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California State University, Sacramento accepts the principles governing the use of live animals expressed in the regulations of the U.S. Department of Health and Human Services, U.S. Public Health Service, Office of Laboratory Animal Welfare (OLAW) and the U.S. Department of Agriculture, Animal and Plant Health Inspection Service (APHIS), as well as all California regulations and statutes governing the use of live animals in research and/or instruction.

The University’s Institutional Animal Care and Use Committee (IACUC), acting under the direction of the Provost and Vice President for Academic Affairs, reviews and approves applications for the use of live animals in research and instruction. The IACUC adopts appropriate standards for the care and use of live animals, regularly inspects the animal facilities, assists the animal user in establishing appropriate protocols and coordinates compliance with applicable federal, state and CSU system regulations.

This Manual for Facilities and Care of Animals Used in Research and Instruction, revised 12/2010, outlines California State University, Sacramento's procedures for implementing university policy.

The purpose of this Manual is to assist investigators, technical support staff and students in establishing and maintaining professionally appropriate care and treatment of animals used at Sacramento State to support instruction and research. Successful scientific results correlate with the controlled oversight of the environment and atmosphere provided for the animals utilized in research and instruction.

Nothing in this Manual is intended to limit the investigator's freedom and obligation to plan and conduct animal utilization within accepted scientific practice. This same scientific discipline will encourage investigation of new and better methods of humane animal care.

I. Principles and Guidelines Concerning Animal Care and Use

A. Institutional Animal Care and Use Committee (IACUC)
The IACUC is to set principles and guidelines for the use and care of animals used in research and instruction and monitor compliance with such policies. These principles and guidelines are in concordance with the recommendations of the Institute for Laboratory Animal Resources, the "Guide for the Care and Use of Laboratory Animals," National Research Council, and the "Institutional Administrator's Manual for Laboratory Animal Care and Use," Public Health Service, National Institutes of Health.

The IACUC acts under the direction of the Provost and Vice President for Academic Affairs. Its charge is to review and approve all applications for the use of live animals in research or instruction. The IACUC is to adopt appropriate standards for the care and use of live animals, regularly inspect animal facilities, assist the animal user in establishing appropriate protocols and coordinate compliance with applicable federal, state, and CSU system regulations.

The IACUC includes:
- four faculty members; one selected by the Department of Biological Sciences, one selected by the Department of Psychology; and two appointed by the provost, one to be from a department utilizing animals in teaching and/or research and one from a department in which animals are not used in teaching and/or research;
- a graduate student from an animal-using department recommended by the committee and appointed by the Provost;
- a representative from Environmental Health and Safety;
- a community member not affiliated with the University appointed by the Provost;
- Ex-officio members include the Vice President for Academic Affairs or designee(s), Dean of Natural Sciences and Mathematics or designee, Dean of Social Sciences and Interdisciplinary Studies or designee, and the campus consulting veterinarian.

All appointments are to be for a period of three years and may be renewed at the discretion of the Provost.

The IACUC meets twice each academic year on the first Monday in December and the first Monday in May. Members formally review, approve and sign each protocol for a twelve month period and may re-approve for a second and third twelve month period. Protocols are available for inspection at each meeting. Notice of IACUC decisions is to be forwarded to the appropriate department chair with a copy to the appropriate Dean.

Facilities are to be inspected at least once every six months; a report on this inspection is to be prepared and signed by members of the IACUC. The report is then forwarded to the Provost and Vice-President for Academic Affairs.
The primary responsibility for compliance with IACUC decisions rests with the appropriate department chair. The Office of Research Administration supports the Committee's activities and is the custodian of its files.

B. Principal Investigator

The Principal Investigator (PI) can be any full-time permanent Sacramento State employee. Students may not be a PI. For student research, the student’s faculty advisor should be listed as the Study Director and the student should be listed under “others involved in procedural activities using live animals.”

Each investigator in charge of a research or instructional activity involving live animals is to submit a current c.v., a fully completed protocol, and appropriate literature to validate the protocol to the IACUC.

Protocols are subject to a semi-annual review process as well as an annual re-approval process. No research or instruction involving live vertebrate animals may be initiated until such protocols are reviewed and approved.

It is the investigator’s responsibility to prepare the protocols, submit them via the department chair, and comply with the requirements of the IACUC. It is also the investigator’s responsibility to annually review and submit to the committee the status of the protocol, including any changes in procedures or personnel.

A completely new protocol must be submitted every third year.

PIs are expected to be familiar with Sacramento State policy and requirements stated in this Manual as well as information in the National Research Council’s "Guide for the Care and Use of Laboratory Animals.” Copies of the Guide are available in departmental and laboratory offices.

The housing, care and feeding of all animals shall be properly supervised by the PI.

Experiments and procedures performed on live animals shall be performed by, or under the direct immediate supervision of, the PI.

The IACUC shall be informed of the use of any live animal(s) on campus.

C. Exemptions

Exemptions from IACUC approval include the use of dead animals or parts of dead animals and non-invasive observation of wild animals in their natural habitat.
Field studies that involve, killing, trapping, banding, darting or implantation of telemetry devices are not exempt and may require federal, state, or other licenses or permits. These must be obtained and submitted to the IACUC prior to review and approval of a protocol.

D. Procurement

All animals used for research and instruction shall be lawfully acquired or bred within the animal facility. Standards for their care shall be in compliance with federal, state and local laws and regulations, and university policies. Animals may not be acquired or brought to Sacramento State that contain radioactive or pathogenic materials. Animals may not be procured for or by investigators without an approved protocol.

Animals bred or obtained for use for one IACUC approved protocol may not be provided or transferred to other campus users unless the PI confirms that they have an IACUC approved protocol that allows for such transfers.

E. Security

Persons not connected with the university shall not have access to rooms in which animals are housed or used without proper authorization from the PI. Special locks are to be provided for each room and a sign-in procedure is to be developed for each facility.

F. Emergencies

1. Provisions shall be made for 24 hr, 7 day per week emergency response.

2. Emergency response procedures will be readily available in the animal quarters for events such as power failures or HVAC failure.

3. Written procedures will be readily available in the animal colony and will describe responses to employee injuries, bites, spread of pathogens, and hazardous or biohazardous materials spills.

4. Signage will include the name and contact information for the PI as well as an alternate and appropriate hazard warnings.

G. Pain and Euthanasia

In any procedure that is likely to cause pain, the animal is to be rendered incapable of perceiving pain and be maintained in that condition until the operation or experiment has ended. Any procedure for which the anesthetization would defeat the purpose of the experiment shall be specifically justified and
approved by the IACUC. Approved experimental procedures shall be supervised by the PI or the campus veterinarian in accordance with procedures governing conduct of the influence of paralytic agents.

1. In general, during acute studies which do not require survival, the animal shall be euthanized in a humane manner at the conclusion of the experiment by a procedure that ensures immediate, painless death, and is in accordance with the latest edition of the "Report of the AVMA Panel on Euthanasia." The animal is not to be disposed of until death is certain.

2. If the study requires survival of the animal, acceptable techniques as described in the animal use protocol and approved by the Institutional Animal Care and Use Committee shall be adhered to. Postoperative care shall insure that minimal discomfort during convalescence is in accordance with acceptable veterinary practices.

H. Paralysis

All experiments involving motor paralysis, leaving sensory pathways intact, shall be approved individually by the IACUC. Motor paralyzing agents such as curare shall be administered under general anesthesia. None of these agents shall be administered until the entire surgical preparation is completed.

1. In stimulating peripheral nerves, or the central nervous system in paralyzed preparations, no pulses of significant coulombs to activate a sensation of pain shall be used on animals that are not properly anesthetized.

2. At the conclusion of such experimentation, animals shall not be euthanized by merely withdrawing artificial respiration. All animals shall be euthanized by the administration of an intravenous barbiturate or by a similar method which produces immediate, painless death. Auscultation of the heart or other appropriate tests shall be taken of the animal to ensure cessation of life.

II. Human Pathogens and Biohazardous Materials, Radioactive Materials, Carcinogens

A. Human Pathogens and Biohazardous Materials

No animal is to be infected with pathogenic organisms without consent of the IACUC and the campus veterinarian. A record of such infected animals shall be kept by the investigator. Bio-Safety level assessment must be obtained from Environmental Health and Safety (EHS) before approval by the IACUC. Infected animals must be kept in separate rooms with appropriate signage and security.
Disposal of wastes, bedding and carcasses must be done in accordance with current EHS directives.

B. Radioactive Materials

Animals may not ingest or be injected with, or exposed to radioactive materials without an approved Radiation Use Authorization from the Radiation Safety Committee. Such documentation must be obtained before approval can be granted by the IACUC. Animals must be kept in radiation controlled areas with appropriate security and signage. All cages must be labeled with radioactive isotope, date, quantity and the PI’s name. Animals that contain radioactive materials shall not be purchased or brought to campus without the approval of the Radiation Safety Officer. Animals contaminated with radioactivity shall not be disposed of or transported in any fashion not approved by the Radiation Safety Officer.

C. Carcinogens

The use of carcinogens in animal colonies must be assessed by EHS before the Committee can grant approval.

III. Animal Housing, Care and Handling

Animals are to be housed only in facilities inspected and approved by the IACUC. The animals will have a clean and dry environment as consistent with species requirements, adequate ventilation must be provided as well as easy access to food and water. All animals will have every consideration for their comfort and health, be properly fed, treated humanely and kept in a sanitary environment. Space provided will be consistent with the "Guide for the Care and Use of Laboratory Animals."

Animal carcasses and bedding materials shall be disposed of in a manner consistent with federal, state and local laws, and Environmental Health and Safety (EHS) policies. Disposal of pathogenic wastes shall be conducted according to current EHS directives.

IV. Personnel

A. The PI is responsible for suitable animal husbandry support, training of personnel, and supervision of suitably qualified employees.

B. Maintenance of high standards of personal cleanliness among animal colony personnel is obligatory.
C. Employee Safety and Medical Monitoring

1. All employees having increased at-risk contact with animals may be required to participate in the Sacramento State medical monitoring program. PIs are responsible for providing adequate supervision and training to ensure adequate conformance with environmental and occupational health and safety practices, environmental practices, and animal care regulations.

2. Increased risk includes potential exposure to an occupational illness, zoonotic diseases, physical injury by the animal, or animal allergy. This "risk" and participation in medical monitoring requires an objective evaluation of the nature of exposure and types of animals. Principal investigators should contact EHS for this assessment.

3. Appropriate medical monitoring may include a pre-employment physical examination. Immunizations appropriate to the specific animal care program shall be provided at no cost to the employee. It may be necessary to immunize personnel against tetanus or rabies.

4. PIs are responsible for providing safety training relevant to their research activities, such as zoonoses, personal hygiene, laboratory safety, animal bites and allergies, and methods to recognize symptoms and prevent injuries or illness.

5. Emergency response and notification information shall be posted in each animal facility.

V. Facilities

A. Temperature and Humidity

1. In general, temperature should be maintained between 65 and 80 degrees F.

2. Humidity should be between 30% and 70%.

B. Ventilation

1. Ventilation requirements can vary depending on the species, housing, and other factors. In general primary animal quarters should have at least 10-15 fresh air exchanges per hour. This should be 100% fresh air with direct exhaust to outside air. Ventilation systems with returned and recalculated air systems for animal quarters should be eliminated and
converted to direct fresh air intake and exhaust whenever possible. Animal quarters should have isolated and dedicated exhaust air systems.

2. In some cases recycling ventilated air from animal rooms can create risk. Many animal pathogens can be airborne, so exhausting air to be recycled into heating, ventilation and air conditioning systems that serve multiple rooms presents a risk of cross-contamination. If dedicated air intake and exhaust isn't possible, then return air should be HEPA filtered before recirculation into the building.

3. Frequent bedding changes and cage cleaning, along with low animal density, lower temperature and humidity, can reduce the concentration of toxic or odor-causing gases in animal room air.

4. Protocols that include the use of hazardous chemicals or biohazardous materials may require an assessment of the colony room by EHS.

C. Vector and Pest Control

Insect or rodent infestations can drastically affect the health of the colony. Facilities Management should be immediately contacted for abatement.

VI. Alternatives to the Instructional Use of Animals

1. The members of the IACUC and the Sacramento State educational community recognize that in many cases the use of animals, live or deceased, provides an instructional benefit beyond what can be provided through other instructional approaches.

2. It is also recognized that some students may have ethical, religious, health-related, or other objections to the use of animals, live or deceased, for instructional purposes. In these cases, instructors are encouraged to provide non-animal substitutes or assignment modifications when these accommodations can be made without unduly compromising instructional goals. The ultimate determination as to what constitutes a reasonable accommodation lies with the instructor of the course.

3. Instructors of courses that involve the use of animals are asked to specify their policy regarding accommodations for students who request alternatives to the instructional use of animals. A written description of these policies will be maintained by the IACUC representative of the department involved.