- _____ Coccidia (Genus Isospora or Eimeria)
- _____ Demodectic Mite (Genus Demodex)
- _____ Ear Mite (Family Ascaridae; Genus Otodectes)
- _____ Eosinophils
- _____ Fleas (Genus Ctenocephalides)
- _____ Flea Larva (Genus Ctenocephalides)
- _____ Flea Tapeworm Egg (Genus Dipylidium)
- _____ Flea Tapeworm Segment (Genus Dipylidium)
- _____ Giardia (Genus Giardia)
- _____ Heartworm Adult (Genus Dirofilaria)
- _____ Heartworm Microfilaria (Genus Dirofilaria)
- _____ Hookworm Adult (Family Ancylostomatidae; Genus Ancylostoma, Uncinaria, Bunostomum or Globocephalus)
- _____ Hookworm Egg (Family Ancylostomatidae; Genus Ancylostoma, Uncinaria, Bunostomum or Globocephalus)
- _____ Horse Bots (Genus Gasterophilus)
- _____ Horse Strongyles (Family Strongylidae; Genus Strongylus)
- _____ Lice - Biting (Order Mallophaga; Genus Bovicola or Trichodectes)
- _____ Lice - Sucking (Order Anoplura; Genus Linognathus or Hematopinus)
- _____ Liver Fluke (Class Trematoda; Genus Fasciola, Fascioloides or Dicrocoelium)
- _____ Mosquito Adult (Family Culicidae; Genus Anopheles, Culex or Aedes)
- _____ Mosquito Larva (Family Culicidae; Genus Anopheles, Culex or Aedes)
- _____ Red Blood Cell
- _____ Roundworm Adult (Family Ascarididae or Toxocaridae; Genus Toxocara, Toxascaris, Ascaris, Parascaris or Neoascaris)
- _____ Roundworm Egg (Family Ascarididae or Toxocaridae; Genus Toxocara, Toxascaris, Ascaris, Parascaris or Neoascaris)
- _____ Sarcoptic Mite (Family Ascaridae; Genus Sarcoptes or Notoedres)
- _____ Taenia Tapeworm (Family Taeniidae; Genus Taenia)
- _____ Taenia Tapeworm Egg (Family Taeniidae; Genus Taenia)
- _____ Taenia Tapeworm Segment (Family Taeniidae; Genus Taenia)
- _____ Tick- American Dog (Family Dermacentor; Genus Variabilis)
- _____ Tick- Black Legged Deer (Family Ixodes; Genus Scapularis)
- _____ Whipworm (Genus Trichuris)
- _____ Whipworm Egg (Genus Trichuris)
- _____ Yeast



North Carolina FFA Veterinary Science Career Development Event

Identification Small Animal Breeds

Place the number of the species beside the correct name (four points each).

- | | | |
|--------------------------|---------------------------|--------------------------------|
| CATS | BIRDS | _____ Sugar Glider |
| _____ Abyssinian | _____ Cockatiel | REPTILES |
| _____ American Shorthair | _____ Cockatoos | _____ Chameleon |
| _____ Burmese | _____ Love Birds | _____ Gecko |
| _____ Maine Coon | _____ Parakeet | _____ Iguana |
| _____ Manx | _____ African Gray Parrot | _____ Lizard |
| _____ Persian | _____ Canary | _____ Bearded Dragon |
| _____ Ragdoll | _____ Macaw | |
| _____ Russian Blue | _____ Sun Conure | POULTRY |
| _____ Siamese | _____ Zebra Finch | _____ Chicken-Cornish |
| _____ Sphynx | | _____ Chicken-Leghorn |
| | SMALL MAMMALS | _____ Chicken-Plymouth Rock |
| RABBITS | _____ Chinchilla | _____ Chicken-Rhode Island Red |
| _____ Angora | _____ Ferret | _____ Duck |
| _____ Californian | _____ Gerbil | _____ Goose |
| _____ Dutch | _____ Guinea Pig | _____ Quail |
| _____ English Spot | _____ Hamster | _____ Turkey |
| _____ Netherland Dwarf | _____ Hedgehog | |
| _____ Mini-Rex | | |



North Carolina FFA Veterinary Science Career Development Event Identification Large Animal Breeds

Place the number of the species beside the correct name (four points each)

DAIRY BREEDS

- _____Ayshire
- _____Brown Swiss
- _____Guernsey
- _____Holstein
- _____Jersey

BEEF CATTLE BREEDS

- _____Angus
- _____Brahman
- _____Charolais
- _____Hereford
- _____Shorthorn
- _____Simmental

SWINE BREEDS

- _____American Landrace
- _____Berkshire
- _____Chester White
- _____Duroc
- _____Hampshire
- _____Yorkshire

HORSE BREEDS

- _____Appaloosa
- _____Arabian
- _____Belgian
- _____Clydesdale
- _____Morgan
- _____Paint
- _____Percheron
- _____Quarter Horse
- _____Saddlebred
- _____Tennessee Walking Horse
- _____Thoroughbred

GOAT BREEDS

- _____Alpine
- _____Nubian
- _____Angora
- _____Boer
- _____LaMancha
- _____Oberhasli
- _____Pygmy
- _____Saanen
- _____Toggenburg

SHEEP BREEDS

- _____Columbia
- _____Dorper
- _____Dorset
- _____Hampshire
- _____Merino
- _____Rambouillet
- _____Southdown
- _____Suffolk



North Carolina FFA Veterinary Science Career Development Event Identification Dog Breeds

Place the number of the species beside the correct name (four points each)

SPORTING GROUP

- _____ Brittany
- _____ Cocker Spaniel
- _____ English Setter
- _____ German Shorthaired
Pointer
- _____ Golden Retriever
- _____ Irish Setter
- _____ Labrador Retriever
- _____ Weimaraner

NON-SPORTING GROUP

- _____ Bichon Frise
- _____ Boston Terrier
- _____ Bulldog
- _____ Chinese Shar-Pei
- _____ Chow Chow
- _____ Dalmatian
- _____ Poodle

TERRIER GROUP

- _____ Bull Terrier
- _____ Cairn Terrier
- _____ Parson Russell Terrier
- _____ Scottish Terrier
- _____ West Highland White
Terrier

HERDING GROUP

- _____ Australian Cattle Dog
- _____ Australian Shepherd
- _____ Border Collie
- _____ Collie
- _____ German Shepherd Dog
- _____ Old English Sheepdog
- _____ Pembroke Welsh Corgi
- _____ Shetland Sheepdog

WORKING GROUP

- _____ Bernese Mountain Dog
- _____ Boxer
- _____ Doberman Pinscher
- _____ Great Dane
- _____ Great Pyrenees
- _____ Mastiff
- _____ Newfoundland
- _____ Portuguese Water Dog
- _____ Rottweiler
- _____ Saint Bernard
- _____ Siberian Husky
- _____ Standard Schnauzer

TOY GROUP

- _____ Cavalier King Charles
Spaniel
- _____ Chihuahua
- _____ Miniature Pinscher
- _____ Papillon
- _____ Pekingese
- _____ Pomeranian
- _____ Poodle
- _____ Pug
- _____ Shih Tzu
- _____ Yorkshire Terrier

HOUND GROUP

- _____ Afghan Hound
- _____ Basenji
- _____ Basset Hound
- _____ Beagle
- _____ Black and Tan Coonhound
- _____ Bloodhound
- _____ Dachshund
- _____ Greyhound
- _____ Rhodesian Ridgeback



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 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 place 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 students 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 Surgical Site Preparation

Participants must talk through practicum steps with judges.

CRITERIA	POINTS POSSIBLE	POINTS EARNED
The student applied antiseptic scrub to the 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

Participants must talk through practicum steps with judges.

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 transfer 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	



Handling and Restraining Practicum Applying a Cat Muzzle

Participants 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 setting 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 for Jugular Venipuncture

Participants must talk through practicum steps with judges.

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 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

Restraint of the Dog for Cephalic Venipuncture

Participants 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; extends 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	