

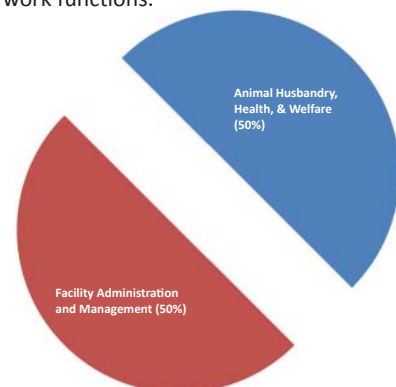
# LATG Exam Content Outline

This outline is intended as both a teaching guide for instructors and a study guide for exam candidates. However, formal classroom study is not sufficient preparation for taking the certification exam. Work experience in an animal facility is also necessary for exam preparation, and in fact is one of the exam eligibility requirements. Ideally, work experience should include rotation through all areas of the animal facility to give the most opportunity for developing skills and knowledge related to a variety of species and work functions.

## Exam Question Topic Domains

The chart at right shows the general topic domains covered on the LATG certification exam, plus the percentage of exam questions covering each domain. In the outline below, percentages in parentheses indicate the percentage of questions included within each of the three domains of the certification exam. Topic examples listed under subdomains are not inclusive.

Reference to species-specific information requires knowledge about the animal species listed by the CRB: amphibians, birds, cats, cattle, dogs, ferrets, fish, gerbils, guinea pigs, hamsters, horses, invertebrates, mice, nonhuman primates, rabbits, rats, reptiles, sheep/goats, swine, and other less commonly used laboratory animal species. Refer to the *LATG Training Manual* for information on these species.



## Animal Husbandry, Health, and Welfare (50%)

### Identification of Animals (3–4%)

- Species recognition
- Strain identification
- Sex differentiation
- Identification techniques and interpretation

### Species Specific (3–4%)

- Anatomy and physiology
- Natural habitats and environment
- Taxonomy (common names, scientific names)
- Behavior

### Breeding (3–4%)

- Housing and environmental requirements
- Behavior specifics
- Basic and advanced techniques
- Control of pathogenic organisms and harmful substances
- Pregnancy recognition (palpation, diagnostic tests, visual signs)
- Gestational, parturition, post-parturition, and neonatal care
- Genetics (terminology and nomenclature)
- Complications

### Nutrition (4–5%)

- Food characteristics
- Food/water handling and quality control
- Animal feeding behaviors and requirements
- Food supplements
- Species-specific nutritional requirements
- Water quality and delivery systems

### Husbandry Practices (6–7%)

- Environmental monitoring and control for macro- and microenvironment (temperature, humidity, ammonia, lighting)
- Caging types and materials
- Species-specific housing and space requirements
- Bedding
- Special housing areas
- Primary enclosure/bedding change frequency
- Ventilated racks and air filters
- Restraint/handling and transportation (techniques, equipment, precautions, food/water requirements)

### Sanitation, Disease Prevention, and Control (6–7%)

- Sanitization agents
- Decontamination methods and procedures (manual and mechanical methods, sterilization techniques)
- Pest/vermin recognition and control
- Personal hygiene
- Aseptic techniques
- Containment and barrier techniques and facilities
- Protective equipment and clothing
- Biosecurity and disease prevention (animal inoculation, parasite control, sentinel program, pet ownership, disease transmission)

### Clinical, Health and Research Procedures (8–9%)

- Medical/veterinary/scientific terminology
- Methods/routes of administration and treatment techniques (medications, euthanizing agents)
- Pharmacology
- Anesthesia and analgesia (induction and maintenance, monitoring requirements and equipment)
- Diagnostic procedures
- Animal health considerations and health monitoring
- Interpretation of animal health data
- Euthanasia techniques (mice, rats, hamsters, gerbils, rabbits, guinea pigs, dogs, cats, nonhuman primates, pigs, sheep, goats, aquatic species)

### Data Calculations / Formulas and Calculations (5–6%)

- Temperature conversion
- Weights and measures
- Dosage and dilution calculations

### Animal Welfare (6–7%)

- Ethical treatment of animals
- Federal/state/local regulations, industry guidelines, institutional policies
- Environmental enrichment needs
- Public awareness
- Acclimation period
- Identification of normal, abnormal, and research-induced behavior

The LATG exam covers material from the ALAT and LAT exam content outlines and reference lists. Certification candidates should study the training manual and references for all three exam levels. AALAS offers resource kits that contain references for the LAT and LATG exam levels.

## Facility Administration and Management (50%)

### Documentation and Management (7–8%)

- Recordkeeping requirements (IACUC, animal health, regulatory, and breeding records; monitoring logs/task sheets)
- Good Laboratory Practices (GLPs)
- Standard operating procedures (SOPs)

### Data Collection, Analysis, and Interpretation (6–7%)

- Data entry procedures
- Recordkeeping requirements
- Data collection and analysis techniques
- Animal census maintenance

### Fiscal Management (6–7%)

- Purchasing procedures (quality assurance of items received)
- Purchasing supplies and animals

### Facility Operations and Management (8–9%)

- Equipment identification and maintenance
- Traffic patterns
- Procedures for reporting abnormal environmental parameters within a facility
- Inventory systems and procedures
- Rotation policies
- Controlled substances handling and storage procedures
- Facility design features (sloping floors, absence of windows)
- Waste disposal (procedures, regulations, and documentation)
- Security (systems, breach prevention strategies, threat/breach reporting and response)

### Occupational Health and Safety (7–8%)

- Personal protective equipment and procedures for operation
- Safety equipment and procedures for operation
- Personnel health surveillance/maintenance
- Handling, storage, and disposal of hazardous waste
- Environmental hazards and warning signs
- Emergency procedures
- Species-specific zoonotic risks and diseases
- Ergonomics
- Emergency contact list
- Safety records

### Employee Management and Training (7–8%)

- Management principles and techniques
- Organizational structure (chain of command, communication)
- Employee training programs (development, implementation, and evaluation; mentoring)

### Interpersonal Relations (5–6%)

- Communication
- Negotiations
- Conflict resolution
- Time management skills and coordination
- Institutional policies (sexual harassment, diversity awareness)

## Sample Exam Questions

You may see questions like these on your certification exam. Note that each question has one correct answer and three distracters. Correct answers are listed in bold.

### 1. Barrier-sustained is defined as:

- a. A colony of animals that has been moved to a conventional animal room.
- b. A colony of naturally born animals that is maintained without special barriers against disease.
- c. A colony of animals that is protected against microbial contamination by physical devices and hygienic procedures.**
- d. A colony of animals that is free of certain specified diseases.

### 2. External and internal parasites that have jointed legs and an external skeleton are:

- a. Nematodes
- b. Cestodes
- c. Ascarids
- d. Arthropods**

### 3. An antiserum containing antibodies is injected into an animal to develop protection from a disease. This is called:

- a. Susceptibility
- b. Active immunity
- c. Passive immunity**
- d. Inflammation

## LATG Reference List

The publications listed below are referenced in the LATG test item data bank, which contains all test questions for the LATG exam. New questions are continually added to this bank, and the reference list is adjusted as needed. Check the AALAS website often for the most up-to-date list. To obtain any of the publications in this list, contact your bookstore, the publisher, or the AALAS office. Resources may be located by the ISBN number listed at the end of each reference. Government publications can be located online. Please note, however, that familiarity with the publications on this list does not guarantee a passing score on the LATG exam. Additional suggested readings are listed in the LATG manual and in the AALAS “Additional Readings for Professional Development” list. These publications should be consulted and used as sources of information and for continued education.

References are not listed in order of importance.

- *LATG Training Manual*. American Association for Laboratory Animal Science. Cordova, TN. 2007.
- *Occupational Health and Safety in the Care and Use of Research Animals*. National Research Council, Institute for Laboratory Animal Resources. National Academy Press, Washington, DC, 1997. ISBN 0-3090-5299-8, <http://www.nap.edu>.