APPLICATION FOR THE USE OF VERTEBRATE ANIMALS IN RESEARCH
COURSE PROJECT - Student

Submitted to the Georgia Southern University, Institutional Animal Care & Use Committee,
P.O. Box 8005, phone 912-681-5465, fax 912-681-0719, email IACUC@georgiasouthern.edu
PHS #A3902-01; USDA #57R121

(Save this form to your computer as a word file. Type all responses. Attach a copy of your IACUC basic training certificate. Fields are expandable. Delete appendices not used.)

1. TITLE OF PROJECT

2. PERSONNEL

<table>
<thead>
<tr>
<th>Principal Investigator (student)</th>
<th>Department</th>
<th>Course</th>
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Email Address (where comment/approval will be sent) | Phone | Physical Address (Not departmental Box) |
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Professor/Advisor (Include Degree) | Position (Academic Appointment) | Department | Campus Box
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Email Address | Phone | Course IACUC Approval Number (See Instructor) |
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3. LOCATION

The Principal Investigator requests that this protocol be conducted at facilities within GSU. Please check and put the room number where animals will be housed for the study.

<table>
<thead>
<tr>
<th>Biology</th>
<th>Psychology</th>
<th>Wildlife</th>
<th>Off Campus</th>
<th>Specify Off Campus Location (If applicable)</th>
<th>Field Study (No GSU housing)</th>
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5. List the State and/or Federal Animal Permits that you will use if animal collection is required:

Name of the individual who holds the State and/or Federal Animal Permit:

<table>
<thead>
<tr>
<th>Indicate State/Federal Permit Type</th>
<th>Permit Number</th>
<th>Expiration Date</th>
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<tbody>
<tr>
<td>State</td>
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<tr>
<td>Federal</td>
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4. RATIONALE: Please provide a brief summary (a few sentences) describing prior relevant research in this area that lead to the current proposal. Include references from the literature.

5. JUSTIFICATION FOR THE USE OF ANIMALS

Briefly state in lay terms the purpose of this request (i.e., research hypothesis).

6. PROCEDURES: Briefly outline or describe in lay terms the procedures in which animals will be used (i.e., the general sequence and schedule of what will be done to the animals and effects on animal health and well-being. Provide sufficient detail for a reviewer from outside of the class to understand your project. If the animal may experience any pain or discomfort as a result of this procedure, complete appendix 2).

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GSU IACUC Application
Revision 9/07

IACUC# i0 (Office Use)
Approval Date: _____________ (Office Use)
7. CHARACTERISTICS OF ANIMALS AND CATEGORY OF RESEARCH
List and describe the animals to be studied. Indicate the anticipated number of animals to be used in each Category of Research and the total number of animals involved for this class project. Indicate the number of each species/strains that will be involved in planned procedures. For wild catch, list anticipated species and complete appendix F. (Note: Refer to USDA pain category definitions in appendix 4.) (Note there is no category A or B available to you.)

<table>
<thead>
<tr>
<th>Species, Strain, or Line</th>
<th>Characteristics (age, sex, weight)</th>
<th>#used in Category C procedures (No or minimal pain or discomfort).</th>
<th>#used in Category D procedures (pain or discomfort alleviated).</th>
<th>#used in Category E procedures (pain or distress Not alleviated).</th>
<th>Total #</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Apply through full IACUC application</td>
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<td>Require Faculty Co-PI and full IACUC application</td>
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<td>2</td>
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For student projects, the IACUC recommends observational studies with no manipulation of animals; however, minor manipulations should be discussed with your instructor. Regardless, Categories B and C are recommended for student projects (see Appendix 4). Your instructor has completed a course form indicating that studies will either be observational or of no harm to animals. Regardless of the type of study you choose, please describe your methodology in detail above to allow an evaluation of risk to animals.

Also be aware that no research can take place without prior IACUC approval. Once approved, no changes may be made to the project methodology without the approval of your instructor and the IACUC.

Please attach a copy of your IACUC basic training certificate.

Signature of Principal Investigator (Student) ___________________________ Date __________

Signature of Co-investigator (Add lines if more than 2 students work on this project) ___________________________ Date __________

I have reviewed this student’s methodology and I am comfortable with this study as a humane treatment of animals with little or no manipulation. I will be available to this student should questions or concerns arise and will contact the IACUC as needed.
Reviewer Use only:

Conditions or comments to the student investigator:

☐ Observational Study Approval
☐ Category C Study Approval

Class Project Reviewer 1: Sign: ___________________________ Date: _____________

☐ Observational Study Approval
☐ Category C Study Approval

Class Project Reviewer 2: Sign: ___________________________ Date: _____________

☐ Category D Study - Apply to IACUC
☐ Category E Study - Apply to IACUC with Faculty Investigator
APPENDIX 1: CLASS PROJECT SPECIAL HUSBANDRY (Animal housing or care)
(Complete & Submit for Review Only If you will be altering the normal housing or care of an animal for the purposes of this study.)

1. Within the space provided, describe all non-standard husbandry and handling practices which are a part of this protocol, including the length of time they will be implemented (e.g., suspended wire mesh caging of rodents, dietary manipulations, food or water deprivation, modified light cycle, specialized housing, confinement, isolation, restricted observation, restricted environmental enrichment, etc.).

2. Within the space provided, justify the implementation of this requested husbandry practice.

3. Will this special husbandry practice cause more than momentary, slight pain or discomfort to the animals?
   No: [ ] Proceed to Item #4.
   Yes: [ ] Within the space below, describe the methods that will be used to minimize pain and discomfort.

4. Within the space provided, describe the methods for monitoring the condition of the animal during the procedure and during the post-procedural period, and indicate whether a log of observations will be kept.
   (Note: Log entries describing procedures involving mammals must be kept by the PI in the animal facility.)

Description of Appendix 1 is complete.
APPENDIX 2: CATEGORY C PROCEDURES THAT MAY CAUSE PAIN OR DISCOMFORT
(Complete & Submit for Review If applicable)

1. Within the space provided, describe the procedure(s) (e.g., behavioral manipulation, forced exercise, noxious stimuli, and physical restraint) and the expected outcome.
   Description:

2. Will the procedure(s) cause more than momentary, slight pain or discomfort to the animals?
   No: ☐ Proceed to Item #4.  Yes: ☐ (complete the table below)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Frequency</th>
<th>Duration</th>
<th>Method used to minimize discomfort</th>
</tr>
</thead>
</table>

3. Within the space provided, describe the methods for monitoring the condition of the animal during the procedure and during the post-procedural period, and how a log of observations will be kept.
   (Note: Log entries describing procedures involving mammals must be kept by the PI in the animal facility.)

Description of Appendix 2 is complete.
APPENDIX 3: Class Project Field Study – Wild Catch
(Complete & Submit for Review Only if project includes wild catch animals. Include animals caught and released in the field.)

1. Describe the location of the study sites(s), property owners and person(s) to contact (including phone number) to gain access.

2. Attach copies of applicable Scientific Collection Permit(s)

3. Check the following items applicable to your study and complete the appropriate section.

☐ Live Capture and Release (Complete Section A)
☐ Live Capture for Long Term Study (Complete Section A and B)
☐ Non-survival Collection (Complete Section C)

Section A – Live Capture and Release

1. Describe method(s) of capture to be used, including devices to be used, frequency with which these devices will be checked and estimated maximum time animals will be held before release.

2. Indicate where captured animals will be released. If release is at a site other than the site of capture, justify.

3. What are the expected injury and/or mortality rates?

4. What precautions will be used to minimize injury and/or mortality?

5. Euthanasia (complete Euthanasia core form and answer the following) In the event of injury or illness necessitating euthanasia:
   a. What method will be used?
   b. Who will perform the procedure and what training do they have in the procedure?
   c. Will DEA regulated drugs be used? Include license number and holder name.
   d. What method will be used to dispose of carcasses?

6. What precautions will be taken to reduce non-target captures?

7. Describe any marking or tagging procedures will be used? Include who will perform procedure and their training.

8. If telemetry package to be attached, describe the weight of the total package, type of antenna (including length) and method of attachment. Also, describe procedures for removal of the package from the animal.

9. If blood or other tissue samples are taken, describe procedures to be used, including number and weight or volume of samples to be taken. Also, describe procedures to be taken to prevent infection and minimize potential pain and distress.
10. If drugs or pharmaceuticals are to be administered to animals, indicate which drug(s), reasons for use, dosage, frequency, method of administration. Attach copies of any permits necessary.

   a. Will DEA regulated drugs be used? Include license number and holder name.

11. If drugs are not used, explain why drugs that might alleviate pain or distress will be withheld.

12. Describe procedures for monitoring animal health and what parameters will be used to determine health status.

13. Describe additional precautions taken to ensure the safety of personnel. (If described in another section of the form place reference here.)

Section B – Capture for long term study

1. Where will the animals be housed?

2. Describe how the animals will be monitored and treated to protect other animals in the same housing facility from communicable diseases?

3. How will animals be monitored for parasites and communicable diseases? What treatment will be provided?

4. Describe precautions taken to guard against escape.

5. Describe additional precautions taken to ensure the safety of personnel. (If described in another section of the form place reference here.)

6. Describe training provided for animal care staff to assure appropriate care of the wild catch animals and safety of caretakers.

Section C – Non-Survival Collection

1. How long will animals be held prior to sacrifice?

2. Describe procedures to be used.

3. Describe precautions that will be taken to prevent non-target mortalities.

4. What documentation will be maintained to inventory numbers caught (target and non-target) and disposition? Where will the documentation be maintained?

5. How will carcasses be disposed of?

6. What documentation will be maintained to document proper disposal and where will this documentation be located?
7. What precautions will be taken to ensure the safety of personnel involved?
### USDA Pain Levels:

<table>
<thead>
<tr>
<th>USDA Category B</th>
<th>USDA Category C</th>
<th>USDA Category D</th>
<th>USDA Category E</th>
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<tbody>
<tr>
<td>Breeding or Holding Colony Protocols</td>
<td>No more than momentary or slight pain or distress and no use of pain-relieving drugs, or no pain or distress. For example: euthanatized for tissues; just observed under normal conditions; positive reward projects; routine procedures: injections; and blood sampling.</td>
<td>Pain or distress appropriately relieved with anesthetics, analgesics and/or tranquilizer drugs or other methods for relieving pain or distress.</td>
<td>Pain or distress or potential pain or distress that is not relieved with anesthetics, analgesics and/or tranquilizer drugs or other methods for relieving pain or distress.</td>
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</table>

**Examples**

1. Holding or weighing animals in teaching or research activities.
2. Injections, blood collection or catheter implantation via superficial vessels.
3. Tattooing animals.
4. Ear punching or rodents.
5. Routine physical examinations.
6. Observation of animal behavior.
7. Feeding studies, which do not result in clinical health problems.
8. AVMA approved humane euthanasia procedures.
9. Routine agricultural husbandry procedures.
10. Live trapping.
11. Positive reward projects.

<table>
<thead>
<tr>
<th>Examples</th>
<th>Examples</th>
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<tr>
<td>1. Diagnostic procedures such as laparoscopy or needle biopsies.</td>
<td>2. Non-survival surgical procedures.</td>
<td>1. Toxicological or microbiological testing, cancer research or infectious disease research that requires continuation until clinical symptoms are evident or death occurs.</td>
</tr>
<tr>
<td>2. Survival surgical procedures.</td>
<td>3. Post operative pain or distress.</td>
<td>2. Ocular or skin irritancy testing.</td>
</tr>
<tr>
<td>4. Any post procedural outcome resulting in evident pain, discomfort or distress such as that associated with decreased appetite/activity level, adverse reactions, to touch, open skin lesions, abscesses, lameness, conjunctivitis, corneal edema and photophobia. Exposure of blood vessels for catheter implantation. Exsanguination under anesthesia.</td>
<td>5. Ocular blood collection in mice.</td>
<td>3. Food or water deprivation beyond that necessary for ordinary pre-surgical preparation.</td>
</tr>
<tr>
<td>6. Terminal cardiac blood collections.</td>
<td>7. Any procedural outcome resulting in evident pain, discomfort or distress such as that associated with decreased appetite/activity level, adverse reactions, to touch, open skin lesions, abscesses, lameness, conjunctivitis, corneal edema and photophobia. Exposure of blood vessels for catheter implantation. Exsanguination under anesthesia.</td>
<td>4. Application of noxious stimulation such as electrical shock if the animal cannot avoid/escape the stimuli and/or it is severe enough to cause injury or more than momentary pain or distress.</td>
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(Note: there is no USDA Category A)
Guidelines for determining USDA classification in protocols involving tissue collection before /after euthanasia and/or animal perfusion:

If an animal will be euthanatized by an approved physical or chemical method of euthanasia solely for the collection of tissues (after the animal’s death), the procedure should be classified as USDA C.

If an animal will be anesthetized so that non-vital tissues can be collected (liver or skin biopsy); and the animal will then be allowed to recover, the procedure should be classified as USDA D (survival surgery).

If an animal will be anesthetized so that non-vital tissues can be collected (liver or skin biopsy, etc.); and the animal will then be euthanatized, the procedure should be classified as USDA D (non-survival surgery). In this scenario, it is necessary to justify why the animal couldn’t be euthanatized (USDA category C) rather than anesthetized.

If an animal will be anesthetized so that vital tissues can be collected (heart, both kidneys or lungs, whole liver, etc.), the animal will obviously succumb to the procedure. To determine whether this will be euthanasia or non-survival surgeries, we must consider the definition of euthanasia. A critical component of this definition is “rapid unconsciousness followed by loss of cardiac, respiratory and brain function”. Based on this definition, procedures which require tissue manipulation or other prolonged techniques prior to the animals death (more than a few minutes) should be classified as non-survival surgery (USDA D). Similarly, if an animal will be anesthetized so that the tissue can be collected in the “freshest” possible state (i.e. heart) and the tissues will be rapidly excised, the procedure should be classified as euthanasia (USDA C). (NOTE: In this scenario, it is difficult to justify why the animal couldn’t be euthanatized rather than anesthetized).

If an animal will be anesthetized so that it can be chemically perfused, the same “test of time” applies (i.e.: long, technical manipulations should be classified as USDA D; while rapid intravascular injection of the perfusate without other manipulations should be classified as USDA C).

NOTE: Because the USDA classification system is based on the “potential for pain, distress or discomfort, : the anesthetic/euthanasia drug dose becomes a critical concern. For example, if a known “euthanasia dose: of pentobarbital will be administered, drug irreversibility is assumed. Thus, once the animal is confirmed to be in an anesthetic plane (toe pinch response, etc.), tissues can be collected/procedures can be performed without the concern about what the animal will be perceiving. This procedure would then be classified as USDA C. The Committee recommends using a euthanizing dose whenever possible. Other methods may be appropriate with proper scientific justification.