



# Veterinary Science

## ***New for 2017-2018***

Non-latex gloves must be provided by competitor.  
The 4<sup>th</sup> edition of Principles and Practices of Veterinarian Technology is being used as a resource.

**Purpose** To provide the HOSA member with an opportunity to develop and demonstrate knowledge and skills in veterinary care.

**Description** This event will consist of two rounds of competition. Round One will be a written, multiple choice test. Written test will measure knowledge and understanding at the recall, application or analysis levels. Higher-order thinking skills will be incorporated as appropriate. The top scoring competitors will advance to Round Two for the performance of selected skill(s) identified in a written scenario. The scenario will require the use of critical thinking skills. The performance will be timed and evaluated according to the event guidelines.

**Dress Code** Competitors shall wear proper business attire or official HOSA uniform, or attire appropriate to the occupational area, during the orientation, written test and skill(s)– jeans and shorts are not acceptable. Bonus points will be awarded for [proper dress](#).

- Rules and Procedures**
1. Competitors in this event must be active members of HOSA-Future Health Professionals, in good standing in the division in which they are registered to compete (Secondary or Postsecondary/Collegiate).
  2. Competitors must be familiar with and adhere to the "[General Rules and Regulations of the National HOSA Competitive Events Program](#) (GRR)."
  3. The written test will consist of fifty (50) multiple choice items. The test score will be used as part of the final score.

### **Round One: Written Test Plan** (Includes both Large and Small Animals)

Anatomy and Physiology	23%
Basic Nutrients	10%
Animal Behavior	6%
Diseases/Disease Prevention	15%
Zoonoses	6%
Clinical Practice	10%
Emergency Care/First Aid	12%
Principles of Surgery	12%
Veterinary Careers	6%

4. All competitors shall report to the site of the event orientation at the time designated. The Round One test will immediately follow the orientation. **No proxies will be allowed for the orientation.**

5. [Test Instructions](#): There will be a maximum of **60 minutes** to complete the test. There will be a verbal announcement when there are 15 minutes remaining.

NOTE: *States/regions may use a different process for testing, to include but not limited to pre-conference testing, online testing, and testing at a computer. Check with your Area/Region/State for the process you will be using.*

6. All official references are used in the development of the written test. The specific reference selected for each skill is listed in the Facilities, Equipment and Materials section of these guidelines.

- [Lawhead, James and Baker, MeeCee. Introduction to Veterinary Science. Cengage Learning. Latest Edition.](#)
- [Sirois, Margi. Principles and Practice of Veterinary Technology. Elsevier Mosby. Latest edition.](#)
- [American Red Cross. Dog First Aid. Staywell. Latest edition.](#)
- References for Companion Animal Breeds/Species Identification:
  - Dogs = American Kennel Club - [www.akc.org](http://www.akc.org)
  - Cats = The Cat Fanciers' Association - [www.cfainc.org](http://www.cfainc.org)

7. The test score from Round One will be used to qualify the competitor for the Round Two skills. The skills approved for Round Two for this event are:

Skill I: Preparation of the Operative Site  
Skill II: Lifting and Restraining a Dog  
Skill III: Identify Equipment and Instruments *(Including name of equipment or instrument and purpose or use.)*  
Skill IV: Simple Fecal Flotation  
Skill V: Identification of Companion Animal Breeds/Species  
Skill VI: Apply/Remove Gauze Restraint Muzzle  
Skill VII: Restraining a Cat for Jugular Venipuncture

**(FOR ALL SKILLS, BODY FLUIDS WILL BE A SIMULATED PRODUCT)**

8. States/National HOSA have the option of including Skills III and/or V at the same time as the Round One written test.
9. The selected skill(s) for Round Two, in the form of a written scenario, will be presented to the competitor at the start of the skill to be performed. One or more skills may be combined in the scenario. The scenario will be the same for each competitor and will include a challenging component that will require the competitor to apply critical thinking skills.
10. The scenario is a secret topic. Professional ethics demand that competitors DO NOT discuss or reveal the secret topic for ANY event until after the event has concluded. Violation of the ethics rules will be severely penalized.
11. In case of a tie, the highest test score will be used to determine the rank.
12. Competitors must complete all steps of the skill listed in the guidelines even if the steps must be simulated/verbalized. Steps may NOT be simulated/verbalized when the equipment/materials are available.
13. The competitor must earn a score of 70% or higher on the combined skill(s) of the event (excluding the test and cognitive Skills III and V) in order to be recognized as

an award winner at the ILC.

14. The timing for the skill will begin when the scenario is presented. Competitors will be stopped at the end of the time allowed for selected skill(s).

**Competitor Must Provide:**

- Event guidelines (orientation)
- Two #2 lead pencils with eraser
- Watch with second hand (optional)
- Sterile surgical gloves
- Exam non-latex gloves
- Sterile 4x4's (6/competitor – 4 for scrubbing and 2 for blotting)
- 2 - 4 inch wide gauze roll (18 inches or longer)

**Required Personnel:**

- One Event Manager
- One QA to provide quality assurance for the event by ensuring that the guidelines are followed and all event documents are complete.
- One Section Leader per section
- One judge per skill per section
- Proctors for Testing – Approximately one proctor for 20 competitors
- Event assistants per section as needed
- Timekeepers

**Facilities, Equipment and Materials (Per Section):**

**General**

- Clinical and/or laboratory stations for selected skills
- Holding rooms or areas for competitors (if off-site)
- Written scenario
- Patient and judge scripts as needed
- Stopwatch
- Rating sheets – one per judge per competitor
- Evaluation Forms – competitor, judge, and personnel
- #2 lead pencils with eraser to complete evaluations & for judges
- Hand sanitizer (alcohol-based handrub)

**Round One Written Test** (Reference: All resources)

- One test copy per competitor
- Scantron /answer forms

**Round Two:**

**Skill I Preparation of the Operative Site** (Sirois)

- Written scenario that indicates the patient's identity and surgical skill being performed,
- Progress notes stating that the patient was bathed and the surgical site clipped

- and scrubbed and urine was expressed from the bladder
- Surgical scrub/germicide (e.g., povidone-iodine or chlorhexidine scrub)
- Artificial animal
- Sterile forceps
- 10% Povidone iodine solution in a spray bottle
- Roll of 1" cloth tape
- Wrapped sterile bowl
- Waste bag

**Skill II Lifting and Restraining a Dog (Sirois)**

- Small artificial dog
- Medium-sized artificial dog
- Exam table

**Skill III Identify Equipment and Instruments (Reference: All resources)**

- Answer sheets
- Instrument Numbers
- 15 equipment/instruments from list OR photos of equipment/instruments
  - centrifuge
  - refractometer
  - pipettes
  - differential cell counter
  - hand tally counter
  - scalpel handle
  - scalpel blades
  - Funnell Conical centrifuge tubes
  - balance scale
  - graduated cylinder
  - stitch (suture removal) scissors
  - sharp/blunt scissors
  - Metzenbaum scissors
  - bandage scissors
  - needle holder
  - tissue forceps
  - Babcock intestinal forceps
  - Kelly forceps
  - retractors
  - absorbable suture material
  - nonabsorbable suture material
  - hemostatic clips
  - tracheostomy tube
  - extraction forceps<sup>1</sup>
  - nail trimmers
  - catheter
  - sponge forceps
  - Allis tissue forceps
  - ovariohysterectomy hook
  - Rochester-Carmalt forceps
  - dental scaler
  - dental curette
  - periodontal probe
  - Mayo scissors
  - Crile forceps

- Backhaus towel clamps

**Skill IV Simple Fecal Flotation (Sirois)**

- Flotation solution (Commercially prepared or water labeled as flotation solution)
- Paper cups
- Simulated animal feces
- Tongue depressor
- 10 cm (4" x 4") gauze squares
- Shell vial or 15 ml conical centrifuge tube
- Cover slip
- Glass slide

**Skill V Identification of Companion Animal Breeds/Species (AKC and Cat Fancier web sites.)**

- 15 Breed/Species pictures from resources
  - Dogs = American Kennel Club - [www.akc.org](http://www.akc.org)
  - Cats = The Cat Fanciers' Association - [www.cfainc.org](http://www.cfainc.org)
- Answer Sheets

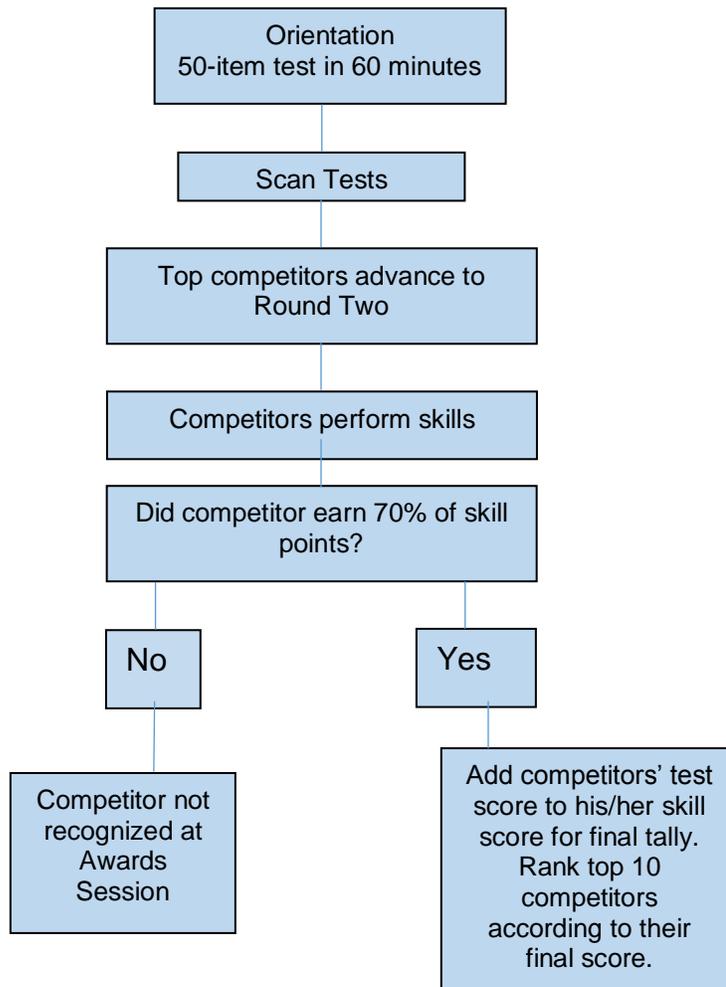
**Skill VI Apply/Remove Gauze Restraint Muzzle (Reference: ARC Dog First Aid)**

- Canine Mannequin
- Bandage scissors

**Skill VIII Restraining a Cat for Jugular Venipuncture (Sirois)**

- Hand rub
- Artificial cat
- Carrier
- Large towel

## Event Flow Chart



## Sample Round One Test Questions

1. The average gestational period for a cat is:
  - A. 15-20 days.
  - B. 30-35 days.
  - C. 58-65 days.
  - D. 90-112 days.
  
2. The agent that causes ringworm in animals is a/an:
  - A. bacteria.
  - B. fungi.
  - C. parasite.
  - D. virus.
  
3. When performing a surgical prep scrub, the procedure is to scrub:
  - A. the area with alcohol after removing the hair.
  - B. from the intended incision area outward in concentric circles.
  - C. from the outside of the shaved area to the central area.
  - D. in large straight strokes across the surgical area.

# VETERINARY SCIENCE

Competitor #: \_\_\_\_\_

Judge's Signature: \_\_\_\_\_

<b>Skill I Preparation of the Operative Site (Time: 7 minutes)</b>	<b>Possible</b>	<b>Awarded</b>
1. Used alcohol-based handrub for hand hygiene.	1	0
2. Verified the patient's identity, surgical skill being performed, and surgical site.	2	0
3. Checked progress notes to assure that patient was bathed and surgical site clipped and scrubbed and urine was expressed from bladder.	2	0
4. Assembled materials for prep.	1	0
5. Positioned patient on back and secured legs with tape.	2	0
6. Opened sterile packages: bowl and gauze using aseptic technique.	2	0
7. Dropped four (4) gauze sponges into a sterile bowl and then poured germicide to cover sponges, using aseptic technique.	2	0
8. Donned sterile gloves correctly.	2	0
9. Using sterile forceps OR the gloved hand, and one gauze (transferred from the less dominant hand to the dominant hand), began at incision site and cleansed using concentric circles at least 2 inches larger than the expected size of the sterile field needed, and discarded sponge after reaching periphery.	2	0
10. Repeated step #10 two more times.	2	0
11. Blotted excess germicide solution with sterile gauze sponge(s).	1	0
12. Sprayed 10% Povidone Iodine solution on site.	1	0
13. Removed gloves and used alcohol-based handrub for hand hygiene.	1	0
<b>TOTAL POINTS -- SKILL I</b> <b>70% Mastery for Skill I = 14.7</b>	<b>21</b>	

*\*\*If a student jeopardizes the patient's or his/her own safety and does not take immediate action to correct the error, the total points for the skill or specific subpart(s) of the skill will be deducted.*

## VETERINARY SCIENCE

Competitor #: \_\_\_\_\_ Judge's Signature: \_\_\_\_\_

*Note: In this skill, the competitor will lift a small dog, and then will also lift a medium-sized dog. He/she will verbalize the process for lifting a large dog. Simulation of the cephalic venipuncture will be done on the medium dog.*

<b>Skill II Lifting and Restraining a Dog (Time: 4 minutes)</b>	<b>Possible</b>	<b>Awarded</b>
1. Used alcohol-based handrub for hand hygiene.	1	0
2. Spoke to animal in calm, affectionate tone throughout skill.	1	0
3. Lifted the small dog onto the table, holding the dog draped over a forearm with the other hand holding on to the head just below the mandible.	1	0
4. Lifted the small dog off the table and back to the floor, using correct body mechanics and lifting technique.	2	0
5. Lifted the medium-sized dog onto the table, with one arm around the neck and the other arm around the rear end.	2	0
6. Held the medium-sized dog in a standing position by placing one arm around the dog's neck and the other around the abdomen, and hugging the dog close to the body.	2	0
7. Verbalized the proper technique for lifting a large dog.	1	0
* Judge states <i>"Place the dog in a sitting position for a cephalic venipuncture."</i>	-	
8. Placed animal on the table near one end, facing the edge, in the sitting position.	2	0
9. Restrained the animal's head by reaching under the neck, placing the hand behind the jaw and pressing the animal's head against the person's chest.	2	0
10. Used other arm to reach around rear of the dog and pull dog close to the body.	2	0
11. Moved arm that was holding the rear across the shoulders and grasped the leg opposite his/her body.	2	0
12. Held the leg by placing the elbow of the dog into the palm of that hand and pushing the leg forward.	2	0
13. Placed thumb on top of the leg, squeezing and rotating laterally, to occlude the vein. <i>* Judge will verbalize venipuncture and when blood is drawn.</i>	2	0
14. Released thumb after the blood was drawn.	2	0
15. Used alcohol-based handrub for hand hygiene.	1	0
<b>TOTAL POINTS -- SKILL II</b> <b>70% Mastery for Skill II = 17.5</b>	<b>25</b>	

*\*\*If a student jeopardizes the patient's or his/her own safety and does not take immediate action to correct the error, the total points for the skill or specific subpart(s) of the skill will be deducted.*

# VETERINARY SCIENCE

Competitor #: \_\_\_\_\_ Judge's Initials: \_\_\_\_\_ Total Points (45 poss.) \_\_\_\_\_

**Skill III: Identify Equipment and Instruments (Time: 15 minutes)**

Name of Instrument	Points (1 each for name & spelling)	Purpose or Use	Points (1 point for correct purpose/use)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
<b>TOTAL: ID &amp; Spelling (30 poss)</b>		<b>TOTAL: Purpose (15 poss.)</b>	

# VETERINARY SCIENCE

Competitor #: \_\_\_\_\_ Judge's Signature: \_\_\_\_\_

<b>Skill IV Simple Fecal Flotation (Time: 5 minutes)</b>	<b>Possible</b>		<b>Awarded</b>
1. Used alcohol-based handrub for hand hygiene	1	0	
2. Applied non-latex exam gloves.	1	0	
3. Assembled equipment and supplies.	1	0	
4. Placed approximately 2 – 5 g of feces in a paper cup.	2	0	
5. Add 30 ml of flotation solution.	2	0	
6. Using the tongue depressor, mix the feces to produce an evenly suspended emulsion.	2	0	
7. Poured the suspension through a 10 cm (4"x4") gauze square into another cup.	2	0	
8. Filled the shell vial (or 15 ml conical centrifuge tube) with the filtered solution to form a convex dome (meniscus) at the rim.	2	0	
9. Placed a cover slip on top of the meniscus.	2	0	
10. Verbalized leaving the cover slip in place for 10 – 20 minutes.	1	0	
11. Picked the cover slip straight up and placed on a glass slide, fluid side down.	2	0	
12. Removed non-latex gloves and used alcohol-based handrub for hand hygiene.	1	0	
<b>TOTAL POINTS – SKILL IV</b>	<b>19</b>		
<b>70% Mastery for Skill IV = 13.3</b>			

*\*\*If a student jeopardizes the patient's or his/her own safety and does not take immediate action to correct the error, the total points for the skill or specific subpart(s) of the skill will be deducted.*

# VETERINARY SCIENCE

Competitor #: \_\_\_\_\_ Judge's Initials: \_\_\_\_\_ Total Points (30 poss.) \_\_\_\_\_

**Skill V: Identification of Companion Animal Breeds/Species  
(Time: 8 Minutes)**

	Breed Species	One point for correct identification	One point for correct spelling
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
<b>TOTAL: ID &amp; Spelling (30 poss)</b>		<b>TOTAL: ID (15)</b>	<b>TOTAL: Spelling (15)</b>

## VETERINARY SCIENCE

Competitor #: \_\_\_\_\_ Judge's Signature: \_\_\_\_\_

<b>Skill VI Apply/Remove Gauze Restraint Muzzle (Time: 3 minutes)</b>	<b>Possible</b>	<b>Awarded</b>
1. Used alcohol-based handrub for hand hygiene.	1	0
2. Assembled supplies.	1	0
3. Spoke to dog in calm, affectionate tone throughout skill.	2	0
4. Used an 18" or longer piece of gauze and placed a knot in the middle of the material to serve as an anchor.	2	0
5. Made a loop large enough to drop over the dog's nose.	1	0
6. Kept enough distance from the dog's mouth to avoid being bitten, and slipped the loop over the dog's nose from above and behind his head.	2	0
7. Tightened the loop down on top of the nose, but not so tight it obstructed the dog's breathing.	2	0
8. Pulled an end of the gauze down each side of the face, crisscrossed it under the chin, and brought the ends back behind the ears.	2	0
9. Tied the loose ends in a bow behind the ears.	2	0
10. Kept hand scissors close by in case the muzzle must be quickly cut off.	1	0
11. Used alcohol-based handrub for hand hygiene.	1	0
<b>TOTAL POINTS – SKILL VI</b> <b>70% Mastery for Skill VI = 11.9</b>	<b>17</b>	

*\*\*If a student jeopardizes the patient's or his/her own safety and does not take immediate action to correct the error, the total points for the skill or specific subpart(s) of the skill will be deducted.*

## VETERINARY SCIENCE

Competitor #: \_\_\_\_\_ Judge's Signature: \_\_\_\_\_

Note: Verbalization of the jugular venipuncture will be provided by judge.

Skill VII Restraining a Cat for Jugular Venipuncture (Burrito method) (Time: 6 minutes)	Possible	Awarded
1. Used alcohol-based handrub for hand hygiene.	1 0	
2. Gather equipment needed for skill.	1 0	
3. After escorting to exam room make sure all routes of escape are closed.	1 0	
4. Open the door to the carrier as soon as you enter the room.	1 0	
<i>If the cat is friendly follow steps 5-7 and skip 8-9. If cat resists coming out of carrier skip to steps 8-9.</i>		
5. If friendly, reach in and gently grasp the scruff of the cat's neck.	2 0	
6. Pull forward until you can place your hand around the midsection.	2 0	
7. Explain to owner that scruff of neck does not hurt cat and is how mother carried them.	1 0	
8. If cat resists, elevate the rear of carrier for cat to slide out.	2 0	
9. Do not lift high enough for cat to fall from carrier. When out of carrier if calms, place hand in midsection and scruff of neck with explanation to owner that it does not hurt cat and is how mother carried them.	3 0	
10. Place towel flat on table.	2 0	
11. Place cat one third of the way from the one end of the towel.	2 0	
12. Take the short end of the towel or the end closest to the cat and wrap it snugly against the body of the cat.	2 0	
13. Once in place quickly wrap the long end around and around the body of the cat.	2 0	
14. Roll cat on back.	2 0	
15. Extend head for a jugular venipuncture. <i>*Judge will verbalize that venipuncture has been performed and skill is complete.</i>	2 0	
16. Release cat by unwrapping restraint.	1 0	
17. Used alcohol-based handrub for hand hygiene.	1 0	
<b>TOTAL POINTS -- SKILL VII</b>		
<b>Cat does not Resist</b>	<b>23</b>	
<b>Cat that Resists</b>	<b>23</b>	
<b>70% Mastery for Skill V= Not resisting 16 Resisting 16.1</b>		

*\*\*If a student jeopardizes the patient's or his/her own safety and does not take immediate action to correct the error, the total points for the skill or specific subpart(s) of the skill will be deducted.*