

OFFICE USE ONLY	
IACUC Approval #:	_____
Approval Date:	_____
Expiration Date:	_____

Eastern Connecticut State University

REQUEST FOR USE OF VERTEBRATE ANIMALS IN TEACHING OR RESEARCH

1) Principal Investigator (P.I.)

Name: _____ Co-PI/Student: _____
Department: _____ Dept: _____
Office Phone: _____ Office Phone: _____
Cell/Home: _____ Cell/Home: _____
Email: _____ Email: _____
Emergency Contact: _____ Phone: _____

2) Project Purpose *(Check all that apply.)*

The protocols described will be used in:

- Undergraduate student research project
 Faculty research project
 Teaching; Enter course number(s): _____
 Other; Explain: _____

3) Project Title and Funding *(If grant funded, use title of grant.)*

Title of Protocol: _____

What is the funding source (current or anticipated)? Internal (ECSU / CSCU) External

If external, list the funding source(s):

Unfunded

4) Project Dates *(Protocols may be approved for a maximum of three years.)*

Anticipated start date (mm/dd/yyyy): _____ End date: _____

5) Animal Use Classification

Indicate the level of pain and distress involved in the protocols ([Appendix A](#)). Category E requires *significant* scientific justification that must be submitted to the USDA annually.

Category B Category C Category D Category E

6) Project Overview

A. Briefly describe the goals and overall potential benefit(s) of the research.

B. Summarize all experimental procedures and manipulations of animals including experimental endpoints and the fate of test subjects upon completion. Be concise but clear and use language appropriate for an educated layperson without scientific background.

7) Animal Subjects and Justification

A. What is the rationale for using live vertebrate animals in this project? Check all that apply.

- The complexity of the processes being studied cannot be replicated, duplicated, or modeled in simpler living systems, such as plants, insects, or other invertebrates.
- There is not enough information about the process being studied to design in-vitro or non-living models.
- Existing in-vitro or non-living processes cannot produce the required results (e.g. cell culture for antibody production, computer modeling of protein synthesis, etc.).
- Preclinical studies in living vertebrate animals are necessary prior to human testing.
- This is a behavioral, learning, or development study: a whole living system is required.
- This is an ecological or field study.
- The animals are needed for teaching/demonstration purposes.
- Other – Please describe:

B. Animals Needed (If more than 3 species, attach additional pages.)

Leave number blank if this is a field study or exercise in which the number of animals will be the maximum number captured.

<u>Species/strain</u>	<u>Sex</u>	<u>Age</u>	<u>Number Needed</u>	
			<u>Annual</u>	<u>Total</u>
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____

C. For each species/strain listed above, choose the rationale(s) for its use.

	<u>Species/strain</u>		
	<u>1</u>	<u>2</u>	<u>3</u>
This is a new animal model with untested properties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A large database exists for this species/strain that will allow comparisons to previous data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The anatomy, genetics, physiology, phenotype, or behavior of the species is uniquely suited to the proposed study.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This is the phylogenically least complex model that will provide adequate tissue, size, or anatomy for the proposed study.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The results will be directly applicable to the health or care of this species.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D. Choose the method(s) used to determine the number of live animals required for this study.

- This is a field study in which the nature of the research requires as many animals as can be located.
- Numbers were mandated by a government or funding agency (e.g. FDA, NIH, EPA).
Agencies: _____
- Numbers were based on results of a pilot study.
- Numbers were based on previous research.
Citations: _____
- Numbers were calculated using a statistical formula.
Name of formula: _____
- Numbers were calculated via consultation with a statistician.
Name and date: _____
- Numbers are based on expected student enrollment: reflects animal/student ratio required for effective teaching.
- This is a breeding or holding protocol, and numbers represent the estimates of offspring that will be produced and/or animals that will otherwise need to be held.
- This is a pilot project that will be used to refine future experiments.
- None of the above methods could be used to determine numbers, and the numbers requested represent the best estimates in the PI's professional judgment.

E. Specify the number of experimental groups, number of animals per group/treatment, variables being manipulated among groups, and number of replicates.

8) Animal Use: Husbandry, Handling, and Care

The IACUC requires specific training courses to be completed by researchers prior to consideration of a protocol ([Appendix B](#)). List the name of each person involved in an animal component of this study, indicate their duties, and give their qualifications for work with the study species (e.g. years of experience). Indicate which training courses they have completed in the table. If more than three persons, append additional pages to the file.

Personnel Names	Duties			
	Husbandry	Manipulation / Observation	Field Handling	Euthanasia
(1) _____ Qualifications:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) _____ Qualifications:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(3) _____ Qualifications:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Indicate which training courses each individual has completed and provide the completion date.

Required Training Courses	Person 1	Date	Person 2	Date	Person 3	Date
(1) Working with the IACUC	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____
(2) Post-Approval Monitoring	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____
Specialized Training Courses						
(1) Post-procedure Care of Mice and Rats in Research: Reducing Pain and Distress	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____
(2) Working with Mice in Research Settings	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____
(3) Working with Rats in Research Settings	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____
(4) Wildlife Research	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____
(5) Working with Amphibians in Research Settings	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____
(6) Working with Reptiles in Research Settings	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____
(7) Working with Fish in Research Settings	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____
(8) Other: _____	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____
(9) ECSU Bloodborne Pathogen Training	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____	<input type="checkbox"/>	_____

9) Animal Use: Experimental Procedures

- | | | |
|--|---------------------------------|--------------------------------|
| A. Is this a field study? | Yes
<input type="checkbox"/> | No
<input type="checkbox"/> |
| <i>To qualify as a field study, animals should not be held in excess of 12 hours and should not be transported away from natural habitats.</i> | | |
| If yes, complete section A: Field Studies . | | |
| B. Will animals be housed in an ECSU facility longer than 12 hours? | Yes
<input type="checkbox"/> | No
<input type="checkbox"/> |
| If yes, complete section B: Husbandry and Care . | | |
| C. Will toxic, antigenic, pharmacological, infectious, carcinogenic, or other types of substances or cells be administered to live animals <u>for purposes beyond humane euthanasia</u> ? *Radioactive substances may NOT be used at ECSU. | Yes
<input type="checkbox"/> | No
<input type="checkbox"/> |
| If yes, complete section C: Test Substances, Cells, and Hazardous Agents . | | |
| D. Are invasive procedures used to harvest tissues / fluids from <u>living</u> animals? | Yes
<input type="checkbox"/> | No
<input type="checkbox"/> |
| If yes, complete section D: Specimen Collection . | | |
| E. Will surgical procedures be performed on <u>living</u> animals as part of the experimental protocol? | Yes
<input type="checkbox"/> | No
<input type="checkbox"/> |
| If yes, complete section E: Surgery . | | |
| F. Will animals be subjected to any procedures beyond euthanasia not listed in sections C-E that could cause stress, pain, or discomfort (e.g. prolonged restraint, food or water deprivation, noxious stimuli, environmental stress)? | Yes
<input type="checkbox"/> | No
<input type="checkbox"/> |
| If yes, complete section F: Stressful Procedures . | | |
| G. Will animals be euthanized as any part of the experimental procedures or upon completion of the study? | Yes
<input type="checkbox"/> | No
<input type="checkbox"/> |
| If yes, complete section G: Euthanasia . | | |
| H. Do the outlined procedures fall into USDA pain and distress categories D-E? | Yes
<input type="checkbox"/> | No
<input type="checkbox"/> |
| If yes, complete section H: Special Considerations for Pain . | | |
| I. Will any live animal work for this project be performed at a facility or institution other than ECSU (excluding vendors)? | Yes
<input type="checkbox"/> | No
<input type="checkbox"/> |
| If yes, complete section I: Collaboration . | | |

Complete section numbers 1-9 and all sections indicated by your answers to questions 9A – 9I. A bibliography of references supporting methodologies/protocols, project importance, and personnel qualifications should be appended to the document. Submit an electronic copy to iacuc@easternct.edu.

Section A: Field Studies

Is this a manipulative field study (i.e. one in which animals, habitats, food, etc. will be altered in any way)? Yes No

If yes:

- Ensure that a timeline and all methodologies are detailed in question 6.
- Apply for all required state and federal permits. No work can begin without permit approval. Approved permits should be made available to the IACUC upon request.

State Permit Type: _____

If already approved, permit number: _____

Federal Permit Required? Yes No Type: _____

If already approved, permit number: _____

- Describe all precautions taken to protect personnel and animal subjects from disease transmission or injury (i.e. vaccinations, protective clothing, handling protocols, equipment sterilization, etc.).

Describe the planned location(s) for the field study. For non-ECSU property, has permission been requested and/or granted? Provide names, dates, and other details.

Section B: Husbandry and Care

Where will animals be housed? Building: _____ Room: _____

Briefly describe the conditions under which animal subjects will be kept. You should include information about the protocols for and frequency of feeding/watering, cage cleaning, and health monitoring as well as tank/cage sizes and whether subjects will be housed individually or together.

Describe any enrichment that animals will experience (e.g. exercise wheels, social groupings, vegetation, etc.). If no enrichment will used, justify its exclusion.

Section C: Test Substances, Cells, and Hazardous Agents

List the test substances, amounts administered, routes of administration, dose (mg/kg), frequency of administration, and expected effects in the animals.

Are any of the test substances classified as hazardous materials (e.g. radioactive, biohazardous, carcinogenic, toxic, etc.)? Yes No

If yes, list those substances:

Are any of the substances of human or animal origin? Yes No

If yes, describe their origin and any testing done to assure these substances are free of human or animal pathogens (e.g. PCR/MAP testing):

Will drugs classified as controlled substances by the Federal or State DEA be used? Yes No

If yes, what controlled substances will be used and how will unauthorized access to these substances be prevented?

Are any substances expected to cause the animals pain, discomfort, or distress? Yes No

If yes, describe to what degree it is expected and what measures will be taken to alleviate or minimize these adverse effects.

Section E: Surgery

Describe the surgical procedures to be performed on live animals including pre-operative procedures, medication, analgesics, tranquilizers, and anesthetics.

Are paralytic agents used in conjunction with surgical manipulation? Yes No

If yes, how will the absence of pain be assessed?

Describe monitoring and supportive care provided during surgery.

Describe the qualifications of the surgical team being specific to the surgery in this protocol.

Are animal subjects expected to regain consciousness following surgery? Yes No

If yes, answer the following. Provide an explanation or justification when required.

Will surgery be performed in a room or area intended for aseptic surgery? Yes No

If yes, explain:

IACUC Protocol Request

If yes, will aseptic technique be followed throughout the operation? Yes No

If yes, explain:

Will more than one survival procedure be performed on the same animal? Yes No

If yes, justify:

What post-operative care will be provided (include drugs and dosages)? What criteria will be used to assess the need for analgesics?

Who will be responsible for providing post-operative care and detecting and managing post-operative complications during the normal workday, weekends, holidays, and after normal working hours?

Section F: Stressful Procedures

Describe the procedures that are likely to cause stress and the procedures and methods that will be employed to monitor animals and minimize discomfort.

Section G: Euthanasia

What procedure will be employed to euthanize the subjects? If chemicals are used, include dosage and route of administration.

Who will perform the euthanasia and what is her/his experience with the procedure?

Does this method of euthanasia meet current recommendations of the most recent AVMA Guidelines for the Euthanasia of Animals? If no, provide a justification. Yes No

Justification:

Section H: Special Considerations for Pain

For pain and distress categories D and E, have alternatives such as less sentient animal models or *in vitro* methods been considered?

According to USDA, APHIS, Animal Care Policy #12, “a comprehensive search is an effective and efficient method for demonstrating compliance with the requirement to consider alternatives to painful/distressful procedures.” This site provides information on the performance of a database search:

<https://www.nal.usda.gov/awic/alternatives-literature-searching>

Summarize the results of your database search below.

Are procedures employed that are likely to cause more than momentary or slight anxiety, pain, fear, or distress to the animals? Yes No

Has the IACUC veterinarian been consulted in planning the procedure as stipulated by the Animal Welfare Act? Yes No

If no, justify:

Are procedures employed that intended to study pain? Yes No

If yes, describe and justify:

Section I: Collaboration

List the facilities/locations where animals will be held along with numbers and duration of housing.

Have the collaborating facilities obtained the necessary permits and approvals? Please list the permits required and include approval and permit numbers. If permits have not been obtained yet, please provide a justification or explanation.

10) Signatures

A. Certification by Principle Investigator or Faculty Sponsor

I affirm that to the best of my knowledge, information provided in this request for use of vertebrate animals is complete and accurate, and that no significant changes will be made without advance approval of the IACUC. I further certify that these studies do not unnecessarily duplicate previous experiments.

As principal investigator or faculty sponsor of this project, I understand and accept that I have primary responsibility for all facets of this research, including assurance that all animals used in this project will be handled in a manner that is humane and in accordance with standards set forth in the Animal Welfare Act, the Guide for Care and Use of Laboratory Animals, Public Health Service Policy, and all other laws, policies, and accreditation standards that pertain to humane care and use of laboratory animals.

PI or Faculty Sponsor: _____ Date: _____

Student Investigator: _____ Date: _____

B. Certification by Department Chair

**The department chair must approve this application by signing if animal research will use departmental or non-peer-reviewed funding.*

As chair, by signing I assure corporate approval of the animal studies contained herein and acknowledges that the proposed use of animal facility resources complies with the overall mission and objectives of his/her department.

Department Chair: _____ Date: _____

C. Approval Signature

The IACUC has reviewed the protocols in accordance with applicable laws and guidelines and find the procedures appropriate and acceptable. Comments and dissenting views may be noted below the approval signature.

IACUC Chairperson: _____ Date: _____
(or surrogate)

Appendix A: USDA Pain and Distress Categories

USDA Policy 11 (<https://awic.nal.usda.gov/sites/awic.nal.usda.gov/files/uploads/Policy11.pdf>):

Policy: A painful procedure is defined as “any procedure that would reasonably be expected to cause more than slight or momentary pain or distress in a human being to which that procedure is applied, that is, pain in excess of that caused by injections or other minor procedures.” The Institutional Animal Care and Use Committee (IACUC) is responsible for ensuring that investigators have avoided or minimized discomfort, distress and pain to the animals; appropriately considered alternatives to any procedures that may cause more than slight or momentary pain or distress; and consulted with the attending veterinarian in the planning of the procedures.

If multiple procedures are to be performed on the same animal(s), use the category representing the highest level of pain or discomfort.

Category B: Animals being held, bred, or conditioned, but that are not involved in research or teaching procedures.

Category C: Animals subjected to procedures that involve minimal, transient, or no pain or distress.

Examples:

- Routine injections of non-toxins or blood sampling.
- Observational animal behavior studies.
- Animals that are humanely euthanized *before* tissue collection or manipulation.
- Field studies using either observation or approved trapping techniques (live or immediate kill). Most AVMA-approved marking and measuring techniques and field euthanasia techniques fit this category.

Category D: Animals subjected to potentially painful procedures for which appropriate anesthetics, analgesics, or tranquilizers will be used to mediate the pain or discomfort.

Examples:

- Any routine surgery such as biopsy or tumor removal provided that animals are given appropriate pain relief during and after the procedure.
- Terminal exsanguination under anesthesia.
- Animals exposed to UV light (causing a sunburn) followed by analgesia.
- Tattoo marking under anesthesia.

Category E: Animals subjected to painful or stressful procedures in which anesthetics, analgesics, or tranquilizers will not be used to mediate pain or distress.

Examples:

- Lethal dose studies that allow animals to die without intervention.
- Studies that involve painful stimulation (e.g. electrical shock) from which the animal cannot immediately escape.
- Pain studies that would not be possible if pain-relieving agents were used.
- Some mechanical restraints may fit depending on type and duration.

Appendix B: Required Training for Animal Use in Teaching or Research

Eastern Connecticut State University has subscribed to the Collaborative Institutional Training Initiative (CITI Program, www.citiprogram.org), an online program for training in research ethics and compliance. If you haven't already, please register with CITI, choosing Eastern as your affiliation. The required IACUC courses can be found under the Animal Care and Use (ACU) section.

A. All persons working with animals are required to complete these courses:

- Working with the IACUC
- Post-Approval Monitoring (PAM)

B. Only persons involved in specific types/aspects of research should complete these courses:

Personnel working with mice and rats in research

- Post-Procedure Care of Mice and Rats in Research: Reducing Pain and Distress
- Working with Mice in Research Settings **OR** Working with Rats in Research Settings

Personnel doing wildlife research or working with wild animals

- Wildlife Research

Personnel working with amphibians

- Working with Amphibians in Research Settings

Personnel working with reptiles

- Working with Reptiles in Research Settings

Personnel working with fish

- Working with Fish in Research Settings

Courses exist for certain species or types of animals. Personnel working with any of the following specific species or types of animals should take the course specific to that organism.

- Cats, Dogs, Ferrets, Genetically-Modified Mice, Gerbils, Guinea Pigs, Hamsters, Horses, Cattle, Non-human Primates, Rabbits, Sheep and Goats, Swine, Zebrafish (*Danio rerio*)

In addition to the courses indicated above, personnel working with blood or other animal fluids should also complete the **ECSU Bloodborne Pathogen Training**. Please contact the Environmental Health and Safety Coordinator, Eric Germain (germaine@easternct.edu), to schedule the training.