



**Veterinary Medical Applications
Certification
Study Guide**

CERTIFICATION OVERVIEW

The Elanco Veterinary Medical Applications Certification validates individuals possess a solid understanding of animal science, including the history and practices of the livestock industry as well as common terms and terminology and livestock management practices. In addition, the certification exam assesses major topics in the animal science industry, including genetics, reproduction, nutrition and health management.

EXAM OVERVIEW

The Elanco Veterinary Medical Applications Certification is hosted on the iCEV testing platform. The certification exam is a 100-question, randomized assessment. Exam questions are in the format of multiple choice, sort order, diagramming, matching, labeling and other question types meant to fully evaluate an individual's competency of the industry standards. The certification exam should be proctored within a controlled environment. The proctor of the exam must review and verify all exam procedures and provide electronic documentation through the exam platform.

More information about the certification exam and testing platform, including optional preparation materials offered by iCEV, can be found at <https://www.icevonline.com/vetmed>

ABOUT ELANCO

Elanco is a global animal health company that develops products and knowledge services to prevent and treat disease in food animals and pets in more than 90 countries. With a 64-

year heritage, Elanco rigorously innovates to improve the health of animals and benefit customers, while fostering an inclusive, cause-driven culture for more than 5,800 employees. Elanco is driven by their vision of food and companionship enriching life - all to advance the health of animals, people and the planet.

Learn more at <https://www.elanco.com/en-us/careers/faqs>

INDUSTRY STANDARDS

The certification exam assesses knowledge and skills from the following weighted industry standards set by Elanco:



VETERINARY TERMS & TERMINOLOGY- 20%

- Laws & Ethics
- Word Structure & Terminology
- Medical Equipment
- Identification
- Mathematical Applications



ANIMAL WELFARE & BEHAVIOR- 15%

- Animal Roles in Society
- Animal Rights & Welfare
- Animal Protection
- Animal Research Laws, Policies & Regulations
- Animal Behavior



ANATOMY & PHYSIOLOGY- 15%

- External Anatomy
- Circulatory System
- Respiratory System
- Digestive System
- Endocrine System
- Integumentary System
- Nervous System
- Skeletal System



VETERINARY MEDICAL PRACTICES- 50%

Animal Handling & Restraint
Vital Signs
Blood Samples
Injections
Clinical Examinations
Laboratory Procedures
Hospital Procedures
Surgical Procedures
Pharmacology

Industry Standard Overview

To pass the Elanco Veterinary Medical Applications Certification exam, certification candidates must have adequate knowledge of the industry standards. The following outlines an in-depth overview of the industry standards and sub-standards:

Industry Standard: Veterinary Terms &

Terminology



- Types of Animals
 - Companion
 - Working
 - Food Producing
 - Other
- Common Electrical Technology
- Imaging Equipment
- Surgical Equipment
- Types of Scissors
- Types of Forceps
- Cannula
- Catheter
- Trachea Tubes
- Medical Administration Instruments
- Hypodermic Syringes & Needles
- Drench Gun
- Balling Gun

- Intravenous
- Cleaning & Maintenance
- Word Structure
- Anatomical Terms
- Directional Terminology
- Body Systems
- Common Veterinary Terms
- Canine Anatomy
- Feline Anatomy
- Anatomical Terms of Location
- External Anatomy
- External Anatomy
 - Cattle
 - Swine
 - Sheep
 - Goat
 - Horse
- Calculating Doses with Proportions
- Dose Formula
- U.S. Customary System
- Modern Metric System

Industry Standard: Animal Welfare & Behavior



- Animal Trends & Issues
- Animal Rights
 - Activist
 - Founders
 - Groups
- Animal Welfare & Groups
- Animal Protection
- Animal Control
- Acts & Legislation
- Animal Research
- Three R's
- Common Animals Researched
- Federal Agencies
- Animal Research Founders
- Trends & Issues in Veterinary Medicine
- Regulatory Agencies

- Professional Licensing & Liability
- Veterinarian Oath
- Ethical vs. Unethical Behavior
- Pheromones
- Hormones
- External Factors
- Learned Behavior

Industry Standard: Anatomy & Physiology



- Anatomical Terms
- Directional Terminology
- Body Systems
- Common Veterinary Terms
- Endocrine System
- Immune System
- Urinary System
- Female Reproductive System
- Male Reproductive System
- Anatomical Terms of Location
- External Anatomy
 - Cattle
 - Swine
 - Sheep
 - Goat
 - Horse
- Circulatory System
- Respiratory System
- Digestive System
- Integumentary System
- Nervous System
- Skeletal System
- Muscular System



Veterinary Medical Practices-

- Small Animal Handling & Restraints
- Behavioral Categories
- Large Animal Handling & Restraints
- Animal Identification
- Vital Signs
- Temperature
- Respiration
- Pulse Rate
- Blood & Blood Samples
- Injection Methods
- Parts of a Syringe
- Drawing Medication
- Physical Exams
- Animal Exams
- Laboratory Tests
- Blood Examination
- Fecal Examination
- Urine Examinations
- Culture & Sensitivity Tests
- Zoonotic Diseases
- Infection Control
- Personal Protective Actions
- Emergency Procedures & First Aid
- Types of Shock
- X-Rays
- Therapeutic Care
- Reproductive Services
- Dystocia
- Neonatal Emergencies
- Pre-surgical Care
- Post-surgical Care
- Neuters/Castrations/Spays
- Common Veterinary Drugs
- Common Parasites
- Anesthetics & Sedatives
- Pharmacokinetics
- Pinocytosis/Phagocytosis
- Six "Rights"

Optional Preparation Materials Overview

The preparation materials offered by iCEV for the Elanco Veterinary Medical Applications Certification was specifically created to prepare candidates for the certification exam. While it is not required to complete the preparatory materials before accessing the certification exam, Elanco recommends certification candidates complete some form of training. The following outlines the lessons scope and objectives:

Lesson 1: Animals & Society

1. To identify various animal types and their roles in society.
2. To understand the difference between animal rights and animal welfare.
3. To identify and interpret laws which have been put into effect for the protection of animals.

Lesson 2: Animals in Research

1. To examine the role of animals in research.
2. To discover the benefits different species have provided to humans through research.
3. To analyze the policies, laws and regulations concerning animal research.
4. To identify animal research supporters, founders and activists.

Lesson 3: Veterinary Laws & Ethics

1. To identify trends and issues in veterinary medicine.
2. To understand laws and regulations which affect veterinary medicine.
3. To recognize the importance of veterinarian responsibility.

Lesson 4: Common Veterinary Medical Equipment

1. To develop skills involving the use of electronic technology, imaging equipment and instruments found in a veterinary hospital.
2. To explain the care, maintenance, safety and use of equipment and instruments found in a veterinary hospital.

Lesson 5: Veterinary Medical Terms & Terminology

1. To communicate the importance of medical terminology, evaluate veterinary terms, discover their meanings and demonstrate the ability to use terms correctly.
2. To learn each of the body systems found in animals as well as the purpose and function of each.
3. To identify clinical terminology, abbreviations, and symbols relating to the diagnosis, pathology and treatment of animals.

Lesson 6: Basic Canine & Feline Anatomy

1. To examine canine and feline body systems and understand their functions in relation to the animal.
2. To classify different organs in the body systems and explain their importance in allowing the body to work.
3. To compare the role of the skeletal system in humans to that of felines and canines.

Lesson 7: External Anatomy of Livestock: Terms & Terminology

1. To identify the external anatomy of livestock species.
2. To analyze the functions of the external anatomy of livestock species.
3. To compare the external anatomy of livestock species.

Lesson 8: Circulatory & Respiratory Systems

1. To identify basic structures of both systems.
2. To understand basic functions of the organs in both systems.
3. To understand processes associated with circulation and respiration.

Lesson 9: Digestive System

1. To understand basic functions of organs in the digestive systems.
2. To understand the different types of digestive systems.
3. To identify basic structures associated with the digestive tract.

Lesson 10: Endocrine, Immune & Integumentary Systems

1. To understand the basic functions of the endocrine, immune and integumentary systems.
2. To understand the different types of the endocrine, immune and integumentary systems.
3. To identify basic structures associated with the endocrine, immune and integumentary systems.

Lesson 11: Nervous, Skeletal & Muscular Systems

1. To understand the basic functions of the nervous, skeletal and muscular systems.
2. To understand the different types of the nervous, skeletal and muscular systems.
3. To identify basic structures associated with the nervous, skeletal and muscular systems.

Lesson 12: Nervous, Skeletal & Muscular Systems

1. To understand the basic functions of the nervous, skeletal and muscular systems.
2. To understand the different types of the nervous, skeletal and muscular systems.
3. To identify basic structures associated with the nervous, skeletal and muscular systems.

Lesson 13: Animal Behavior

1. To assess the importance of studying animal behavior in ethology.
2. To analyze the factors affecting animal behavior.
3. To describe the importance animal behavior has on human psychology and social sciences.

Lesson 14: Veterinary Medical Practices: Animal Handling & Identification

1. To identify correct handling protocols and discuss the relevance to veterinary medical staff.
2. To demonstrate appropriate animal handling and explain a variety of animal behavioral situations.
3. To explain animal identification for a variety of animals and identify their uses and importance.

Lesson 15: Veterinary Medical Practices: Vital Signs

1. To learn to identify anatomical sites for measuring vital signs.
2. To learn vital sign ranges for various animal species.
3. To understand the importance of vital signs.

Lesson 16: Veterinary Medical Practices: Blood Samples

1. To identify anatomical sites for blood sampling.
2. To learn how to collect blood samples from various animal species.

Lesson 17: Veterinary Medical Practices: Injections

1. To identify injection methods.
2. To identify appropriate anatomical injection sites on various animal species.
3. To administer medication with the selection of appropriate equipment

Lesson 18: Mathematical Applications in Veterinary Science

1. To understand how to add, subtract, multiply and divide whole numbers, fractions and decimals.
2. To apply mathematical skills needed for accurate client assessment such as measurement, conversion and data analysis.
3. To find solutions for percentages, averages and conversions.
4. To perform scientific calculations to determine weight, volume, linear measurements and chemical concentrations.
5. To solve word problems using ratios and dimensional analysis.
6. To interpret data using tables, charts and graphs.

Lesson 19: Veterinary Medical Practices: Clinical Examinations

1. To describe the characteristics and signs of a healthy animal.
2. To explain the procedures of physical examinations.
3. To recognize examples of abnormalities and relate them to the associated problems and illnesses.
4. To explain the regional approach to assess an animal's health.

Lesson 20: Veterinary Medical Practices: Laboratory Procedures

1. To describe tests and explain the importance of proper laboratory procedures.
2. To demonstrate the procedures used in collecting, handling, preparing and examining fecal, blood and urine specimens.
3. To discuss normal and abnormal results obtained in complete blood counts.
4. To explain sensitivity testing and how to read test results.
5. To prepare microscope slides, preserve specimens, and perform common laboratory tests including fecal flotation, microfilaria smear, and packed cell volume.

Lesson 21: Veterinary Medical Practices: Hospital Procedures

1. To explain appropriate hospital procedures and recognize various individual clinic protocols.
2. To discuss emergency protocols and describe first aid for small and large animals; including cardiopulmonary resuscitation, control of bleeding and treatment for shock.
3. To demonstrate animal care skills such as administering medications, nail trimming, bathing, grooming, ear cleaning, expressing anal sacs, dental prophylaxis and enema administration.
4. To demonstrate therapeutic care such as patient observation, maintaining and administering fluids, applying bandages, caring for open wounds and managing hydrotherapy and physical therapy.
5. To describe skills involved in the reproductive and genetic evaluation of animals.

Lesson 22: Veterinary Medical Practices: Surgical Procedures

1. To explain the protocol for pre-surgical and post-surgical care of a patient.
2. To describe methods used in the sterilization and preparation of small and large animal surgery packs.
3. To review skills involved in patient and surgical room preparation.
4. To describe surgical skills for castration, spaying, neutering, dehorning and docking.

Lesson 23: Veterinary Medical Practices: Pharmacology

1. To identify medications according to their classification, form, routes and methods of administration.
2. To explain handling and distribution, protocol, and laws for controlled substances.
3. To calculate dosage using factors such as concentration of drug, weight of animal and required dosage.
4. To complete a prescription label with identifiers required by the U.S. Food and Drug Administration (FDA).