1. BACKGROUND

The Creighton University animal care and use program has been accredited by the Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC) since 2005. This process provides continuing voluntary peer review of Creighton University’s program by internationally recognized experts. The institution is registered as a research facility by the United States Department of Agriculture (USDA) under the Animal Welfare Act. The care and use of animals used for research at Creighton University is based on national guidelines and Federal Regulations, including:

- The Guide for the Care and Use of Laboratory Animals (The Guide) (see the Creighton University IACUC Policies and Procedures for care of animals housed outside the Creighton University Animal Resource Facility);

- The USDA implementing regulations (9 CFR) of the Animal Welfare Act; and

- Creighton University’s Animal Welfare Assurance negotiated with the Office of Laboratory Animal Welfare (OLAW).

Creighton University is committed to providing its research community with a safe, clean, humane, and efficient Animal Resource Facility (ARF). The Creighton University ARF Standard Operating Procedures (SOPs) are intended to provide guidance to ARF Personnel, Principal Investigators, and Research Personnel at Creighton University regarding the following:

- Animal health and care
- Veterinary medical care
- ARF maintenance
- Occupational health and safety of ARF Personnel

These SOPs are designed to promote and sustain a safe and high-quality ARF that supports the University’s research mission and ensures the humane care and use of laboratory animals in accordance with Federal requirements and the standards of Creighton University’s Institutional Animal Care and Use Committee (IACUC). While the SOPs focus primarily on the care of animals housed in the ARF, they also serve as a resource in addition to The Guide. All Principal Investigators approved for animal research at Creighton University have access to an electronic copy of The Guide.
These SOPs ensure the growth and success of a comprehensive animal care program at Creighton University. All personnel involved in animal research or animal care at Creighton University are expected to become familiar with and follow the procedures set forth in these SOPs. Failure to follow these SOPs may result in unsafe or unhealthy conditions for animals and/or personnel, as well as the violation of Federal and Creighton University policy. In addition, adverse affects on research protocols may result. If necessary, appropriate corrective action will be taken to address any noncompliance (see Policy R&C-ARF-6.0). Creighton University reserves the right to amend, modify, or update these ARF SOPs (see http://www.creighton.edu/researchcompliance/iacuc/about/index.php).

2. EDUCATION PROGRAM

2.1. Training and Certification for ARF Personnel – ARF Personnel are trained and/or certified to meet training mandates of federal agencies according to one or more of the following:

2.1.1. Purina Mills, Inc. (PMI) Exam – All new ARF Personnel must complete the self-study PMI Laboratory Animal Care Course and meet passing criteria within the first 90 days of employment (the probationary period).

2.1.2. American Association for Laboratory Animal Science (AALAS) Certifications – ARF Personnel are encouraged to further their knowledge by seeking certification through AALAS. The three levels of certification are Assistant Laboratory Animal Technician (ALAT), Laboratory Animal Technician (LAT), and Laboratory Animal Technologist (LATg). The ARF will pay for one test per year per technician. Furthermore, an incentive program is in effect to recognize and reward the ARF Personnel for obtaining AALAS certification. The ARF subscribes to the AALAS Learning Library (ALL). This resource provides training that emphasizes the appropriate handling, care, and use of animals and is designed to assist in studying for AALAS certification. ALL subscriptions include access to the Animal Care and Use Library and The Contemporary Topics Continuing Education Unit Test Library. The Animal Care and Use Library offers courses on certification, regulatory mandates, bioethics, biomethodologies, biosafety, and management. The Contemporary Topics Continuing Education Unit Test Library offers the opportunity to earn continuing education units by taking the self-administered test based on the scientific articles in Contemporary Topics online. Following completion of a unit, a transcript is provided for documentation. In addition, AALAS training material is available from the ARF.
2.1.3. **Species-Specific Training** – ARF Personnel must be trained in handling the specific species housed in the ARF. The ARF Manager trains new personnel to ensure they are able to handle the species housed in the ARF. All ARF Personnel must complete CITI training. Species-specific educational videos are available from the ARF to train personnel as needed. If a species is brought to the ARF that the ARF Manager or Attending Veterinarian is not trained to work with, the ARF Manager will obtain training videos and/or arrange for personnel to receive training from someone experienced in handling the species.

2.1.4. **Microisolator Technique Training** – All ARF Personnel must be trained in proper microisolator technique prior to changing cages in rooms where mice and hamsters are housed. The ARF utilizes both Thoren caging and static housing.

2.1.5. **Animal Occupational Health and Safety** – All ARF Personnel must participate in the Animal Occupational Health and Safety Program through Creighton University in order to address specific concerns related to working with animals. All individuals working with animals must complete the Animal Exposure Risk Assessment and submit it to the Animal Occupational Health and Safety nurse for review on an annual basis.

2.1.6. **Laboratory Safety Training** – All ARF Personnel must complete the initial Laboratory Safety Training. Training must be updated annually.

2.1.7. **Tuition Remission** – In addition to the above training and certification, full-time employees are eligible to receive tuition remission for up to two Creighton University classes per semester, to be scheduled outside of regular working hours. If an ARF employee requests to take classes during work hours, it requires the consent of the ARF Manager and ARF Director.

2.2. **Education Programs for Investigators and Research Personnel** – Creighton University requires that all Principal Investigators using animals in research or teaching complete IACUC certification. The CITI Program is used in addition to Creighton-specific training to assist Principal Investigators/Research Personnel in meeting federal regulations and Creighton University's education requirements. The program is designed to:

- Assist Principal Investigators/Research Personnel in understanding the special requirements associated with the use of animals in research and teaching;
- Clarify the responsibilities of those involved in animal research/teaching and the
### Policies and Procedures

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IACUC;

- Provide education on the protection of animals as mandated by the federal regulations, including the Animal Welfare Act [7 USC 2131-2156] and the Federal Animal Welfare Regulations [Title 9, Volume 1, Parts 1 to 1999]; and

- Provide education on the Creighton University IACUC Policies and Procedures, ARF SOPs, and Animal Occupational Health and Safety Program.

In addition and in accordance with PHS Policy and USDA regulations, training addresses the following areas:

- Humane methods of animal maintenance and experimentation, including the basic needs of each species of animal, proper handling and care for the various species used at Creighton University, proper pre-procedural and post-procedural care of animals and aseptic surgical methods and procedures.

- The concept, availability, and use of research or testing methods that limit the use of animals or minimize animal distress.

- Proper use of anesthetics, analgesics, and tranquilizers for any species of animals used at Creighton University.

- Methods whereby deficiencies in animal care and treatment are reported, including deficiencies in animal care and treatment reported by any employee of Creighton University. No facility employee, Committee member, or laboratory personnel shall be discriminated against or be subject of any reprisal for reporting violations of any regulation or standards un the Act; and

- Utilization of services (e.g., National Agricultural Library, National Library of Medicine) available to provide information:
  
  On Appropriate methods of animal care and uses;

  On alternatives to the use of live animals in research;

  That could prevent unintended and unnecessary duplication of research involving animals;

  Regarding the intent and requirement of the Act.
All Principal Investigators/Research Personnel who use animals in research or teaching are required to complete IACUC certification. This training is coordinated by the Research and Compliance Education Office. IACUC Certification is detailed in Policy R&C-IACUC-2.0. (see http://www.creighton.edu/researchcompliance/iacuc/education/index.php)

In addition to IACUC Certification, formal recertification training is required every three years. Creighton University Principal Investigators/Research Personnel are notified when they must be recertified.

2.2.1. **User Orientation Program** – The ARF User Orientation Program is designed for new Principal Investigators and Research Personnel and is coordinated by the Research and Compliance Office and the ARF Manager. Training will cover ARF SOPs and will include:

- Security
- Facility access
- Gowning requirements
- Record-keeping requirements
- Animal ordering
- Clean/dirty caging procedures
- Euthanasia and carcass disposal
- Rodents at home
- Microisolator technique training (for individuals using species housed in ventilated racks)

2.2.2. **Media-based Training for ARF Personnel, Principal Investigators and Research Personnel** – The ARF has a comprehensive library of training media, in videotape and DVD format, available for checkout to all personnel who desire or require additional regulatory, biomethodology, or technique training. These
include the following titles and modules from the Laboratory Animal Training Association (LATA):

2.2.2.1. **Base Module** – Topics include laws, regulations, ethics, alternatives, IACUC and ARF Personnel responsibilities, and information sources. All ARF Personnel, regardless of species handled, will be required to complete this module. Titles include:

- The Humane Care and Use of Laboratory Animals

2.2.2.2. **Species Module** – Topics include housing, social needs, nutrition, health considerations, handling, restraint, experimental techniques, environmental practices, and euthanasia. This module will be required as needed depending on the level of existing training and species of animal to be handled. Titles include:

- The Humane Care and Use of the Mouse, Rat, and Hamster
- The Humane Care and Use of the Guinea Pig and Rabbit
- The Humane Care and Use of the Dog and Cat
- The Humane Care and Use of the Nonhuman Primate
- The Humane Care and Use of Fish
- The Humane Care and Use of Swine

2.2.2.3. **Techniques Module** – These modules demonstrate current acceptable practices and techniques and are utilized as needed for specific technique training. Titles include:

- Aseptic Surgery of Rodents
- Anesthesia and Analgesia of Rodents
- Necropsy of Rodents
- Sanitation – Practices and Procedures
• Microisolator System in the Conventional Colony

2.2.2.4. **Supplementary Training Resources** – These titles are also available for referencing and include:

- Training in Basic Biomethodology for Laboratory Mice
- NIH Training in Survival Rodent Surgery
- Anesthesia of Rats
- Humane Principles and Procedures in Animal Research
- The Humane Care and Use of Laboratory Animals
- Alternatives in Animal Research
- The Challenges of Animals in Research
- Resources Today for the Research of Tomorrow
- Practical Methodology: Humane Handling and Laboratory Techniques for the Mouse
- Practical Methodology: Humane Handling and Laboratory Techniques for the Rat
- Practical Methodology: Humane Handling and Laboratory Techniques for the Hamster
- Practical Methodology: Humane Handling and Laboratory Techniques for the Guinea Pig
- Practical Methodology: Humane Handling and Laboratory Techniques for the Rabbit
- Restraint and Handling of the Dog
- Working with the Laboratory Dog