TEST SPECIFICATION – LATG

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.

In the outline below, percentages in parentheses indicate the percentage of questions included within each of the domains of the certification exam. Topic examples listed under subdomains are not inclusive.

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.

I. Animal Husbandry Health and Welfare (50%)

A. Identification of animals (3-4%)

1. Species recognition
2. Strain identification
3. Sex differentiation
4. Identification on techniques and interpretation
5. Strain/breed/stock characteristics

B. Species Specifics (3-4%)

1. Anatomy and physiology
2. Natural habitats/environment
3. Taxonomy (common names, scientific names)
4. Behavior

C. Breeding (3-4%)

1. Housing/environmental requirements
2. Behavior specifics
3. Basic and advanced techniques
4. Control of pathogenic organisms and harmful substances
5. Pregnancy recognition (palpation, diagnostic tests, visual signs)
6. Gestational, parturition, post-parturition, and neonatal care
7. Genetics (terminology and nomenclature, genetic monitoring)
8. Complications
9. Technical reproductive procedures (for example, embryo transfer; cesarean rederivation; cryopreservation; microinjection)

D. Nutrition (4-5%)

1. Food characteristics
2. Food/water handling and quality control
3. Animal feeding behaviors and requirements

4. Food supplements
5. Species-specific nutritional requirements
6. Water quality and delivery systems (reverse osmosis (RO); acidification; equipment maintenance)
7. Research-specific dietary requirements

E. Husbandry Practices (6-7%)

1. Environmental monitoring and control for macro- and microenvironment (temperature, humidity, ammonia, lighting)
2. Caging types and materials
3. Species-specific housing and space requirements
4. Bedding
5. Special housing areas
6. Restraint/handling and transportation (techniques, equipment, precautions, food/water requirements)

F. Sanitation, Disease Prevention and Control (6-7%)

1. Sanitization agents
2. Decontamination methods and procedures (manual and mechanical methods, sterilization techniques)
3. Pest/vermin recognition and control
4. Aseptic techniques
5. Containment and barrier techniques and facilities (ABSL 1-3)
6. Protective equipment and clothing
7. Biosecurity and disease prevention (animal inoculation, parasite control, sentinel program, pet ownership, disease transmission)
8. Isolation and quarantine techniques and facilities

G. Clinical, Health and Research Procedures (8-9%)

1. Medical/veterinary/scientific terminology
2. Methods/routes of administration and treatment techniques
3. Pharmacology
4. Anesthesia and analgesia (induction, maintenance, monitoring requirements and equipment)
5. Diagnostic procedures
6. Animal health considerations and health monitoring
7. Interpretation of animal health data
8. Euthanasia techniques (mice, rats, hamsters, gerbils, rabbits, guinea pigs, dogs, cats, nonhuman primates, pigs, sheep, goats, aquatic species)
9. Species-specific treatments
10. Species-specific pre and post-operative care
11. Research Techniques (test compounds, surgical procedures, imaging, irradiation, toxicology, pharmacokinetics/ADME)
12. Animal model characteristics
13. Behavioral studies

H. Formulas and Calculations (5-6%)

1. Temperature conversion

2. Weights and measures
3. Dosage and dilution calculations

I. Animal Welfare (6-7%)

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

II. Facility Administration and Management (50%)

A. Documentation and Record Maintenance (7-8%)

1. Recordkeeping requirements (IACUC, animal health, regulatory, and breeding records; monitoring logs/task sheets)
2. Good Laboratory Practices (GLPs)
3. Standard operating procedures (SOPs)
4. Recognizing noncompliance

B. Data collection, Analysis and Interpretation (6-7%)

1. Data entry procedures
2. Recordkeeping requirements
3. Data collection and analysis techniques
4. Animal census maintenance

C. Fiscal Management (6-7%)

1. Purchasing procedures (quality assurance of items received)
2. Purchasing supplies and animals
3. Purchasing equipment (including preventive maintenance contracts)
4. Vendor selection/contracting
5. Financial management and planning (for example, accounting; budgeting; cost analysis; cost containment)
6. Cost recovery (for example, billing; per diems)

D. Facilities Operations and Management (8-9%)

1. Equipment identification and maintenance
2. Traffic patterns
3. Procedures for reporting abnormal environmental parameters within a facility
4. Inventory systems and procedures
5. Rotation policies
6. Controlled substances handling and storage procedures
7. Facility construction/renovation and design
8. Waste disposal (procedures, regulations, documentation)
9. Security (systems, breach prevention strategies, threat/breach reporting and response)/Disaster planning
10. Green initiatives for lab animal facilities
11. Information technology systems

E. Occupational Health and Safety (7-8%)

1. Personal protective equipment and procedures for operation
2. Safety equipment and procedures for operation
3. Personnel health surveillance/maintenance
4. Handling, storage, and disposal of hazardous waste
5. Environmental hazards and warning signs
6. Emergency procedures/ Disaster planning
7. Species-specific zoonotic risks and diseases
8. Ergonomics
9. Emergency contact list
10. Safety records
11. Recognizing unsafe conditions/Risk Assessment

F. Employee Management and Training (7-8%)

1. Management principles and techniques
2. Organizational structure (chain of command, communication)
3. Employee training programs (development, implementation, and evaluation; mentoring)
4. Managing a contingent workforce

G. Interpersonal Relations (5-6%)

1. Communication
2. Negotiations
3. Conflict resolution
4. Time management skills and coordination
5. Institutional policies (sexual harassment, diversity awareness)
6. Customer Service Skills