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## Web Capture: Institutional Animal Care and Use

Office of Research Compliance, University of Maine

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Animal Care

IACUC Overview

Guidance & Policy

Training

Forms, Instructions & Samples

Meeting Schedule and Protocol Due Dates

Resources

Standard Operating Procedures (SOPs)

IACUC FAQs

Occupational Health & Safety Program

ANIMAL WELFARE REPORTING

## Institutional Animal Care and Use Committee (IACUC)

### COVID-19 Guidance for Animal Care

In addition to requiring IACUC approval, all not-previously approved research and scholarly activity requires *notice* to the OVPRDGS using the [Research & Scholarly Activity Reporting Form](#).

Before initiating an approved research & scholarly activity which involves animals, please note that permission by the applicable lab manager must be obtained prior to performing any experiments in close quarters. Please email your request to the appropriate lab manager with copy to ORC ([umric@maine.edu](mailto:umric@maine.edu)). Your request should include applicable IACUC protocol number(s), a description of the experiment, and date of approval by the OVPRDGS. For more information, please visit: [COVID-19 Guidance for Researchers](#).

Please contact the Office of Research Compliance for assistance ([umric@maine.edu](mailto:umric@maine.edu)).

*Reviewed 8/19/21*

Submit protocols or amendments to [umric@maine.edu](mailto:umric@maine.edu)

The University of Maine is registered as a research facility in accordance with the U.S. Department of Agriculture Animal Welfare Act and the Public Health Service Policy on the Humane Care and Use of Laboratory Animals. The University of Maine holds the Office of Laboratory Animal Welfare (OLAW) of the National Institutes of Health assurance for

vertebrate animals used in research, teaching and outreach. In accordance with the Public Health Service Policy on the Humane Care and Use of Laboratory Animals, the University of Maine works with the Office of Laboratory Animal Welfare (OLAW) of the National Institutes of Health to assure the welfare of animals used in research and teaching.

The Animal Welfare Assurance (1) confirms the commitment that the University of Maine will comply with the PHS Policy, with the Guide for the Care and Use of Laboratory Animals, and with the Animal Welfare Regulation; (2) describes the institution's program for animal care and use; and (3) designates the institutional official responsible for compliance.

Animal Welfare Assurance #: A3754-01

Vertebrate animals may share in varying degree many sensory, emotional, and cognitive responses with humankind. It is essential that we assume responsibility for their welfare and that animal use for research or teaching purposes be conducted in a humane, compassionate manner. To justify the ethical costs of using live animals in research, teaching, or testing, there must be reasonable expectation that such usage will contribute to the advancement of knowledge, which may eventually benefit humankind and/or animals. No research, teaching, or testing activities using live vertebrate animals shall be initiated until the Institutional Animal Care and Use Committee (IACUC) has approved a protocol for such use.

## Contact for IACUC Questions

[umric@maine.edu](mailto:umric@maine.edu)



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Hall

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[Controlled Substances](#)
[Export Control](#)
[Human Subjects](#)  
[Research Misconduct](#)
[Responsible Conduct of Research](#)
[Safety Management](#)

## Animal Care

[IACUC Overview](#)

[Guidance & Policy](#)

[Training](#)

[Forms, Instructions & Samples](#)

[Meeting Schedule and Protocol Due Dates](#)

[Resources](#)

[Standard Operating Procedures \(SOPs\)](#)

[IACUC FAQs](#)

[Occupational Health & Safety Program](#)

**ANIMAL WELFARE  
 REPORTING**

## Guidance & Policy

- [Full Committee Review or Designated Member Review process](#): The IACUC must review all proposed animal activities via a Full Committee Review, or a Designated Member Review.
  - [Diagram of Protocol and Facility Review Process \(PDF\)](#).
- [Graduate School Policy \(PDF\)](#): Graduate students and faculty advisors, please read section 10.2.4 (page 44) Animal Subjects Approval, from the Graduate School's Policies and Regulations.
- [Guidelines for Satellite Animal Facilities](#)
- [Guidelines for Use of Zebrafish in Research, Teaching, and Testing \(PDF\)](#). This document is intended to assist researchers/instructors working with Zebrafish in determining when Institutional Animal Care and Use Committee (IACUC) review is required.
- [Policies and Procedures for the Humane Care and Use of Animals \(PDF\)](#). **All persons involved with the use of live vertebrate animals must read this Policy.**
- [Tips about your health and working with animals](#)

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[IACUC Overview](#)[Guidance & Policy](#)[Training](#)[Forms, Instructions & Samples](#)[Meeting Schedule and Protocol Due Dates](#)[Resources](#)[Standard Operating Procedures \(SOPs\)](#)[IACUC FAQs](#)[Occupational Health & Safety Program](#)[ANIMAL WELFARE  
REPORTING](#)

## Full Review vs. Designated Review

Protocols and amendments submitted to the IACUC for review can be reviewed via two methods, a Designated Member Review and a Full Committee Review. The method used for the review is determined by the timing of protocol submission and consensus of the committee. The two methods for protocol review are described below.

### Protocol Review via Designated Member Review (DMR)

Proposed activities involving animals are reviewed as efficiently as possible to facilitate the research or teaching effort and funding agency needs. Some Animal Study Protocols undergo full committee review (FCR) at a convened meeting of the IACUC; however, an alternate manner of review and approval for protocols and amendments may be conducted via designated member review (DMR). DMR may provide a shorter response time for the investigators and decreased time investment by all members of the IACUC while still providing a robust review process.

#### DMR Procedure

DMR is conducted by a subset of the IACUC members and occurs outside a convened meeting. The DMR process can be used to review and approve new protocols and amendments. The amendment or protocol will be sent out to all IACUC members by the IACUC Administrator for review. The IACUC members have 5 business days to respond to request FCR or state that they agree that the submission can be reviewed via DMR. Any IACUC member may, at any time, call the protocol or amendment for FCR that has been sent to DMR. If no member calls the submission for Full Committee Review (FCR), the IACUC Chairman will appoint one or more qualified reviewer(s) for DMR.

The appointed reviewer(s) can make the following determinations:

The appointed reviewer(s) can make the following determinations.

- **Approve the submission as submitted**
- **Request modifications to secure approval:** If modifications are requested to secure approval, the original designated reviewers will review the modified protocol/amendment.  
This is the most common determination. This process may require more than one round of modification requests from the appointed reviewer(s) before final approval of the protocol.
- **Request FCR of the protocol:** The protocol/amendment would be reviewed at the next convened meeting.

In addition, with a unanimous vote of the quorum present at a convened meeting, the Committee can vote to have a DMR review and approve protocols/amendments for final protocol approval after modifications requested in the FCR have been addressed in the revised protocol/amendment. In this case, one or more designated reviewers will review the modified protocol/ amendment following the convened meeting once the revised protocol has been resubmitted.

A large number of protocols at the University of Maine are reviewed via DMR. Please note that protocols that are submitted for review within two weeks of a scheduled Committee meeting generally will not be reviewed by DMR and will instead be reviewed in the upcoming Committee meeting.

## Protocol Review via Full Committee Review (FCR)

Protocols and amendments may be reviewed at a Full Committee Meeting. In general if the submission is submitted to the IACUC Office two weeks or less before the scheduled meeting, the protocol will automatically be reviewed at an IACUC meeting and not by DMR. In addition, members of the IACUC may request that protocols and amendments be reviewed via FCR instead of DMR at any time.

### FCR Procedure

Prior to the monthly meeting, at least two reviewers are assigned as primary and secondary reviewers for each of the submissions for that meeting. All committee members are expected to review all protocol submissions, however, the primary and secondary reviewers are responsible for presenting the protocol to the Committee for discussion at the meeting.

After the protocol is discussed at the meeting, the following determinations are possible:

- **Recommended for approval:** The Committee approves the submission as it was submitted.
- **Modifications required to secure approval:** Minor questions and/or clarifications must be resolved by the protocol's PI to secure final protocol approval. The committee members present at the meeting must decide by unanimous vote to use DMR to review the submission after it has been modified and resubmitted. This process may require more than one round of modification requests from the appointed reviewer before final approval of the protocol.  
This is the most common determination.
- **Tabled:** The submission is written in such a way that the Committee cannot complete the review because there are significant omissions and questions that must be resolved to secure approval. A Tabled ruling requires that the revised protocol be resubmitted as a new protocol for FCR at a convened meeting.
- **Withhold Approval:** If the PI and the IACUC cannot agree on fundamental aspects of

the protocol, such as protocol design and animal welfare issues, the Committee may withhold approval. The PI would receive a letter from the IACUC explaining why approval is being withheld.

Protocols/amendments that involve complicated, invasive, or novel procedures and protocols that involve significant pain and distress often will be reviewed at a full committee meeting and not in a DMR. The decision to hold a submitted protocol for FCR is the Committee's prerogative. In addition, protocols involving a principal investigator who has not previously submitted a protocol to the UMaine IACUC should anticipate FCR of his/her first submitted protocol.

### [Time required for FCR and DMR](#)

**The PI should anticipate that a submitted protocol may require a month to several months to complete the protocol review and approval process. Please plan accordingly.**

### [Archived Submissions](#)

Protocols are reviewed by the Committee with the expectation that the PI will address the requested revisions/modifications and resubmit the protocol promptly. Protocols requiring modifications that are not resubmitted within 60 days of receipt of the Committee's comments from the initial review will be archived. An archived protocol that is resubmitted after 60 days will be handled as a new submission.

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### [Diagram of Protocol and Faculty Review Process for IACUC \(PDF\)](#)

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## University of Maine Animal Care and Use Committee Protocol and Facility Review Process

Preparation (May require weeks to months)	Review/Approval (Requires weeks to months)	Post-Approval (Continuous, over life of protocol)
<b>1. PI obtains <u>current</u> protocol form from website</b> <ul style="list-style-type: none"> <li>guidelines and tips documents and links to tools on the IACUC website to assist the PI in protocol preparation</li> </ul>	<b>4. Initial Protocol Review</b> <ol style="list-style-type: none"> <li>Full Committee (determined by timing of submission, pain category, member request)</li> <li>Designated Member (no/low pain, no member request, &gt;2 weeks from scheduled committee meeting*)</li> </ol>	<b>7. Inspections of Facilities</b> (twice per year required by OLAW) <ol style="list-style-type: none"> <li>Primary facilities reviewed annually by May and November</li> <li>Satellite facilities are reviewed before research begins and 2x yearly</li> <li>Inspections are rotated among IACUC members</li> <li>Non-compliance and corrections are reported in twice yearly report to Institutional Official (IO)</li> </ol>
<b>2. PI completes form with detailed information; protocol may require:</b> <ol style="list-style-type: none"> <li>Consultation with veterinarian (required for D,E pain classification)</li> <li>Search for Alternatives</li> <li>Consultation with SEM for Risk Assessment</li> <li>Inter-institutional Agreement</li> <li>Collection or import permits</li> <li>Satellite facility form</li> </ol>	<b>5. Revise and Re-submit</b> (requires days to months depending on the revisions requested, completeness of responses, timing of resubmission) <ol style="list-style-type: none"> <li>Committee Review can result in tabling a protocol (resubmission treated as a new protocol), requesting revision and resubmission, or an approved protocol without modification</li> <li>Protocol revision feedback letter</li> <li>Many opportunities for committee feedback: <ul style="list-style-type: none"> <li><u>before</u> protocol initial submission (from IACUC member, experienced colleague) <ul style="list-style-type: none"> <li>at IACUC meeting (PI attends)</li> <li>in letter following IACUC meeting review of protocol</li> </ul> </li> <li>Before resubmission (review by IACUC member, experienced colleague)</li> </ul> </li> </ol>	<b>8. Annual Reporting</b> <ol style="list-style-type: none"> <li>PI reports numbers used</li> <li>Facility and number reported to OLAW</li> <li>IACUC reports to IFW (imports)</li> </ol>
<b>3. Faculty submits protocol for review at meeting or DMR</b> (initial review requires ≥2 weeks depending on DMR or full committee review)	<b>6. Final Review</b> <ul style="list-style-type: none"> <li>Designated Member</li> <li>Full committee Review</li> </ul>	<b>9. Protocol expires</b> (3 years max; 1-year for pilot) <ul style="list-style-type: none"> <li>Faculty submits new protocol</li> </ul>
		<b>10. Prior to protocol expiration, PI requests to amend protocol</b> <ul style="list-style-type: none"> <li><b>GO BACK TO #2;</b> <u>amendment</u> is submitted on original protocol with <u>track changes</u>; PI must consult most current protocol form for updates on form</li> </ul>



**GRADUATE SCHOOL**

**POLICIES**

**AND**

**REGULATIONS**

**July 2018**

## TABLE OF CONTENTS

1.	DEGREES OFFERED AND PROGRAM APPROVAL PROCEDURES.....	1
1.1.	Doctoral Programs .....	1
1.1.1	Approval of Department to Offer Program Leading to a Doctoral Degree..	1
1.1.2	Doctoral Programs Approved.....	2
1.2	Master of Fine Arts .....	3
1.3	Master of Science and Master of Arts Programs .....	3
1.3.1	Master of Science Programs .....	3
1.3.2	Master of Arts Programs .....	4
1.3.3	M.A. in Teaching.....	2
1.3.3.1	Modern Languages and Classics.....	2
1.3.3.2	Education .....	2
1.3.4	Master of Arts in Interdisciplinary Studies .....	2
1.3.5	Master of Science in Teaching .....	2
1.4	Non-Thesis Professional Master's Degrees .....	2
1.4.1	Master of Education .....	5
1.4.2	Master of Professional Studies .....	5
1.4.3	Master of Business Administration .....	5
1.4.4	Master of Engineering .....	6
1.4.5	Master of Music.....	6
1.4.6	Professional Science Master (PSM) .....	6
1.4.7	Professional Master's Degree Programs: .....	7
1.5	Certificate of Advanced Study .....	7
1.6	Graduate Certificate Programs.....	8
1.6.1	Certificate Programs Approved.....	11
1.7	Dual Degrees.....	12
1.7.1	Consecutive Degrees .....	12
1.7.2	Concurrent Degrees .....	12
1.7.3	Integrated Dual Degrees .....	13
1.8	Concentrations and Specializations .....	13
2.	ADMISSIONS .....	15
2.1	General Policy.....	15
2.1.1	Credentials Required .....	15
2.1.2	Graduate Admissions Examinations .....	15
2.1.2.1	Graduate Record Examination .....	15
2.1.2.2	Alternative Entrance Examinations.....	15
2.1.3	Application Procedure .....	16
2.1.3.1	Transcripts .....	16
2.1.4	Deadline for Application .....	17
2.1.5	Deadline for Enrollment .....	17
2.1.6	Readmission to the Graduate School.....	17
2.2	Specific Program Requirements - Master of Education .....	17

2.3	Committee to Consider Application .....	17
2.4	Classification of Admissions .....	17
2.4.1	Regular Admission .....	17
2.4.2	Provisional Admission .....	18
2.4.3	Conditional Admission.....	18
2.4.4	Tentative Admission.....	18
2.4.5	Non-Degree Admission.....	18
2.4.6	Visiting Graduate Student Admission.....	19
2.5	International Student Application.....	19
3.	REGISTRATION.....	20
3.1	Staff Member Registration.....	20
3.2	Limitations of Registration .....	20
3.2.1	Credit Load for GA's .....	21
3.2.2	Summer Session .....	21
3.2.3	Doctoral Students .....	21
3.3	Registration for Graduate-Level Courses by Undergraduate Students.....	21
3.3.1	Courses Taken for Undergraduate Degree Credit .....	21
3.3.2	Courses Taken for Graduate Degree Credit .....	21
3.3.3	Four + One Master's degrees .....	22
3.3.4	Four + Two Master's Programs.....	23
3.4	Summer Session and Continuing Education.....	25
3.5	Adding/Dropping Courses .....	25
3.6	International Student Registration .....	26
3.7	Full-time/Part-time Student Status.....	26
3.8	Enrollment Restrictions .....	26
3.8.1	Graduate Assistants .....	26
3.8.2	Fellowships and Scholarships .....	26
3.8.3	Continuous Enrollment.....	27
3.9	On-Leave Registration .....	27
3.9.1	Full-time Students .....	27
3.9.2	Part-time Students .....	28
4.	GENERAL REQUIREMENTS .....	29
4.1	Residence Requirement .....	29
4.1.1	Master's Degrees and Certificate of Advanced Study .....	29
4.1.2	Doctoral Programs.....	29
4.2	Tuition Requirement.....	30
4.3	Time Limit for Completion of Requirements (See also Section 4.6.) .....	30
4.3.1	Master's Degrees and Certificate of Advanced Study .....	30
4.3.2	Doctor of Philosophy and Doctor of Education .....	30
4.4	Admission to Candidacy .....	30

4.5	Course Credit .....	30
4.5.1	Work Taken (at the University of Maine) Prior to Graduate Degree Admissions .....	30
4.5.2	Transfer Credit (Work Taken at Other Institutions Including Other Campuses of the University of Maine System Prior to Admission) .....	31
4.5.3	Extramural Registration (work taken at other institutions after graduate degree enrollment at The University of Maine) .....	31
4.6	Revalidation of Course Credit .....	32
4.7	Responsible Conduct of Research (RCR) Training .....	32
5.	APPLICATION FOR DEGREE .....	33
5.1	Eligibility for August Doctoral Candidates Participating in May Commencement .....	33
6.	REQUESTS FOR EXCEPTIONS TO REGULATIONS .....	34
6.1	Procedure for Submission .....	34
6.2	Filing and Review .....	34
6.3	Authority to Grant Exceptions .....	34
7.	GRADUATE LEVEL COURSES .....	35
7.1	Approval of Courses .....	35
7.2	Designation of Courses for Graduate Credit.....	35
7.2.1	Course Numbering .....	35
7.2.2	Criteria for Approval .....	35
7.3	Master List of Courses .....	36
7.4	Courses Not on Approved List .....	36
7.4.1	Experimental Courses.....	36
7.5	Continuing Education Courses and Interactive Television (ITV) Courses .....	36
8.	PROGRAM OF STUDY .....	37
8.1	Forms Used .....	37
8.2	Graduate Student Advisement .....	37
8.2.1	Advisory Committee .....	37
8.2.2	Graduate Advising Outside the Home Department.....	38
8.3	Changes in Program.....	38
8.4	Special Program Forms.....	38
9.	EXAMINATIONS .....	39
9.1	Master's Examinations.....	39
9.1.1	Master's Oral Examination .....	39
9.1.1.1	General .....	39
9.1.1.2	Nature of Examination .....	39
9.1.1.3	The Examining Committee .....	39
9.2	Doctoral Examinations.....	40
9.2.1	Comprehensive Examinations.....	40
9.2.2	Final Examinations.....	40

10. THESIS REQUIREMENT.....	41
10.1 Nature of Thesis.....	41
10.1.1 Project/Thesis/Dissertation Credits .....	41
10.1.2 Conversion of Thesis to Non-Thesis Degree .....	41
10.1.3 Master's .....	41
10.1.4 Doctoral Dissertation.....	42
10.1.5 Publication of Research Results Prior to Acceptance of Thesis or Dissertation.....	42
10.1.6 Guidelines for Using Publications(s) as Thesis or Dissertation.....	42
10.2 Approvals Related to Thesis .....	43
10.2.1 Thesis Subject.....	43
10.2.2 Completed Thesis .....	43
10.2.3 Human Subjects Approval .....	43
10.2.4 Animal Subjects Approval.....	44
10.3 Form and Preparation of Thesis .....	44
10.3.1 General .....	44
10.3.2 Format .....	45
10.3.3 Title Page.....	45
10.3.4 Number of Copies .....	45
10.3.5 Biography .....	45
10.3.6 Date of Presentation .....	46
10.3.7 Minimum Time between Comprehensive Examination, Dissertation Proposal Defense, and Dissertation Defense.....	46
10.4 ETD Submission .....	47
10.5 Credit Allowed for Thesis.....	47
11. FOREIGN LANGUAGE REQUIREMENT .....	48
12. ACADEMIC COMMITTEES.....	49
12.1 Program or Advisory Committees .....	49
12.2 Institutional Unit Graduate Committee.....	49
13. GRADES AND REPORTS.....	50
13.1 Grade Level Required.....	50
13.1.1 Evaluation Procedures.....	50
13.1.2 Reports.....	51
13.2 Completion of Requirements .....	51
13.2.1 Doctoral Candidate Attendance at Commencement .....	51
13.2.2 Posthumous Degree for Undergraduate and Master's Degrees.....	51
13.2.3 University of Maine Policy on Posthumous Doctoral Degrees .....	52
14. ACADEMIC APPEALS PROCEDURE .....	54

15. FINANCIAL AID .....	55
15.1 Definition of Terms.....	55
15.1.1 Graduate Assistant.....	55
15.1.2 Graduate Fellow .....	55
15.1.3 Graduate Trainee .....	55
15.2 Assistantships.....	56
15.2.1 Appointment of Graduate Students .....	56
15.2.2 Rate of Compensation .....	57
15.2.3 Waiver of Tuition in Summer .....	57
15.2.4 Insurance.....	58
15.2.5 Additional Employment .....	58
15.3 Student Aid .....	58
15.3.1 Assistantships and Fellowships .....	58
15.3.2 Tuition Waivers and Scholarships.....	59
15.3.3 Supplementation of Stipends Paid to Trainees or Fellows.....	59
15.4 Loans   59	
16. TUITION.....	60
17. GRADUATE SCHOOL CATALOG.....	61

## **1. DEGREES OFFERED AND PROGRAM APPROVAL PROCEDURES**

A department anticipating the development of a new program of study leading to a degree already approved for the department will normally clear with all administrative personnel concerned with such matters, will petition the Graduate Board in accordance with established procedures and will provide a statement of how the new program is to be supported academically. This statement will normally be a brief outline of the course of study involved in the program.

The procedure for approval of new programs is outlined in New Program Proposal Procedures and Deadlines and may be obtained from the Executive Vice President for Academic Affairs and Provost's office.

New graduate program Intents to Plan Proposals sent to the Graduate School for Graduate Board review and approval will include a signature line for the Unit Head, the College Dean, the Dean of the Graduate School, and for programs to be offered through distance education or under the auspices of Continuing Education, from the Associate Provost for the Division of Lifelong Learning. The approval sheet should also include signature lines for the Executive Vice President for Academic Affairs and Provost and the President. Intents and Proposals must be made available to the entire unit faculty and approved by the unit governance structure. Proposals will be accompanied by a signed memo from the Graduate Coordinator summarizing the internal review and approval procedure followed by the unit.

### **1.1. Doctoral Programs**

The doctoral degree is given primarily for high attainment in some special field of scholarship and for demonstrated ability for independent research in a subdivision of this field, not merely for courses completed or time spent in study. The doctoral student's program committee is responsible for developing a course of study and dissertation research to assure this attainment.

#### **1.1.1 Approval of Department to Offer Program Leading to a Doctoral Degree**

A request for approval to a doctoral degree program should be supported by appropriate evidence which should include:

- a. Number and level of advanced courses offered in the department and in related fields;
- b. Training of staff members;
- c. Research activity of staff members;
- d. Publications of staff members;
- e. Facilities for original investigation, including Library;
- f. Present graduate training program;

- g. Additional graduate work proposed. (Refer to New Program Proposal Procedures and Deadlines.)

After consultation with the Executive Vice President for Academic Affairs and Provost, and College Dean, the Dean of the Graduate School shall present the request to the Graduate Board for its advice and recommendation.

The Curriculum Committee of the Graduate Board has the specific responsibility of studying all proposals for new and modified graduate courses and degree programs, and recommending action to the Graduate Board. The Graduate Board shall hold a meeting for discussion of the request which any interested members of the Graduate Faculty may attend.

If the reaction of the Graduate Board to the request is favorable, at least two (2) competent individuals from outside the University, selected from a list suggested by the department will be invited to conduct a survey and to report their findings.

The Dean of the Graduate School shall submit to the Graduate Board the comments of the visiting authorities. If favorable action is recommended by the external reviewers, the matter shall be brought before the Graduate Board for its approval or disapproval. The recommendations of the Graduate Board shall be referred to the President and Board of Trustees for final action.

#### 1.1.2 Doctoral Programs Approved

Anthropology and Environmental Policy  
Aquaculture and Aquatic Resources (formerly Marine Bio-Resources) 7/22/91  
Biochemistry & Molecular Biology 7/9/90  
Biological Sciences 7/22/85  
Biomedical Sciences 1/23/06  
Biomedical Engineering  
Chemical Engineering 11/20/62  
Chemistry 11/7/57 (Inorganic Chemistry included 2/24/66)  
Civil Engineering 11/21/67  
Computer Engineering 1/25/99  
Computer Science 1/25/99  
Communication  
Curriculum and Instruction (never activated)  
Earth and Climate Sciences 1/25/88, 12/20/2012  
Ecology & Environmental Science 9/20/93  
Education 6/1/66  
Electrical Engineering and Computer Engineering 1/94  
Food & Nutrition Sciences  
Forest Resources 4/10/70

History: American 5/20/59  
(Great Britain and the Commonwealth  
and Canadian-American Studies included 2/13/68)  
Interdisciplinary Ph.D. 11/29/68  
Engineering in the Natural Sciences  
Ocean Engineering and Marine Technology 2/24/2005  
Marine Biology 1/98  
Mechanical Engineering 7/01  
Microbiology 7/9/90  
Oceanography 11/21/67  
Physics 6/1/66  
Plant Science 4/15/64  
Psychology: Experimental and General 4/17/61  
(Clinical Psychology included 10/21/65)  
Spatial Information Science & Engineering 1/23/89  
Wildlife Ecology 4/84  
Zoology 4/15/64

## **1.2 Master of Fine Arts**

A degree of Master of Fine Arts may be awarded for the completion of a planned and duly approved program of study. This program shall consist of a minimum of sixty (60) hours of work, including a research thesis and/or thesis exhibition, beyond the requirements for admission.

## **1.3 Master of Science and Master of Arts Programs**

### **1.3.1 Master of Science Programs**

A degree of Master of Science may be awarded for the completion of a planned and duly approved program of study. This program shall consist of a minimum of thirty (30) hours of work, including a thesis, beyond the requirements for admission.

The Graduate Faculty recognizes that for some candidates, in some departments, certain other requirements may be deemed of greater educative value than a thesis. Waiving of the thesis requirement will be recognized as an exception within the M.S. degree program, requiring approval of the Dean of the Graduate School.

Master of Science programs are approved in the following subject matter fields:

Accounting (Suspended)	Forest Resources
Animal Sciences	Horticulture
Aquaculture and Aquatic Resources (formerly Marine Bio-Resources)	Human Development
Biochemistry	Information Systems
Biological Engineering	Marine Biology
Botany & Plant Pathology	Marine Policy
Chemical Engineering	Mechanical Engineering
Chemistry	Microbiology
Civil Engineering	Nursing
Computer Engineering	Oceanography
Computer Science	Physics
Earth and Climate Sciences	Plant, Soil, & Env. Sciences
Ecology & Environmental Sciences	Quaternary & Climate Studies
Economics	Resource Economics & Policy
Education	Spatial Info. Science & Eng.
Electrical Engineering	Spatial Informatics
Entomology	Wildlife Ecology
Food Science & Human Nutrition	Zoology

### 1.3.2 Master of Arts Programs

A degree of Master of Arts may be awarded for the completion of a planned and duly approved program of study. This program shall consist of a minimum of thirty (30) hours of work, which may include a thesis and/or such other requirements as approved by the Graduate Board, beyond the requirements for admission.

Master of Arts programs are approved in the following subject matter fields:

Communication	French
Communication Sciences & Disorders	Global Policy
Economics	Mathematics
Education	Psychology
English	Theatre (suspended)
Financial Economics	

Master of Arts programs including requirements other than a thesis are approved in the following subject matter fields:

Anthropology & Environmental Policy	Economics
Communication	English
Communication Sciences and Disorders	Financial Economics

### 1.3.3 M.A. in Teaching

#### 1.3.3.1 Modern Languages and Classics

The M.A.T. in French and Spanish are available for students who presently teach the French and Spanish languages at the elementary or secondary levels. The German program is currently suspended.

#### 1.3.3.2 Education

The M.A.T. in Elementary Education [Suspended] and M.A.T. in Secondary Education are available for students without education degrees who are seeking teaching certification.

### 1.3.4 Master of Arts in Interdisciplinary Studies

The Master of Arts in Interdisciplinary Studies offers an opportunity for interdisciplinary graduate work to mature students who wish to study on a part-time basis. The program provides an alternative approach to traditional specialized graduate programs limited to a single discipline or profession by offering an interdisciplinary education at the graduate level.

Each student's program includes:

- a. Several interdisciplinary core seminars;
- b. More traditional graduate courses selected to meet individual student goals; and
- c. An independent project developed directly out of the student's course work and research. A minimum of thirty (30) credits is required, and at least fifteen (15) hours must be in 500 and/or 600 level courses.

### 1.3.5 Master of Science in Teaching

This is a content-rich, inquiry-based graduate program for secondary science and mathematics teachers.

## 1.4 Non-Thesis Professional Master's Degrees

Non-thesis Master's degrees may be awarded for the completion of a planned and duly approved program of study. This program shall consist of a minimum of thirty (30) hours of work beyond the requirements for admission.

#### 1.4.1 Master of Education

The programs which lead to the degree of Master of Education are intended to expand the preparation of the teacher and also are for those experienced teachers who wish to prepare themselves for such specialized areas of school service and administration, supervision, or guidance. Eligibility for admission is based upon completion of an approved teacher-education program appropriate to the graduate program requested. Some programs may have additional requirements such as evidence of successful teaching experience, higher than minimum quality of undergraduate work, a personal interview and recommendations for the specific program involved.

Students in these degree programs are required to complete thirty-three (33) hours of work including two (2) graduate seminars. The seminars are in lieu of a thesis, graduate paper, or oral examination.

#### 1.4.2 Master of Professional Studies

This program is designed to provide professional training in a number of disciplines. A requirement for the M.P.S. is thirty (30) hours of course work of which at least fifteen (15) hours are to be selected from courses numbered 500 or above. The completion of a minimum of three hours of independent study is also required. A comprehensive written and/or oral examination will be required of each student at the completion of the graduate program. The program of study may be pursued on a part-time basis. The degree is presently offered in Animal Sciences, Biochemistry, and Microbiology.

#### 1.4.3 Master of Business Administration

The MBA program at the University of Maine emphasizes experiential, hands-on learning, teamwork, critical thinking and leadership while still delivering a core set of knowledge in the traditional business disciplines. Our MBA program produces graduates with practical business skills and a global perspective, but more importantly, produces business leaders who can think strategically and critically, who can adapt to change and foster change, who can inspire and lead, and who can create and convey a vision.

Core goals of the MBA program include:

1. Our graduates will be able to recognize and define business problems, be aware of their cross-functional implications, and address these problems using the appropriate technique or approach.

2. Our graduates will be able to manage real-world business situations in uncertain environments, making decisions under information and resource constraints.
3. Our graduates will exhibit effective oral and written communication skills.
4. Our graduates will conduct themselves in a responsible and ethical manner.
5. Our graduates will be able to work effectively with others in the presence of individual and cultural differences.

The Maine Business School MBA combines course work with experiential learning. The major components are an opening residency week, a core set of classes emphasizing required business skills and knowledge as well as integrated thinking, a consulting/internship requirement, and a required international field experience. Students may pursue a general MBA and choose their electives from a broad array of courses, or choose instead to pursue a defined track and take a more specific set of electives in that area.

The MBA program consists of 42 credits: 33 credits of classroom-based courses, and 9 experiential credits. There are 6 required courses covering the basic disciplines, and 5 elective courses. The experiential courses are an opening residency week, an internship or consulting project experience, and an international, project-oriented field experience.

#### 1.4.4 Master of Engineering

The Master of Engineering degree (with program designation) is only offered in Engineering Physics. All other engineering disciplines offer a non-thesis M.S. degree. A minimum of thirty (30) semester hours of graduate courses is required for the M.E. degree. All other regulations relevant to the Master of Arts or Master of Science degree programs apply also to the Master of Engineering program.

#### 1.4.5 Master of Music

This program offers two different masters degrees, one in Music Education and one in Performance. A conducting concentration is available within the Music Education degree. The individualized curriculum possibilities are designed to meet student interest, needs, and requirements within a flexible framework. The program provides opportunities to pursue a balance of academic and professionally – oriented courses.

#### 1.4.6 Professional Science Master (PSM)

A Professional Science Master's degree (PSM) provides an avenue for highly qualified students from a variety of backgrounds to receive advanced training directly relevant to

current or intended knowledge and skills their professional careers by taking appropriate graduate courses in more than one discipline. The 30 (minimum) credit, non-thesis, graduate degree is achieved through the creation of a curriculum combining a strong core from a science, technology, engineering, or math (STEM) discipline and “plus” elements (e.g. business, communications, law, technical writing, other sciences and social sciences), with a focus on team projects and supervised workplace experience, and participation from strong external advisors. The PSM program appeals to the professional who does not wish to complete the typical single discipline graduate degree, and is interested in an applied workplace experience rather than a research thesis. The PSM is particularly intended for individuals engaged in, or planning, a career outside academia.

PSM in Bioinformatics

PSM in Engineering and Business/Structures Engineering Mechanics

PSM in Engineering and Business /Aerospace Engineering

PSM in Engineering and Business /Computer Engineering 12/20/12

PSM in Engineering and Business /Wireless Engineering 12/20/12

PSM in Engineering and Business /Electrical Engineering 12/20/12

PSM in Engineering and Business /Surveying Engineering

PSM in Marine Sciences 5/6/14

#### 1.4.7 Professional Master’s Degree Programs:

Master of Forestry

Master of Social Work

Master of Wildlife Conservation

### 1.5 Certificate of Advanced Study

The certificate is awarded to students who complete in a satisfactory manner a planned program of at least thirty (30) hours of work beyond the master’s degree. The minimum basis for admission to the program is the possession of a master’s degree in the area or subject involved. Students who wish to pursue a year of study beyond the master’s degree in a new area or subject are expected to apply for admission to a second master’s degree program. At present, this program is open to those who hold master’s degrees in Education and Nursing. Other departments, if they choose to apply, may gain approval for such a program in the future. Only work taken after the completion of a master’s degree can be used for credit toward the Certificate of Advanced Study.

## **1.6 Graduate Certificate Programs**

### **General Principles**

1. The University of Maine offers selected certificate programs at the undergraduate and graduate levels.
2. A certificate at either level is not a degree; rather, it is a focused collection of courses proposed by the faculty and formally recommended either by the Undergraduate Program and Curriculum Committee (UPCC) or by the Graduate Board and approved by the Dean of the Graduate School, respectively. The didactic material encompassed within a certificate program may represent a more practice-oriented subset of an existing discipline.
3. The University awards certificates upon the student's satisfactory completion of the approved program of coursework. The certificate affords the student a record of coherent academic accomplishment in a given discipline or set of related disciplines.
4. The student's official transcript shall contain not only the listing of courses taken in the certificate program, but will also indicate successful completion of the program.

### **Procedures for Initiating Certificate Programs**

The University of Maine Faculty creates proposals for new certificate programs following guidelines adopted by the UPCC [for programs consisting of undergraduate-level courses] or by the Graduate School [for programs consisting mainly of graduate-level courses). All proposals must be made available to the entire unit faculty and approved by the unit governance structure. Proposals will be accompanied by a signed memo from the Graduate Coordinator summarizing the internal review and approval procedure followed by the unit. Proposals will have endorsements from the heads of the units offering the coursework comprising the program, from the College Dean(s) for faculty participating in the certificate, and for programs to be offered through distance education or under the auspices of Continuing Education, from the of the Associate Provost of the Division of Lifelong Learning. The approval sheet should also include signature lines for the Provost and the President. The Associate Provost for Academic Affairs receives all proposals for new undergraduate certificate programs and refers them to the UPCC for review and recommendation. The Dean of the Graduate School receives all proposals for new graduate certificate programs and refers them to the Graduate Board for review and recommendation. The Associate Provosts shall transmit the Graduate Board/UPCC and their own recommendations concerning newly approved certificate

programs to the Provost, who in turn will submit a recommendation to the President for final approval.

### **Guidelines for the Development of Graduate Certificate Programs**

1. The proposal must demonstrate that a need exists for the proposed new certificate program. This provision may be defined in terms of either external markets (i.e., external demand for the skills associated with such a certificate) or internal academic needs (i.e., the needs of a critical mass of students in a given discipline).
2. The program proposal will address the likely impact of the graduate certificate program on any related degree program.
3. Proposals for certificate programs that contain no new courses, no new faculty lines, and no additional costs to the University will be given expedited review in the approval process. The Graduate Board or its designee shall consider all graduate certificate program proposals for merit.
4. Those proposals meeting the criteria set forth by the Graduate School are then recommended to the Dean of the Graduate School for approval.
5. The Graduate School will administer graduate certificate programs with the participation of the appropriate graduate program(s). Each graduate certificate program must have a coordinator who is a Full member of the Graduate Faculty. Typically the coordinator will serve as the advisor to students in the certificate program and will also be responsible for program review and evaluation.
6. For consideration by the Graduate School, proposals for new graduate certificate programs must contain the following information:
  - a. a statement of the educational objectives of the program;
  - b. a statement of the proposed course sequence associated with the certificate, including titles and course descriptions both for existing courses and any new courses that may be developed;
  - c. a statement of how the proposed course sequences associated with the certificate will meet the stated educational objectives;
  - d. a statement of the need for the proposed program and the basis for such a need, supported by either externally or internally derived data; and
  - e. the names of at least 2 Graduate Faculty members associated with or contributing to the certificate program, either by teaching one or more of the courses associated with the program or participating in the design of the course sequence. All faculty teaching in the certificate program must hold Graduate Faculty appointments in the academic unit through which the course is offered.

### **Curricular Criteria**

1. Graduate certificate programs may be at the post-baccalaureate, the post-master or the post-doctoral level.
2. Programs may be either free-standing or a concentration within an existing degree program.
3. Programs may be adopted for an initial period of no more than five years. If the program is approved for a period of less than five years, it expires at the end of the period unless a program review specifically recommends its continuation (which may be for an indefinite period or for an additional fixed period). Any certificate program extending beyond five years must be reviewed prior to continuation to determine that the program is meeting its stated objectives.
4. An appropriate number of credit hours must comprise the certificate program and may not be less than 9 or more than 18 credits. The majority of course work for the certificate must be at least at the 500-level. Courses below 400-level cannot be used for credit in graduate certificate programs.
5. The certificate proposal will address the possibility of program delivery using distance education technology.
6. The proposal will address the timeframe in which the certificate program can be completed.

### **Student Eligibility and Admission Criteria**

1. An earned baccalaureate degree or its equivalent from an accredited college or university is required for admission to a graduate certificate program.
2. Students who are currently enrolled in the Graduate School and who wish to pursue an approved graduate certificate program simultaneously must inform the Graduate School and the certificate coordinator of their intention to apply for admission to the certificate program before one-half of the required credits are completed.
3. A maximum of 40% of the credit hours towards any certificate program may be accepted as transfer credit.
4. A maximum of one course in which a grade of “C” was earned may be applied towards the requirements for a graduate certificate. Acceptance of a course towards a certificate does not guarantee acceptance of the same course towards a graduate degree.

5. Each unit offering a graduate certificate shall establish the minimum grade point average, minimum TOEFL score, requirements for standardized test scores, whether or not certificate courses may be counted towards a related master's degree program, and other similar criteria.
6. Greater flexibility than that found in graduate degree admission requirements is intentionally built into graduate certificate programs so that the needs of the target student population may be met, if it is appropriate to do so.
7. As such, a graduate certificate is not viewed as a guaranteed means of entry into a graduate degree program.
8. The student will be required to complete the certificate program within the time limit specified for the program; if no time limit is specified, it shall be the same as that for completion of the master's degree.

### **Fiscal Criteria**

1. The proposal will address the fiscal arrangements for the program.
2. A certificate graduate student may enroll on either a part-time or a full-time basis, as determined by the certificate program coordinator.
3. Certificate students enrolled on a full-time basis will have access to many of the same campus services as other full-time graduate students.
4. Certificate students may also be considered for merit-based financial aid by the department or program, as well as for need-based financial aid by the Student Financial Aid Office, but at a reduced priority compared to degree-seeking students.
5. The proposal will address the likelihood that students enrolled in a graduate certificate program will have their tuition paid by employers or another third party.

#### **1.6.1 Certificate Programs Approved**

Information Systems 2/1/01

Health Care Administration 2/1/01 (sunset)

Advanced Engineered Wood Composites 10/4/01

Geographic Information Systems 10/4/01

Food Science and Nutrition 10/18/07

Student Development in Higher Education 11/15/07 (sunset)

Journalism Training for International Scholars 12/20/07 (sunset)

Education Data Specialist 3/18/2010

Business Administration 1/13/2011

Classroom Technology Integrationist 10/20/2011

Innovation Engineering 1/26/2012

Innovative Communication Design 1/26/2012

Nursing Education 1/26/2012  
Educational Technology Coordinator 2/23/2012 [Suspended]  
Early Childhood Teacher 2/23/2012  
Response to Intervention for Behavior  
Digital Curation 5/1/2012  
Interprofessional Graduate Certificate in Gerontology 12/20/2012  
Interdisciplinary Disability Studies 1/24/2013  
Teacher-Consultant in Writing 12/19/2013  
Aerospace Engineering 2/20/2014  
Autism Spectrum Disorders 5/6/2014  
Alternative Teacher Certification 4/29/2016  
English as a Second Language 4/29/2016  
Instructional Design 4/29/2016  
Surveying Engineering 5/4/18  
High Leverage Practices to Promote Inclusion 5/4/18

## **1.7 Dual Degrees**

The University of Maine Graduate School allows students to pursue two graduate degrees under the circumstances detailed below. In all cases, dual degrees should be interpreted to include separate majors within the same degree (e.g. Master of Science), a combination of two different degrees, or a combination of a graduate degree and certificate of advanced study. In all cases, students will receive separate diplomas or certificates.

### **1.7.1 Consecutive Degrees**

Enrollment in consecutive dual degrees refers to matriculation in a second graduate degree program at the University of Maine after completion of the requirements for a first graduate degree earned at the University of Maine. A student may apply up to 9 credits earned in a graduate degree program at the University of Maine toward a master's degree or a Certificate of Advanced Study with approval of the student's graduate advisory committee and/or graduate program coordinator in the second graduate program. Thesis or research credits from the first program may not be counted toward the requirements of the second program. Additional policies on transfer credit in graduate certificate programs and doctoral programs are included elsewhere in the Policies and Regulations of the Graduate School.

### **1.7.2 Concurrent Degrees**

Enrollment in concurrent dual degrees occurs when a student is matriculated in two graduate degree programs simultaneously. A student may not be enrolled in more than two graduate programs simultaneously.

In general, a student may pursue concurrent degrees only with approval of the appropriate graduate program coordinator(s) and the Dean of the Graduate School. The student must apply and be admitted to both programs. With approval of the student's graduate advisory committee(s) and/or the graduate program coordinator(s), a student may apply up to 9 University of Maine credits earned in one master's degree toward the requirements for a second master's degree or Certificate of Advanced Study. Transfer policy for doctoral degrees is covered elsewhere in the Policies and Regulations of the Graduate School. Generally, students must complete separate theses if required by both programs. Completion of the degree requirements for the two programs need not be at the same time.

If a student's tuition is funded by one or more units, it is up to the funding unit to decide if tuition may cover courses taken solely for completion of the second program.

### 1.7.3 Integrated Dual Degrees

Some units have formalized concurrent dual degrees between programs which create an integrated program linking the two disciplines, while continuing to award separate degrees. Generally, these dual degree programs follow the rules outlined in Dual Degrees above. However, if the formalized dual degree program features further integration, such as a single admissions process, submission of a single thesis, a single advisory committee composed of members from both programs, or more than 9 credits of common courses, the program, including proposed programs of study, must be approved by the Dean of the Graduate School and the Graduate Board of the University of Maine.

Marine Policy and Marine Biology or Oceanography

Global Policy and Economics or Resource Economics & Policy 11/21/13

Business Administration and Global Policy 12/28/15

Business Administration and Information Systems 6/20/16

## 1.8 Concentrations and Specializations

Within graduate degree programs concentrations and specializations may be available. Both concentrations and specializations have a formal curriculum. A graduate concentration describes a course of study that is specific to a degree program while a specialization describes a course of study that is independent of any single degree

program, and may be earned in conjunction with a number of programs much like an undergraduate minor. Both concentrations and specializations must be approved by the Dean of the Graduate School before they become part of the University of Maine academic inventory. Graduate students may specify a concentration and/or specialization on their program of study or on a *Declaration of Concentration or Specialization form*. When the student receives his/her graduate degree any declared concentrations or specialization will appear on the academic transcript.

## **2. ADMISSIONS**

### **2.1 General Policy**

In order to be admitted to graduate study an applicant must have received a baccalaureate degree or the equivalent from an accredited college or university of recognized standing and demonstrate by previous scholastic record, entrance examinations, or other evidence, the ability to pursue advanced study and research. The Executive Committee of the Graduate Board (herein referred to as Executive Committee) shall resolve individual admission problems.

#### **2.1.1 Credentials Required**

- a. A complete application calling for biographical and other information concerning the applicant.
- b. Three (3) letters of recommendation from persons familiar with the applicant's qualifications. These letters should be academic references, although professional references are acceptable for some professional programs.
- c. A copy of an official transcript of all previously attempted college level work.
- d. Scores from standard tests as outlined in Graduate Admissions Examinations.

#### **2.1.2 Graduate Admissions Examinations**

##### **2.1.2.1 Graduate Record Examination**

Applicants (for admission to the Graduate School) in most programs shall be required to submit as part of their application, the aptitude and appropriate advanced test scores on the Graduate Record Examination. The advanced test of the Graduate Record Examination will not be required of applicants for admission to Graduate School in those programs where no appropriate advanced test is available. This waiver of the advanced test is at the option of the faculty in these programs.

Graduate Record Examination scores will not be required of students entering the Certificate of Advanced Study programs in Education and Nursing.

Graduate Record Examination scores will not be required of students entering the Master of Arts in Interdisciplinary Studies Program.

##### **2.1.2.2 Alternative Entrance Examinations**

For sufficient reasons, departments may require scores from other tests in addition to, or in lieu of, the standard Graduate Record Examination scores. The Graduate Management

Admission Test is currently required of applicants for admission to the program leading to the Master of Business Administration. These GMAT scores are considered to be in lieu of the GRE scores. Applicants for admission to non-thesis programs in the College of Education and Human Development and the School of Nursing must submit Graduate Record Examination or Miller Analogies test scores as part of the application for graduate study. However, applicants for admission to a thesis program in the College of Education and Human Development must submit scores from the Graduate Record Examination as part of the application for graduate study.

### 2.1.3 Application Procedure

All documents relating to an application for admission to graduate programs are to be sent to the Graduate School. Once the official application form is received, all materials relating to the application will be forwarded, upon receipt, to the graduate committee of the institutional unit concerned.

The graduate committee of the institutional unit may, when it feels it has sufficient information, make a recommendation regarding the application. This will be made on forms provided by the Graduate School. Ordinarily, the Graduate School will forward the form for each applicant when the applicant's file is complete, unless the graduate committee has previously requested otherwise.

Final action taken by the Dean of the Graduate School will be heavily influenced by the recommendations of the institutional unit graduate committee. However, other factors such as adherence to maintenance of minimum quality standards will also be considered in the decision.

If the graduate committee recommends admission, records relating to the application for admission should be retained for use by the institutional unit.

#### 2.1.3.1 Transcripts

Each unit will determine whether or not it will accept unofficial transcripts for the purpose of the admissions policy, and will communicate this decision to the Graduate School for proper notice to applicants. Any student who is admitted on the basis of an unofficial transcript and desiring to matriculate in a graduate program at the University of Maine must have an official transcript sent to the Graduate School before matriculating.

#### 2.1.4 Deadline for Application

Application for admission and supporting material must be received by the Graduate School six (6) weeks prior to registration date involved in order to be assured of admission prior to registration.

#### 2.1.5 Deadline for Enrollment

An applicant admitted to a graduate program must register in that semester for which he/she has been admitted unless other arrangements, in writing, have been made.

#### 2.1.6 Readmission to the Graduate School

A student previously registered in the Graduate School who has failed to maintain continuous enrollment or who has withdrawn, or a student who failed to matriculate in accordance with paragraph Deadline for Enrollment above, and who wishes to resume studies, must file an Application for Readmission to the Graduate School. This form may be submitted in person or by mail by the regularly published deadlines for the semester or summer session. If the student has attended any other institution during the period when he/she was not registered at The University of Maine, an official transcript of this work must be submitted. An Application for Readmission will carry no preference and will be treated in the same manner as an application for initial admission.

### 2.2 Specific Program Requirements - Master of Education

Both previous academic record and out-of-school experience will be considered in admitting students for work for this degree. A lower grade point average than that required for students who want to earn a Master of Arts or Master of Science degree may be accepted, given the professional orientation of the program.

### 2.3 Committee to Consider Application

See Institutional Unit Graduate Committee.

### 2.4 Classification of Admissions

#### 2.4.1 Regular Admission

Granted to a student who has a record of high scholarship in his/her academic field and about whom there is no question of ability to carry on graduate study.

#### 2.4.2 Provisional Admission

If a student does not have all the prerequisite course work for admission to graduate study in the academic field, or if deficiencies in the application exist, such as lack of entrance examination scores, and/or a letter of recommendation, entrance may be granted on a provisional basis. Prerequisite and elective courses must be made a part of the student's program of study.

#### 2.4.3 Conditional Admission

Under exceptional circumstances, a student who does not meet the established academic requirements may be admitted on a conditional basis, provided, sufficient favorable evidence is supplied to show that he/she is capable of doing satisfactory graduate work. Letters of recommendation from professors in the student's academic field will be considered very carefully.

For those admitted on a conditional basis, it shall be stipulated in the admission letter that the student must earn grades of A or B in all courses of his/her first nine (9) hours of graduate degree credit.

A change to regular status may be recommended by the student's advisory committee after the attainment of nine (9) hours of graduate degree credit with acceptable grades (A or B). Upon the recommendation of the student's advisory committee, if this requirement is not met, the student may either be continued on condition or be terminated.

#### 2.4.4 Tentative Admission

Students who file applications during the final year of undergraduate work and who are thus unable to supply complete transcripts, will be given tentative classification.

Admission on this basis is contingent upon the satisfactory completion of the undergraduate program and receipt by the Graduate School of a supplementary transcript containing certification of the degree.

#### 2.4.5 Non-Degree Admission

Non-degree students are those whose previous background or work does not immediately qualify them for admission to Graduate School or whose interest in advanced study is not related to degree programs. Non-degree status may be granted to students not planning to work for a degree, provided they meet the established entrance requirements. Such students are not required to follow course sequences, but are held to the same work standards as are all other graduate students. Students in this category must make formal

application to the Graduate School in order to matriculate into a degree program. The admission must be approved by the intended major department. Work taken as a non-degree student cannot be applied to a degree later unless it fits into an approved program of study and all credits must be completed within the appropriate time limit.

#### 2.4.6 Visiting Graduate Student Admission

A student in good standing in another recognized graduate school who wishes to enroll for a limited number of course credits, and who plans to resume work at the school of original admission, may be admitted as a visiting graduate student. Admission is granted through submission of a Visiting Graduate Student Admission Form signed by the Dean of the Graduate School of the institution in which the student is enrolled.

### 2.5 International Student Application

All international applicants whose native language is not English, are required to take the Test of English as a Foreign Language (TOEFL) exam and submit scores as part of the application documents. A score of 550 or above on the TOEFL or equivalent score on the internet-based (iBT) TOEFL is required for admission. To be awarded a Teaching Assistantship, applicants must have achieved a 580 or equivalent on the TOEFL. In some circumstances, TOEFL scores may be waived if the applicant has attended an American college or university for at least **four** years or has previously earned a graduate degree from a U.S. institution of higher education. Applicants with scores below 550 or equivalent iBT score will be required to take English language training.

It is requested that all foreign transcripts provide information as to the student's rank in class whenever possible. IELTS and Pearson Academic PTE scores that are comparable to the required TOEFL scores based on concordance tables will also be accepted as meeting the minimum English proficiency requirement.

### **3. REGISTRATION**

Prior to the beginning of each semester, usually during the pre-registration period of the preceding semester, each student is required to consult with his/her advisor, complete a registration form, and obtain the approval of the advisor. The registration material must be sent to the Graduate School for approval. Registration is not complete until all fees have been paid at the Bursar's Office. Graduate students registering for the first time at the University of Maine must register in person with the Graduate School staff to ensure proper status of their academic record.

The listing of a course as suitable for graduate credit does not mean that any graduate student has a right to use the course for credit toward his/her degree. The course must be included in a planned program of study duly approved by the student's advisory committee (see Program of Study).

#### **3.1 Staff Member Registration**

Members of the University faculty at the instructor level or above may become candidates for advanced degrees from any College or School of The University of Maine other than the University of Maine College or School in which they hold faculty appointment.

Faculty and staff members of the University of Maine System who are employed full-time may register for a maximum of two (2) tuition free courses per semester and during the summer. It is assumed that course prerequisites will be met.

The above implies tacitly that this privilege is not extended to persons employed on a part-time basis or to persons who are on a leave of absence or sabbatical.

#### **3.2 Limitations of Registration**

Graduate courses ought to provide adequate opportunity for formal instruction, student preparation, faculty-student interaction, reflection on and summary of course materials by the student, and, when appropriate, laboratory or field experience.

During the fall and spring semesters, course credit is normally based upon one (1) credit hour per lecture contact hour during a 14-15 week semester. During Summer and other sessions not part of the traditional academic year, credit is normally based upon no more than one (1) credit hour per calendar week of instruction. In some instances, intensive courses of shorter duration may be assigned more credit than that which might be based upon the actual instructional period. In such cases, it is expected that course preparation

and/or follow-up projects or reports by students consistent with the above general guidelines will be required.

### 3.2.1 Credit Load for GA's

Students holding graduate assistantships are normally considered to be employed on a half-time basis and are limited to twelve (12) hours of total credit per semester.

### 3.2.2 Summer Session

A full-time load in the Summer Session is one (1) credit hour. Students attending a three-week session are limited to three (3) hours of credit. Students who have previously attended the University as graduate students may be permitted to register for a maximum of seven (7) hours, provided their record from the last previous enrollment as a graduate student was B or better. In no case may a student carry more than seven (7) hours of work for graduate credit during the six-week session.

### 3.2.3 Doctoral Students

All doctoral students registering for dissertation during the academic year shall have credit hours assigned for \_\_\_\_699.

Normally, a full-time doctoral student will register for a minimum of six (6) credits each semester. Such registration may include both course and dissertation credits.

## 3.3 Registration for Graduate-Level Courses by Undergraduate Students

### 3.3.1 Courses Taken for Undergraduate Degree Credit

University of Maine undergraduate students with appropriate qualifications and permission of the instructor may take graduate-level (500-599) courses for undergraduate degree credit.

### 3.3.2 Courses Taken for Graduate Degree Credit

University of Maine undergraduates, who lack not more than nine (9) semester hours toward a bachelor's degree (counting required and sequence courses), if they meet admission requirements, may register for limited graduate course credit while concurrently completing work for the bachelor's degree. The degree credit will be transferred to the graduate transcript upon admission to Graduate School, but not the

quality points. Students admitted to approved 4+1 programs may register for graduate courses prior to their final semester of undergraduate study.

### **Procedure**

The student applies in writing to the Dean of the Graduate School to be permitted to take specific courses for graduate credit. The letter must also be signed by the chairperson or graduate coordinator of the program concerned. If the request is approved, the student's registration material should be brought to the Graduate School so that proper notations may be made authorizing the Office of Student Records to record the courses for graduate credit, once the student receives his/her undergraduate degree.

#### **3.3.3 Four + One Master's degrees**

Core requirements:

1. The master's program must have unfilled capacity (seats available in required classes so that the program can be instituted without opening new sections).
2. This program is intended for non-thesis masters programs only.
3. The sponsoring unit must develop a curriculum that can feasibly be completed in the indicated time frame (15 months following matriculation in master's program).  
Proposed four + one programs must be submitted to the Graduate School for review and recommendation by the Executive Committee and the Graduate Board. Approved programs will be transmitted to the Provost for final approval.
4. Students would be admitted conditionally during the junior year (those who have completed at least 60 but no more than 100 credit hours applicable towards graduation). Students complete an application for the Four + One program supplied by the academic unit and submit it directly to that unit rather than the Graduate School. To be admitted, students must have a GPA of 3.0 or higher in order to double-count graduate courses towards both their undergraduate and graduate degree programs. Higher GPA requirements may be established by individual programs for admission to Four + One programs. The faculty advisor or graduate coordinator must work with the student to create a plan of study that leads to graduation within 15 months after matriculation in the master's program to double count the credits. The program of study and the provisional admission must be communicated to the Graduate School, and the student must make a formal application through the Graduate School during the senior year for admission to the Master's program.

5. During the senior year, provisionally admitted students would take up to 9 credits of graduate-level courses toward the master's degree. These courses would also count towards the bachelor's degree (joint credits), but must be part of the Master's Program of Study.
6. Upon graduation with a bachelor's degree, and with satisfactory performance (defined as 3.0 cumulative GPA and no grade below "B" in the courses to be double-counted for the master's degree) in courses taken as an undergraduate, the student may be formally matriculated into the master's program. Students who meet these requirements must matriculate in their master's program within 3 months after receiving their bachelor's degree in order to use the joint credits. Under extraordinary circumstances, a student may petition to delay matriculation up to an additional 12 months. Credits to be used towards both the undergraduate and master's degree will be transferred in after successful completion of the master's degree within 15 months of admission.
  - Political Science/Global Policy
  - Food Science/Food Science 11/21/13
  - Economics/Global Policy 11/21/13
  - Economics/Economics, Financial Economics, Resource Economics and Policy 11/26/13
  - Mathematics/Mathematics 1/23/14
  - Psychology/Psychology 3/27/14
  - Forestry/Forestry 5/6/14
  - Computer Science/Spatial Informatics, Information Systems, and Spatial Information Science and Engineering
  - Computer Engineering /Computer Engineering 6/9/16
  - Electrical Engineering /Electrical Engineering 6/9/16
  - History/History 6/9/16
  - Human Development 3/30/17
  - International Affairs / Global Policy 5/3/18

### 3.3.4 Four + Two Master's Programs

Core requirements:

1. The master's program must have unfilled capacity (seats available in required classes so that the program can be instituted without opening new sections).

2. This program is intended for thesis master's programs only.
3. The sponsoring unit must develop a curriculum that can feasibly be completed in the indicated time frame (27 months following matriculation in master's program). Proposed Four + Two programs must be submitted to the Graduate School for review and recommendation by the Executive Committee and the Graduate Board. Approved programs will be transmitted to the Provost for final approval.
4. Students would be admitted provisionally during the junior year (those who have completed at least 60 but no more than 100 credit hours applicable towards graduation). Students complete an application for the Four + Two program supplied by the academic unit and submit it directly to that unit rather than the Graduate School. To be admitted, students must have a GPA of 3.0 or higher in order to double-count graduate courses towards both their undergraduate and graduate degree programs. Higher GPA requirements may be established by individual programs for admission to Four + Two programs. The faculty advisor or graduate coordinator must work with the student to create a plan of study that leads to graduation within 27 months after matriculation in the master's program. The program of study and the provisional admission must be communicated to the Graduate School, and the student must make a formal application through the Graduate School during the senior year for admission to the Master's program.
5. During the senior year, provisionally admitted students would take up to 9 credits of graduate-level courses toward the master's degree. These courses would also count towards the bachelor's degree (joint credits), but must be part of the Master's Program of Study.
6. Upon graduation with a bachelor's degree, and with satisfactory performance (defined as 3.0 cumulative GPA and no grade below "B" in the courses to be double-counted for the master's degree) in courses taken as an undergraduate, the student may be formally matriculated into the master's program. Students who meet these requirements must matriculate in their master's program within 3 months after receiving their bachelor's degree in order to use the joint credits. Under extraordinary circumstances, a student may petition to delay matriculation up to an additional 12 months.
7. Students may successfully complete their program in less than 27 months. However, any student who does not complete the degree within 27 months may not continue to count toward the master's degree any courses also applied to the bachelor's degree unless the student's committee petitions the Graduate School for extension due to

extraordinary circumstances and the Graduate School grants the exception. Credits to be used towards both the undergraduate and master's degree will be transferred in after successful completion of the master's degree within 27 months of admission.

8. If a student starts in a 4+1 program and requests to move to the 4+2 before the end of the 15 month 4+1 period, then in order to apply up to 9 credits of graduate courses taken as a senior to the master's degree as well as to the undergraduate degree, the student must actually complete a thesis successfully in the 27 month period of the 4+2 program. If a student in the 4+2 option requests to drop back to the 4+1 option, s/he must complete all the requirements for the 4+1 within 15 months of finishing the bachelor's degree, otherwise the graduate courses taken as a senior may not also be applied to the master's degree. A student may petition the Graduate School for an extension due to extenuating circumstances.

- Biology, Botany, and Zoology/Botany, Entomology, and Zoology 11/21/13
- Mathematics/Mathematics 1/23/14
- Psychology/Psychology 3/27/14

### **3.4 Summer Session and Continuing Education**

Students in Summer Session or in Continuing Education who present evidence of holding a bachelor's degree or its equivalent may register for graduate credit on a non-degree basis for 500-level courses and above. Registration for graduate credit and/or 500-600 level courses is limited to students who have been admitted to the Graduate School. Such students are expected to have satisfied all course prerequisites. In case of doubt, the instructor shall be the final authority in judging the qualifications of a student to take a particular course.

### **3.5 Adding/Dropping Courses**

University policy generally rules out adding any course after the first week of classes during the regular semester or after one day in summer session.

Drop actions (without academic penalty) will be accepted on the signature of the student's advisor during the first five weeks in a regular semester or the equivalent in a summer session; and thereafter, "Drops" will be considered by the Graduate School only after consultation with the advisor.

Note: Advisors and students should review current refund policies available from the Bursar's Office.

### **3.6 International Student Registration**

No international student will be allowed to register for graduate degree credit unless the student has a current visa valid for study at The University of Maine. Transfer of international students from another educational institution will not be permitted until the student has completed at least one (1) term or semester at the institution from which the student is transferring.

### **3.7 Full-time/Part-time Student Status**

Graduate students admitted as full-time students must maintain full-time continuous enrollment. (See Continuous Enrollment)

Full-time continuous enrollment for a graduate student is defined to be registration for six (6) or more degree hours per semester and/or registration for at least one credit hour in the Summer Session. Part-time enrollment is defined as registration for fewer than six (6) hours per term. Part-time students must register at least once per year to maintain continuous enrollment, but do not have access to library and other campus resources unless registered each term. The Office of Student Aid defines full-time/part-time status for aid eligibility exclusively by credit load per term.

Doctoral students who have been admitted to candidacy and students in their final semester of study may maintain full-time enrollment status by registering for a minimum of one (1) thesis credit during the Fall and Spring semesters.

### **3.8 Enrollment Restrictions**

#### **3.8.1 Graduate Assistants**

During the academic year, Graduate assistants must maintain full-time enrollment status by registering for six (6) to twelve (12) credit hours per semester. Doctoral students admitted to candidacy may maintain full-time enrollment status by registering for 1 credit hour of thesis or research per semester.

In the summer (June 1st through August 31st) graduate assistants are required to enroll for at least 1 graduate credit hour.

#### **3.8.2 Fellowships and Scholarships**

Recipients of fellowships and scholarships are required to register for a minimum of six (6) credit hours each semester, except as noted in 3.8.1.

### **3.8.3 Continuous Enrollment**

A student who fails to maintain continuous enrollment is considered inactive and must apply for readmission to the Graduate School in order to resume work on a graduate degree. Continuous enrollment means that every graduate student admitted for full-time study is required to register each semester, exclusive of the Summer Session, from the time of the first enrollment in the Graduate School of The University of Maine until completion of all requirements for the graduate degree, including the filing of the thesis or dissertation and the passing of the Final Oral Examination.

A graduate student who has been admitted on a part-time basis is required to enroll and register at least once every twelve (12) months from the time of first registration in the Graduate School until the completion of all requirements for the graduate degree, including the filing of the thesis and the passing of the Oral Examination.

Course work included in a student's program of study taken at a campus other than UM may satisfy the continuous enrollment requirement provided the student's UM advisor and the Graduate School have approved the registration in advance and in writing.

All students, both full-time and part-time are required to register in the semester in which the degree requirements are completed.

## **3.9 On-Leave Registration**

If a graduate student in good standing is to be away from the University and out of contact with the University faculty and facilities for a specific period of time, usually not to exceed two (2) successive semesters, the student must request "On-Leave" status. Time spent in on-leave status (for a maximum of one (1) year) is not considered part of the time limit for completion of degree. The student must petition for on-leave status and obtain the approval of his/her advisor and the Dean of the Graduate School. On-leave status will be granted only under extenuating circumstances. This type of enrollment maintains a place for the student as a member of the Graduate School but does not entitle the student to any other University privileges of a regularly enrolled full-time student, or part-time student.

### **3.9.1 Full-time Students**

On leave approval covers two (2) consecutive academic year semesters or any part thereof. An on-leave student returning to the University on or before the termination of the period of the approved leave of absence should register in the usual way. This

registration will cancel any remaining leave period. If circumstances require a later leave of absence, the student must petition and proceed again in the same manner as for an initial leave of absence.

### 3.9.2 Part-time Students

On leave approval covers one (1) twelve-month period or any single part thereof. On-leave students returning to the University on or before the termination of the period of their approved leave of absence should register in the usual way and by this registration will cancel any remaining leave period.

## **4. GENERAL REQUIREMENTS**

It is the responsibility of the Graduate Student to become familiar with the various requirements of graduate study that will apply to his/her case and to satisfy them in the proper way.

### **4.1 Residence Requirement**

Residence is required to encourage students to establish a close association with the faculty, other graduate students, and the university community. Students under the direction of faculty members are encouraged to engage in independent or collaborative research utilizing the full facilities of the university. Increasing use of technology in education has created new means for delivery of courses, for communication with faculty and other students, and for access to campus resources, including library holdings. Further, the emergence of more professionally-oriented graduate programs that are based on the complementary nature of educational experience and work experience suggest that some graduate students may benefit from a program of study that does not necessarily involve full-time study on campus.

Recognizing the uniqueness of individual graduate programs, the Graduate School sets forth the following minimum requirements for residence which acknowledge other influences such as professional activities that play an important role in the graduate experiences of some doctoral students. Each institutional unit graduate committee bears the responsibility for adopting additional residency requirements that are appropriate for the mission of its own graduate programs.

#### **4.1.1 Master's Degrees and Certificate of Advanced Study**

At least 50% of the course credits applied toward the master's degree or certificate must be taken through The University of Maine. Course credit taken in an approved University of Maine graduate outreach program and/or from The University of Maine via distance education technology may be used to satisfy this requirement.

#### **4.1.2 Doctoral Programs**

The minimum residence requirement for doctoral programs is met by registering for courses or thesis research through The University of Maine for four semesters beyond the baccalaureate degree. Students entering doctoral programs with the master's degree must register for at least two semesters of course work or research at the University. For the purposes of satisfying residency, the summer session may count as a semester.

## **4.2 Tuition Requirement**

Doctoral students will be charged tuition based on the number of credit hours for which they register. In general, no more than thirty (30) semester hours of transfer credit from a master's degree will be accepted.

## **4.3 Time Limit for Completion of Requirements (See also Section 4.6.)**

### **4.3.1 Master's Degrees and Certificate of Advanced Study**

All work for a master's degree and for a Certificate of Advanced Study must be completed within six (6) years of matriculation.

### **4.3.2 Doctor of Philosophy and Doctor of Education**

All work for a doctoral degree must be completed within four (4) years of admission to candidacy. Students must be admitted to candidacy within four (4) years of registration for the first work presented for satisfaction of degree requirements.

## **4.4 Admission to Candidacy**

Admission to Candidacy applies only to students enrolled in doctoral programs and signifies that the student has completed most degree requirements. Graduate students in doctoral programs will be admitted to candidacy when the Dean of the Graduate School is informed by the Institutional Unit Committee that:

- a. The student has successfully passed the comprehensive and/or qualifying examination;
- b. The student has met all other program requirements with the exception of the dissertation, such as language proficiency; and
- c. The student's committee has approved a written statement satisfying the program's requirement for a research proposal.

## **4.5 Course Credit**

### **4.5.1 Work Taken (at the University of Maine) Prior to Graduate Degree Admissions**

Graduate degree credit will be granted routinely only to those students admitted to graduate programs. Up to twelve (12) hours of graduate degree credit may be granted with approval of the student's advisory committee for work done at the University of Maine as a non-degree (non-matriculated) graduate student prior to first admission to a

University of Maine graduate program, if the student was post-baccalaureate at the time of registration. (For exception, see Courses Taken for Graduate Degree Credit). Only those University of Maine graduate non-degree courses approved for degree credit upon admission to a graduate degree program will be calculated into the graduate GPA. If transfer credit is also granted, (up to 6 hours, see Transfer Credit), the transfer credit must be included in the maximum of twelve hours taken prior to admission. Exceptions to this policy may be made for graduate students in approved graduate certificate programs.

#### 4.5.2 Transfer Credit (Work Taken at Other Institutions Including Other Campuses of the University of Maine System Prior to Admission)

In accordance with the limits detailed below, courses taken at other institutions may be accepted toward partial fulfillment of requirements for an advanced degree. Evaluation of performance levels and satisfaction of quality standards shall be based entirely on grades earned in courses taken in the University of Maine System only.

Masters students may transfer no more than six (6) hours of credit for graduate-appropriate work taken beyond the bachelor's degree at other institutions, subject to approval of the student's program committee, for appropriate courses completed prior to admission. For students in doctoral or other terminal degree programs, no more than 50% of the credits applied toward the degree may be accepted in transfer, subject to approval of the student's program committee, for appropriate courses completed prior to admission. Requests for acceptance of additional credits must be filed on a Request for Exception to Regulation.

Credit cannot be transferred for:

- a. Courses which would not, if taken at The University of Maine, receive graduate credit;
- b. Courses in which a grade lower than B- was received;
- c. Courses which are inappropriate for inclusion in the student's degree program; and
- d. Courses completed at such a date as to exceed the time limit prescribed for a particular degree program.

#### 4.5.3 Extramural Registration (work taken at other institutions after graduate degree enrollment at The University of Maine)

A student may arrange to take work at another institution after being admitted as a graduate student at The University of Maine. Such arrangements must, however, be approved by the student's advisor and by the Dean of the Graduate School prior to registration in the course. (Forms for Extramural Credit, available from the Graduate School, should be used.) The conditions for transfer shall comply with basic transfer

policy and may not exceed 50% of the student's entire program for the degree. Registration for extramural credit will also satisfy the continuous enrollment requirement (see Continuous Enrollment).

#### **4.6 Revalidation of Course Credit**

If requirements for an advanced degree or certification are not completed within the time period specified, application for readmission must be made before the student is allowed to continue the work for the degree. Courses which exceed the time limit may be counted only if revalidated by an oral or written examination in the course as currently given, or its equivalent if the course is no longer being offered. This examination should demonstrate the student's knowledge of current literature and/or practice in the particular field of study. A pass/fail grade is attached. If the application for readmission is approved, the student's program of study will be revised in view of the work completed and/or revalidated.

#### **4.7 Responsible Conduct of Research (RCR) Training**

All students matriculating into graduate research masters (thesis) or doctoral programs in summer 2014 or later must receive one credit of RCR training prior to completing the degree, preferably prior to commencing the research. At the advisory committee's or Graduate Coordinator's discretion, this credit may be substituted for one of the 6 required thesis/dissertation credits (XXX 699). Students must complete RCR training before the commencement of the fourth (4<sup>th</sup>) credit of XXX 699. The Graduate School will provide a list of acceptable options for fulfilling the RCR training requirement.

## **5. APPLICATION FOR DEGREE**

All candidates who expect to be awarded a degree or certificate must apply for the degree or certificate and adhere to the deadline dates published by the Office of Student Records. The application process is completed in MaineStreet and general information can be obtained at [studentrecords.umaine.edu/graduation](http://studentrecords.umaine.edu/graduation).

The final title of the thesis is a part of the application for degree.

### **5.1 Eligibility for August Doctoral Candidates Participating in May Commencement**

August graduates can participate in the May Commencement if the following requirements are met:

- March 15: File for August graduation with the Office of Student Records. Applying for May graduation is reserved ONLY for students completing all requirements
- Submit a Notice of Oral Examination to the Graduate School (two weeks prior to defense)
- Submit a Tentative Dissertation and Tentative Dissertation Acceptance Form with required signatures due in the Graduate School at least 24 hours prior to the defense
- Successfully present and orally defend dissertation by the last Friday in April for participation in May Commencement
- Submit a **copy** of the Oral Examination and Final Dissertation Acceptance Form demonstrating an affirmative vote of the Committee (Section 1 of the form), indicating that the dissertation was successfully defended.

## **6. REQUESTS FOR EXCEPTIONS TO REGULATIONS**

Students have the privilege of petitioning for exceptions to the regulations of the Graduate Faculty but must submit convincing evidence that the exception is needed and is warranted.

### **6.1 Procedure for Submission**

Requests, after being signed by the advisor or by the Advisory Committee, shall be submitted on forms obtainable from the Graduate School and addressed to the Dean of the Graduate School who may, at his discretion, bring the Exception to Regulation to the Executive Committee for their recommendation.

### **6.2 Filing and Review**

Requests will generally be reviewed prior to registration for action by the Executive Committee at a regular meeting. Requests must, therefore, be filed well in advance of a monthly meeting date if they are to be placed on the agenda.

### **6.3 Authority to Grant Exceptions**

The Dean of the Graduate School has the authority to grant exceptions to the Graduate Faculty regulations if, in its judgment, such action is in accord with the educational objectives of the Graduate School. S/he may delegate this authority to the Executive Committee.

## **7. GRADUATE LEVEL COURSES**

The Graduate Board has sole authority to determine whether or not any course offered in any institutional unit may be offered for graduate credit. No course may be listed in any publication as carrying graduate credit unless approved by the Graduate Board.

The Graduate Faculty may allow graduate degree credit to one student but not to another for the same course.

### **7.1 Approval of Courses**

The Graduate Board shall recommend approval of new courses. (See Article IV, Section 1.d. of the Constitution.)

### **7.2 Designation of Courses for Graduate Credit**

The listing of a course as suitable for graduate credit does not mean that any graduate student has a right to use the course for credit toward his/her degree. The course must be included in a planned program of study duly approved by the student's advisory committee.

#### **7.2.1 Course Numbering**

Courses numbered 100 to 399 are undergraduate courses. They are open to graduate students but may not be used to satisfy advanced degree course requirements. Courses numbered 400 to 499 are upper-class undergraduate courses which are approved for graduate credit with prior approval of the student's advisory committee. Courses numbered 500 to 599 are graduate courses open to undergraduate honor students, or those whose advancement in the field will permit their taking a graduate level course among graduate students without disadvantage to themselves. Courses numbered 600 to 699 are exclusively for matriculated graduate students.

#### **7.2.2 Criteria for Approval**

Courses which are approved for graduate credit should represent study of an advanced nature. Advanced courses are those following a substantial amount of training in the subject or area. Only advanced courses may be credited in the subject in which the candidate expects to obtain his/her degree. The courses in a doctoral program, beyond the first or master's level year, should be predominantly in courses primarily for graduate students (500 and 600 level courses).

### **7.3 Master List of Courses**

A master list of courses approved for graduate credit shall be maintained. This list shall include all courses duly approved by the Graduate Board for graduate credit.

The current Graduate Catalog is regarded as the official listing of courses approved for graduate credit. Approval by the Graduate Board is required before any course not appearing in the Graduate Catalog may be listed in any University publication as being offered for graduate credit (degree or non-degree).

### **7.4 Courses Not on Approved List**

Explicit approval of the advisory committee chairperson and the Dean of the Graduate School is required, in advance, if graduate credit is to be allowed for a student for any course not listed in the current graduate catalog.

#### **7.4.1 Experimental Courses**

Occasionally, programs offer a course under a special topics designator to determine whether the demand exists to offer the course permanently or to make a new course available immediately prior to formal approval. In programs where this is a common practice, graduate students may have an academic history with several topics courses with the same course designator and number. To limit the proliferation of topics courses, programs may offer a new course once under a unique course number as an experimental course. Experimental Courses will not appear in the graduate catalog but graduate students will receive graduate degree credit for them. Proposals for experimental graduate courses are submitted to the Dean of the Graduate School for approval and submission to the Office of Student Records. In order to be offered more than once under the unique number, the course must go through formal approval by the Graduate Curriculum Committee and Graduate Board.

### **7.5 Continuing Education Courses and Interactive Television (ITV) Courses**

Continuing Education courses and Interactive Television (ITV) courses shall parallel, in content, regular University courses acceptable for graduate credit, and meet the same time requirements and scholastic standards maintained in the latter. In the event no comparable residence courses are offered, Continuing Education courses and ITV courses must conform to standards maintained for similar residence courses acceptable for residence credit. Continuing Education courses and ITV courses must meet the approval of the Graduate Board as indicated above.

## **8. PROGRAM OF STUDY**

A program of study is planned by the student in consultation with his/her advisor or advisory committee as early as possible. The program shall consist of an outline of courses to be passed and research to be undertaken. Prerequisite and elective courses are a part of the student's program of study. (See Registration.) By the completion of the first twelve (12) hours of graduate credit or before the third registration, whichever comes first, the student must submit a program of study to the Graduate School or registration will not be approved. When the program has been approved by the student's advisory committee and the chairperson of the institutional unit graduate committee and has been filed in the Graduate School, it becomes the student's required curriculum.

A graduate student working toward a master's degree will be required to present a minimum of twelve (12) hours (exclusive of thesis) of 500 and/or 600 level course work in partial satisfaction of requirements for the degree. The same requirement shall apply to the Certificate of Advanced Study.

### **8.1 Forms Used**

The entire program of study is to be presented on forms available from the Graduate School. Master's and Certificate of Advanced Study students should use the form entitled "Program of Study for the Master's or CAS Degree." Doctoral students should use the form entitled "Program of Study and Research for the Doctoral Degree." The original copy must be filed in the Graduate School.

### **8.2 Graduate Student Advisement**

All graduate students who are enrolled in degree programs must be assigned an advisor or an advisory committee.

For students in thesis programs, an advisory committee will be appointed as early as possible in the student's course of study. For students enrolled in non-thesis programs, a single advisor may be appointed in lieu of an advisory committee. This advisor, a member of the Graduate Faculty, shall be appointed by the Dean of the Graduate School on the advice of the chairperson of the institutional unit committee, as early as possible in the student's course of study.

#### **8.2.1 Advisory Committee**

A student's advisory committee is appointed by the Dean of the Graduate School, on the advice of the chairperson of the institutional unit graduate committee, as early as possible

in the student's course of study. The student's major advisor or thesis advisor normally chairs the student's advisory committee. If the student's research advisor is not a regular full-time graduate faculty member of The University of Maine, a regular full-time graduate faculty member must be named in addition to the research advisor to serve as co-chair of the student's advisory committee. The advisory committee is composed of a minimum of three (3) members of the graduate faculty. It is highly recommended that one (1) committee member be selected from the graduate faculty of a department other than the student's intended major. The advisory committee guides the student on course work and the thesis and often serves as the examining committee for the master's final examination. A separate examining committee may be appointed by the Dean of the Graduate School upon the request of the chairperson of the institutional unit graduate committee. Membership of the committee may be changed to meet the needs of the student. (See Article III, Section 5 of the Constitution.)

#### **8.2.2 Graduate Advising Outside the Home Department**

Upon occasion, a faculty member in one unit may be the primary advisor or co-advisor for a graduate student in another unit. In such a case, both units will receive credit for the student as an enrolled, degree-seeking student.

### **8.3 Changes in Program**

The form "Change in Program of Study" is used when the student wishes to substitute other work in place of that prescribed in the official program of study. Changes become official when the Change in Program of Study form is approved by the student's advisory committee and filed in the Graduate School. It is the student's responsibility to obtain approval of major changes in his/her course of study at the time such changes are made. Minor changes may be made and the Change in Program of Study form filed in the Graduate School during the semester in which graduation occurs.

### **8.4 Special Program Forms**

Curricula which include appropriate courses for graduate students who are engaged in, or are preparing for, educational work in the public school system have been prepared by the Faculty of the College of Education and Human Development. Copies of these prepared curricula are available in photocopied form for the use of the student and the advisor and satisfy the requirements for a program of study for the Master of Education degree. Similar programs are used for the Certificate of Advanced Study and the Master of Business Administration and these also satisfy the requirements.

## **9. EXAMINATIONS**

### **9.1 Master's Examinations**

All students completing master's degrees are expected to demonstrate comprehensive knowledge of their subject areas. This may be accomplished by completing an approved course of study, and/or by passing written or oral examinations. All students enrolled in thesis programs are required to pass an oral examination as described in Master's Oral Examination. Additional examinations may be required by individual programs.

#### **9.1.1 Master's Oral Examination**

##### **9.1.1.1 General**

Near the end of the course of study for the master's degree, candidates in thesis programs will be required to pass an oral examination. The oral examination will take place after the thesis has been approved and delivered to the Graduate School. The oral examination may cover the thesis as well as course work. The Graduate School must be informed of the date, time and place of the examination at least two (2) weeks in advance. A form for this purpose is available from the Graduate School.

Oral examinations are open to all members of the Graduate Faculty. Any member of the faculty at the examination has the privilege of questioning the candidate. Only members of the Examining Committee are eligible to vote.

##### **9.1.1.2 Nature of Examination**

The examination should be comprehensive in nature, and should be organized around a central theme such as the thesis. A formal presentation of the thesis or paper by the candidate is recommended. The student shall be informed of the nature of the examination by his/her major advisor. The two-hour period is to be considered the maximum and not the minimum time of the examination.

##### **9.1.1.3 The Examining Committee**

There shall be a small examining committee of from three (3) to five (5) members present throughout the examination. The student's advisory committee usually serves as the examining committee but a different examining committee may be selected with the consent of the Dean of the Graduate School. The candidate's major advisor shall chair the committee. By custom, the senior leadership of the Graduate School are *ex officio* members of the examining committee. The examining committee shall have the authority

to require the candidate to repeat the examination in whole or in part. The committee vote must be unanimous for the candidate to pass the examination.

## **9.2 Doctoral Examinations**

### **9.2.1 Comprehensive Examinations**

Comprehensive examinations, which may be written, oral, or both, will be administered by the department of the student's major subject and passed to the satisfaction of his/her advisory committee. These examinations may not be taken until the student has completed at least one and one-half (1½) years, or the equivalent, of study beyond the bachelor's degree. These examinations are given to determine whether the student has made satisfactory progress in his/her study, and is qualified to pursue thesis research profitably and to meet training requirements for the degree.

### **9.2.2 Final Examinations**

After the doctoral thesis has been accepted by the candidate's advisory committee, the required copy of the thesis shall be presented to the Graduate School. The candidate must then present himself/herself for the final examination to an examining committee of no less than five (5) members appointed by the Dean of the Graduate School or his/her designee upon the recommendation of the chairperson of the institutional unit graduate committee. Other members of the faculty may be invited to attend and participate in the questioning but only members of the committee may vote in determining the outcome.

The committee vote need not be unanimous for a doctoral candidate to pass the final oral examination; however, only one (1) negative vote will be permitted.

If the membership of the examining committee is not the same as the student's dissertation committee, the Graduate School must be notified in advance of the final examination.

## **10. THESIS REQUIREMENT**

A thesis is generally required as part of all programs leading to a Master of Fine Arts, Master of Arts, Master of Science, Doctor of Philosophy, or Doctor of Education. However, some master's programs do have non-thesis options.

### **10.1 Nature of Thesis**

#### **10.1.1 Project/Thesis/Dissertation Credits**

Project/thesis/dissertation credits (XXX699) shall be graded with a P (Pass = satisfactory progress made), I (Incomplete = insufficient progress made but extenuating circumstances exist) or F (Fail – insufficient progress made, no extenuating circumstances). At the beginning of each semester, the student and advisor shall agree on the work that must be accomplished during the semester to merit a P. When a project/thesis/dissertation is accepted, the final semester thesis credits will be graded as ACC (accepted), and I grades will convert to P. P grades automatically earn degree credit. I grades earn degree credit when they are converted to P on successful completion of the project/thesis/dissertation. Students may appeal any grade on project/thesis/dissertation credits through the normal procedures (see Section 13. Grades and Reports).

#### **10.1.2 Conversion of Thesis to Non-Thesis Degree**

Some programs permit students to convert from a thesis to a non-thesis option. When this occurs, students may use up to 6 thesis research credits (XXX 699) with a grade of P towards their degree credit requirement if the department concurs.

#### **10.1.3 Master's**

It is ordinarily expected that the thesis for the Master's degree shall be a limited piece of original research, with the design of making a contribution to scholarship in the student's particular field. It should involve training in the investigation of primary resources, the sifting and evaluation of data, the recombining and organizing of material, and the final construction and presentation of the thesis in satisfactory written or other graphic form.

Any department is authorized to submit for approval of the Executive Committee, in the case of a student of proven maturity, intelligence, accuracy, and industry whose objectives and interest are not best furthered by this type of research, a thesis of a different type. This may consist of a digest and analysis of the literature on a topic or

problem of major importance in the student's field; a comprehensive outline and critique of current practices; or a report of a project undertaken and carried on under competent direction.

#### 10.1.4 Doctoral Dissertation

The doctoral thesis must demonstrate the candidate's mastery of the area of his/her research. It must embody results of an original investigation in his/her principal field of study. It must give evidence of an exhaustive study of a specialized field and must be an authoritative statement of knowledge on the subject or produce a new interpretation by rearrangement or re-analysis of existing data. The work must be a definite contribution to knowledge of sufficient importance to warrant its publication.

#### 10.1.5 Publication of Research Results Prior to Acceptance of Thesis or Dissertation

If work constituting the basis of a student's thesis or dissertation is to be published and if publication will be prior to the acceptance of the thesis or dissertation, such publication shall be done only with the knowledge of the student's committee and the mutual consent of the student and the thesis advisor. The work intended for inclusion in the thesis or dissertation normally should have been completed in major part after the program of study, including the research area, and has been defined by the student and his/her committee. The publication should identify the student author or authors, and should indicate that the work published is being done as part of his/her (their) thesis requirements for the master's or doctoral degree at The University of Maine.

#### 10.1.6 Guidelines for Using Publications(s) as Thesis or Dissertation

1. Publications can be used in theses and dissertations with the prior approval of the student's Graduate Thesis Committee.
2. A thesis or dissertation comprised of publications must follow the established formatting for thesis and dissertations, including brief introduction and conclusion and a common bibliography.
3. A student who is interested in using publications as his or her thesis or dissertation must discuss this plan in advance with the advisor and Graduate Thesis Committee and secure approval as per item 1. The student's Graduate Thesis Committee will have an agreement indicating that published, in press, and/or submitted papers may be included in the thesis or dissertation and will establish criteria for the acceptable number of papers, order of authorship, and handling of shared contributions.
4. Joint authorship of publications used as part of a thesis or dissertation will be acknowledged in the thesis or dissertation, either in the endnotes or in the

Acknowledgments, by prior agreement between the student and the Graduate Thesis Committee.

5. It is the student's responsibility to secure copyright permissions when necessary (e.g., permission from a journal to use a published paper in the thesis or dissertation).
6. Programs may choose to develop program-wide guidelines on the use of publications in theses or dissertation.

## **10.2 Approvals Related to Thesis**

### **10.2.1 Thesis Subject**

The subject must be formally submitted to the Graduate School at the time the student submits the program of study. Approval of the thesis subject by the student's advisory committee is required.

### **10.2.2 Completed Thesis**

An approved electronic copy of the thesis must be submitted to the Graduate School no later than 24 hours before the final examination. It must have been previously approved by a committee which shall be appointed by the Dean of the Graduate School. The thesis shall be read and approved by no fewer than three (3) persons.

The "Tentative Thesis Acceptance Form" signed by the members of the advisory committee signifies that the draft thesis has been read and is in appropriate form for the oral defense. The filing of a completed Tentative Thesis Acceptance Form signifies only that the student's committee deems the thesis to be in acceptable form for oral defense. A student may expect that revisions, amendments, or additions may be required based upon the oral examination. In rare instances, serious difficulties may be discovered during the oral examination, which result in major revisions in a thesis or dissertation. (Also see Date of Presentation)

### **10.2.3 Human Subjects Approval**

As required by The University of Maine policy, graduate students who plan to perform research that involves the use of human subjects must comply with The University of Maine Policies and Procedures of the Institutional Review Board for the Protection of Human Subjects (IRB). No research with human subjects shall be conducted until the Institutional Review Board for the Protection of Human Subjects (IRB) has approved the research protocol. Responsibility for ensuring compliance with The University of Maine Human Subjects Review Policy rests with the student's thesis advisor. Evidence of IRB approval, if applicable, must be noted on the student's Final Thesis Acceptance Form.

Student violations of the Human Subjects Review Policy will be handled on an individual basis in accordance with existing University of Maine or college/departamental policy. The inclusion in a thesis or dissertation of data involving human subjects which was obtained through procedures which did not receive prior approval by the IRB will ordinarily not be permitted.

#### 10.2.4 Animal Subjects Approval

Graduate students performing research or testing using live vertebrate animals must obtain the approval of the Institutional Animal Care and Use Committee (IACUC) before initiating such studies. Responsibility for ensuring compliance with The University of Maine Policies and Procedures for the Humane Care and Use of Animals rests with the student's thesis advisor. Evidence of IACUC approval, if applicable, must be noted on the student's Final Thesis Acceptance Form. Student violations of the Policies and Procedures for the Humane Care and Use of Animals will be handled on an individual basis in accordance with existing University of Maine or college/departamental policy. The inclusion in a thesis or dissertation of data involving animal subjects which was obtained through procedures which did not receive prior approval by the IACUC will ordinarily not be permitted.

### 10.3 Form and Preparation of Thesis

It is expected that each department will guide its own students in the selection of the appropriate manual to be used in order that students will have experience with accepted practice in their own fields. The specific guidelines for thesis and dissertation preparation are available from the Graduate School's website at [umaine.edu/graduate](http://umaine.edu/graduate).

**CAUTION:** Do not consult another thesis for guidance. Thesis requirements change.

#### 10.3.1 General

The original copy of the thesis shall be submitted electronically in PDF format to the Graduate School.

The thesis must be standard, double-spaced throughout, except for quotations, footnotes, bibliographies, and illustrations, which may be single-spaced. Each page of the thesis shall have a margin of at least one inch on the left, right, top, and bottom. The only matter which may be outside these imaginary margin lines is the page number. With the exception of the Abstract which are not included in the pagination of the thesis, all pages are assigned page numbers. Small Roman numerals are used for the preliminary pages following the title page. The title page is the only page in the thesis on which a number is

not typed but is considered page “i.” Beginning with the first page of the text, all pages, including any appendices, are numbered consecutively with Arabic numerals.

### 10.3.2 Format

The order of presentation of the various parts of a thesis shall be as follows:

- Title Page
- Copyright Notice (optional)
- Abstract
- Dedication (if any)
- Acknowledgments (if any)
- Table of Contents (see below)
- List of Tables (if any)
- List of Figures (if any)
- Introduction (if any)
- Text of Thesis
  - By Chapter or by Section (consult committee)
- Bibliography or References Cited (consult committee)
- Appendix or Appendices (if any)
- Biography of the Author

The Table of Contents shall be a complete listing of all parts or divisions of the thesis that have page numbers including those pages numbered with Roman numerals.

### 10.3.3 Title Page

The arrangement of the title page must follow a specific form. Samples of title pages for the master’s thesis and for the doctoral dissertation may be obtained from the Graduate School.

### 10.3.4 Number of Copies

The candidate must prepare an electronic copy of the thesis which is held in DigitalCommons through the Fogler Library. Students may be required to provide additional copies to their department, advisor, or agencies contributing to the financial support of the thesis.

### 10.3.5 Biography

The biography shall be written in the third person and should not exceed one hundred fifty (150) words in length. It should give such information as the place and date of birth, education, major and minor fields of study, business or professional experience, exhibits of creative work, scholarly publications, and membership in professional organizations and honorary societies.

#### 10.3.6 Date of Presentation

The thesis should be in the hands of the thesis advisor about one (1) month prior to the anticipated date of the final oral examination, or at some time specified by the department concerned. The thesis, in a form acceptable for examination purposes, must be delivered to the Graduate School no later than 24 hours prior to the final oral examination and must be accompanied by a completed and signed Tentative Thesis Acceptance Form. The thesis shall be submitted electronically in PDF format.

The requirement that the thesis be in a form acceptable for examination means that:

- a. It represents the finished scholarly product of the candidate's research, and
- b. All copies submitted be typed and properly organized, ready for final revisions.

The thesis in its final approved form must be submitted electronically as a PDF to the Graduate School before classes end in the semester or summer session in which the student expects the degree to be awarded. The exact date and time the thesis is due is available in the Graduate School.

#### 10.3.7 Minimum Time between Comprehensive Examination, Dissertation Proposal Defense, and Dissertation Defense

Both the Comprehensive Examination and the Dissertation Proposal Defense (where applicable) provide important guidance to doctoral students at the start of their dissertation research. These events should thus occur prior to dissertation research. Therefore, the Graduate School establishes one complete semester (not less than four months) as the minimum time between the completion of these events and the final dissertation defense. Units may establish a longer minimum time at their discretion. Each unit must communicate the established minimum time to the Graduate School if it is greater than one semester.

#### **10.4 ETD Submission**

An electronic submission of the thesis through DigitalCommons is required. Information on submission procedures is available on the Graduate School website [umaine.edu/graduate](http://umaine.edu/graduate).

#### **10.5 Credit Allowed for Thesis**

The minimum credit allowed for the master's thesis is six (6) hours but in no case may it exceed fifteen (15) hours. If more than ten (10) semester hours are allowed, at least two (2) academic years must be spent by the candidate in resident graduate study.

Some programs permit students to convert from a thesis to a non-thesis option. When this occurs, students may use up to 6 thesis credits with a grade of P towards their degree credit requirement if the program concurs. Programs should establish a procedure for determining how many P grade thesis credits will count in each case.

## **11. FOREIGN LANGUAGE REQUIREMENT**

Beginning on July 1, 1968 each institutional unit will designate its foreign language requirements, if any, and will specify the method of testing. Such requirements must be stated in the catalog description of the institutional unit. There is no overall Graduate School language requirement.

## **12. ACADEMIC COMMITTEES**

### **12.1 Program or Advisory Committees**

See Graduate Student Advisement.

### **12.2 Institutional Unit Graduate Committee**

Each institutional unit of the University offering a program leading to an advanced degree shall have a unit graduate committee. The department chairperson shall be an *ex officio* member of this committee. With this one exception, the size of the committee, the method of selecting members, and the general range of its functions will be determined by the Graduate Faculty of the institutional unit.

The unit graduate committee is primarily the executive committee of the Graduate Faculty of the institutional unit. It carries on routine operations related to graduate work and proposes improvements in such for consideration by the unit. It coordinates graduate work in the unit, assists members of the Graduate Faculty and represents the unit in performing certain specific functions related to operations of the Graduate School as designated in the Graduate Catalog or in the Policies and Regulations of the Graduate School. The institutional unit graduate committee does not replace the graduate faculty member in directing the work of graduate students.

## **13. GRADES AND REPORTS**

### **13.1 Grade Level Required**

The work described in the student's program of study, presented for a graduate degree (exclusive of thesis), must be passed with a minimum grade of C. Excluding grades of I and L, any work submitted in a graduate course that would not carry a grade of C or higher is considered failing and should be assigned a grade of F. A grade of B- (2.67) or higher qualifies automatically for graduate credit. A grade of C or C+ will not carry graduate degree credit unless a student's advisory committee recommends and the Dean of the Graduate School approves that such credit be allowed. No student will be allowed to apply more than six (6) hours of neither C /C+ grades toward meeting the requirements of a Master 's degree nor more than twelve (12) hours toward satisfying the requirements for a Ph.D. or Ed.D. Following the first admission to the Graduate School, all courses taken at the University of Maine will be calculated into the student's graduate GPA. Exceptions for extenuating circumstances must be appealed to the Executive Committee of the Graduate Board and approved by the Dean of the Graduate School.

Courses with identical course designators and titles may not be repeated for graduate credit unless so noted in the course description or by approval of the graduate program coordinator and Dean of the Graduate School.

Once an advanced degree has been awarded, grades in course work taken towards that degree cannot be changed. Incomplete grades, unless made up during the period before the degree is awarded, will remain as I's on the student's transcript. Each department offering a course may establish additional criteria for alteration of an incomplete grade. A student may not carry a combination of more than three incomplete or L (L=stopped attending class) grades in all enrolled degree programs without permission of the graduate program coordinator(s) and the Graduate School.

#### **13.1.1 Evaluation Procedures**

It is presumed that a graduate student, whose preparation for a given course is adequate, will normally be able to earn a minimum grade of B. Whenever a student receives a grade lower than B, his/her advisory committee must make a written report and recommendation to the Dean of the Graduate School.

### 13.1.2 Reports

The reports referred to above are to be made on forms supplied by the Graduate School. Reports shall be presented to the Graduate Faculty, from time to time, on matters relating to academic standards in the various disciplines.

## 13.2 Completion of Requirements

Each graduate student is responsible for submitting to the Graduate School a “Completion of Requirements” form signed by his/her advisor or advisory committee, as appropriate. This form must be submitted no later than four (4) weeks from the end of classes for the semester. A graduate degree is not completed until both of the following conditions are met:

- a. The necessary signatures are obtained on the Completion of Requirements form indicating that the student has satisfactorily passed a required oral examination, and
- b. The unit Graduate Coordinator has audited the student’s official record and has signed this form indicating that all requirements for the degree have been fulfilled.

### 13.2.1 Doctoral Candidate Attendance at Commencement

No doctoral candidate shall be allowed to participate in a commencement exercise until he/she has successfully completed all requirements for the degree (including defense of his/her dissertation and filing of the completed final copy of the dissertation with the Graduate School).

Exception: See Eligibility for August Doctoral Candidates Participating in May Commencement.

### 13.2.2 Posthumous Degree for Undergraduate and Master’s Degrees

The following policy is to govern the awarding of degrees posthumously at The University of Maine.

#### **Requirements**

A posthumous degree may be awarded if:

- a. At the time of death the student had completed all requirements of their degree program and would have qualified for graduation; or
- b. At the time of death the student was enrolled in their final semester, was taking the necessary courses to complete their degree requirements, and their instructors

and/or advisor can show that the student was likely to complete the coursework satisfactorily.

### **Procedure**

- a. A request for a posthumous degree is made to the chair of the student's department by family, friends, or faculty members who have worked with the student. A death certificate and proof of their relationship to the student must be made available;
- b. If the above requirements have been met, the request will go to the Associate Dean of the college/Graduate School for approval;
- c. Provost reviews and makes recommendation to the President;
- d. President has final approval;
- e. The approved request is forwarded to the Office of Student Records.

### **Awarding of Posthumous Degree**

- a. The student's diploma and transcript will note that the degree was awarded posthumously;
- b. The student's name will appear in the commencement program, with note that the degree was awarded posthumously;
- c. The President, Provost or their designee(s) will hold a private reception with the family and friends of the deceased and present the degree at the reception.

## **13.2.3 University of Maine Policy on Posthumous Doctoral Degrees**

### **Preamble**

The University of Maine ordinarily awards undergraduate and graduate degrees only to those candidates who have completed all course work and other requirements necessary to earn the degree. However, given the somewhat extended nature of a graduate student's dissertation preparation, occasions may arise in which a student passes away just prior to completing the final doctoral degree requirements. This policy permits the University of Maine to confer a doctoral degree to a deceased graduate student who has been admitted to candidacy and has completed all work except submission of the final dissertation, and who would likely have finished the remaining degree requirements within a year of the death.

## **Procedure**

Upon receiving signed approval from the student's dissertation committee, the graduate program coordinator and/or department chair forwards a nomination letter to the Dean of the Graduate School expressing support for the conferral of the posthumous doctoral degree. The letter should address how close the student was to completing the dissertation at the time of his/her death. The nomination packet should also include the student's Curriculum Vitae and may also contain letters of support from other faculty members. The Dean of the Graduate School will confer with the Executive Committee of the Graduate Board about awarding the degree posthumously. If the review is favorable, the Dean will forward a recommendation to the Provost and the President that the doctoral degree be conferred posthumously. The President will inform the Vice Chancellor for Academic and Student Affairs of the University's decision.

#### **14. ACADEMIC APPEALS PROCEDURE**

Recognizing the highly individualized nature of graduate programs, a student filing an academic appeal is encouraged to request that his/her thesis advisor or other faculty member of his/her choice act as a counselor and/or representative at any level of the appeal process which is as follows:

- a. The student should discuss the concern with the appropriate faculty member(s).
- b. If the concern persists, the student should follow the department's written appeal procedures if they exist, or if not, consult with the graduate program coordinator or chairperson/school director, (or the college dean, if there is no department).
- c. If the complaint remains unresolved, the student should write to the Dean of the Graduate School outlining the situation, and requesting a review. The Dean of the Graduate School or his/her designee will discuss the situation with the college dean and/or appropriate members of the department or graduate program. The Dean of the Graduate School or his/her designee will then meet with the student and attempt to resolve the problem.
- d. If this resolution is not satisfactory, the Dean of the Graduate School will refer the appeal to the Executive Committee of the Graduate Board for one final review. After hearing from the student and the faculty member(s) involved, the Executive Committee will render its decision, which shall be considered binding. The decision will be communicated to the student in writing by the Dean of the Graduate School.

## **15. FINANCIAL AID**

Students classified in conditional or non-degree categories of admission are not eligible for award of scholarships, fellowships, or traineeships nor should they ordinarily be recommended for appointment as Graduate Assistants.

### **15.1 Definition of Terms**

#### **15.1.1 Graduate Assistant**

A Graduate Assistant is a graduate student who receives compensation (regardless of source) in return for required services in connection with research, instruction or instructional duties (including grading papers, assistance with laboratory sections, etc.), or administrative duties. Graduate Assistants on standard appointments are expected to work 20 hours a week and to perform their duties each week throughout the term of their appointment, unless otherwise arranged with the faculty supervisor. Supervisors are expected to release their assistants for the 10 days around Christmas to New Year's Day, but may otherwise expect the assistant to perform all assigned duties throughout the term of appointment.

Students and their supervisors should craft a work agreement at the start of the assistantship term. Graduate thesis research (i.e., work specific to the assistant's project, not necessarily related to the source of funding) may require additional time beyond 20 hours per week; such work should be described in the work agreement and should be reflected by student enrollment for graduate thesis research credits. Either students or faculty may appeal to the Graduate Board Executive Committee if a mutually satisfactory work schedule cannot be achieved. Individuals considering an appeal should contact the Dean or Associate Dean of the Graduate School to discuss their case before submitting a written appeal.

#### **15.1.2 Graduate Fellow**

A graduate student who has received an award for which no specific services are required, although the holder may be expected to pursue research or study in connection with an advanced degree.

#### **15.1.3 Graduate Trainee**

A graduate student supported by a grant program designed to increase the supply of trained scientific personnel. Funds are granted to the institution to encourage advanced

study and research in broad areas of science. Research is required insofar as research is a requirement of the advanced degree program in which the student is enrolled.

## **15.2 Assistantships**

Graduate assistantships are available in most departments offering work leading to an advanced degree, and include teaching assistantships (TAs) and research assistantships (RAs). A number of assistantships that are funded through Federal financial aid are also available. The awarding of assistantships is contingent upon admission of the applicant to graduate study. Visiting graduate students in good standing in an approved program of study may be awarded assistantships. Graduate Assistants, although appointed through the professional payroll system of the University, do not accrue vacation or sick leave. To avoid misunderstandings, duties during the semester, any assignments during student holidays, and any other expectations should be defined by the faculty member, or the department to whom the graduate assistant reports. Graduate Assistants may not normally be employed in any other capacity by their department or by other units of the University.

The time spent performing the duties of an assistantship should generally not exceed an average of 20 hrs/week during the academic year. However, completion of a thesis requires a significant amount of degree-related work which will extend beyond the 20 hours per week of compensated time in order for the student to make satisfactory progress towards the degree. Students should consult with their advisors regarding an appropriate work schedule.

### **15.2.1 Appointment of Graduate Students**

Graduate assistants are very important members of the University of Maine graduate community, fulfilling a variety of roles that both assist the institution in aspects of its mission and contributes to the training of the students. To help ensure the success of graduate assistants, the Graduate School has established the following policies:

1. At the time of appointment, the employing unit will send a letter of appointment to the prospective graduate assistant, with a copy to the Graduate School. The letter of appointment will address the following points:
  - a. Beginning and ending dates of the appointment
  - b. Compensation (stipend and tuition coverage)
  - c. Health insurance premium coverage

- d. Expected work
  - e. Schedule of work, particularly during university breaks and summer session (see Graduate School Policies and Regulation 15.1)
2. At the start of the appointment, the supervisor will meet with the student to review their job description and expectations.

### 15.2.2 Rate of Compensation

Graduate assistants receive a stipend equal to or exceeding the University's minimum set level. Graduate assistants also receive a tuition waiver of nine credits in the fall and spring semesters with additional tuition coverage in the summer and health insurance coverage (15.2.3 and 15.2.4). The rate/type of compensation depends upon:

- a. The program making the appointment;
- b. The qualifications of the applicant;
- c. The responsibilities involved; and
- d. The proportion of time devoted to University work.

### 15.2.3 Waiver of Tuition in Summer

The Graduate School will cover tuition for a maximum of 6 credits during the summer session for students who held a Centrally Base-Funded appointment (paid by the Graduate School) in the immediate preceding academic year (during the academic year). Up to three credits will be covered for students who worked only one of the preceding semesters\*.

If a student who held a Centrally Base-Funded position is hired/paid a stipend in the summer, the unit paying the stipend will be responsible for covering tuition (not the Graduate School). If the hiring unit is unable to pay tuition for the student, a written request asking the Graduate School to cover summer tuition may be submitted to the Dean of the Graduate School with accompanying justification for consideration.

Summer tuition for Graduate Assistants (other than Centrally Base-Funded), must be budgeted for (and covered by) the same unit paying the student's stipend in that period. If the assistantship appointment fails to include the cost of summer tuition, a written request asking the Graduate School to pay for tuition may be submitted to the Dean of the

Graduate School for consideration. The explanation must include why the cost of summer tuition was not budgeted as part of the student's assistantship appointment. Summer tuition waivers will only be granted based on substantial written justification and Graduate School budget status. In the case of grant rules that do not allow the principal investigator(s) to include the cost of tuition, they are strongly encouraged to increase the graduate assistant's stipend proportionally to cover tuition during the summer (in addition to the academic year).

\* This tuition waiver has been in effect since June 15, 1970.

#### 15.2.4 Insurance

All graduate assistants, fellows, and trainees who are appointed the equivalent of half-time and receive at least the University's minimum stipend level receive 50% of their University of Maine health insurance costs paid by the University.

#### 15.2.5 Additional Employment

Graduate Assistants who are U.S. citizens may be appointed for more than half-time (up to thirty (30) hours of service per week) during the academic year as long as the primary assistantship supervisor and student's advisor concur with the additional work. Graduate students may not be appointed to more than thirty (30) hours per week without permission of the Graduate School. Graduate students attending school on F1 and J1 visas are limited to no more than 20 hours of work per week when classes are in session.

In the summer (June 1st through August 31st) graduate assistants can work as full-time employees. They will be required to enroll for at least 1 credit of thesis or research work.

### 15.3 Student Aid

Nomination forms for fellowships, assistantships, and scholarships are made on forms available from the Graduate School. Nominations are due in the Graduate School in time for consideration at the March meeting of the Executive Committee.

#### 15.3.1 Assistantships and Fellowships

The Graduate School has a number of assistantships and fellowships, which provide a stipend plus tuition. These awards are normally made for a nine-month (academic year) appointment and are available to all students enrolled in thesis programs. Recipients are required to enroll on a full-time basis.

### 15.3.2 Tuition Waivers and Scholarships

The Graduate School has a number of tuition waivers and scholarships which pay a year or more of full-time tuition costs (18 cr/year). Nominations for waivers and scholarships are considered each spring for the following academic year.

### 15.3.3 Supplementation of Stipends Paid to Trainees or Fellows

Permission to supplement the stipend of a Graduate Fellow or Graduate Trainee may be granted by the Dean of the Graduate School.

## 15.4 Loans

Loan funds are available from several sources. Application for such aid should be made to the Student Financial Aid Office.

## **16. TUITION**

Tuition rates for graduate students are established by the Board of Trustees.

## **17. GRADUATE SCHOOL CATALOG**

The Graduate School will publish an online graduate catalog at [gradcatalog.umaine.edu](http://gradcatalog.umaine.edu) which will include: members of the Graduate Faculty; pertinent items of information concerning graduate study; and a listing of those courses which are acceptable for graduate credit.

Animal Care
IACUC Overview
Guidance & Policy
Training
Forms, Instructions & Samples
Meeting Schedule and Protocol Due Dates
Resources
Standard Operating Procedures (SOPs)
IACUC FAQs
Occupational Health & Safety Program
ANIMAL WELFARE REPORTING

## Guidelines for Satellite Animal Facilities

### Definition of a Satellite Facility

An animal facility maintained by the investigator (i.e., it is not one of the core University of Maine vertebrate animal holding facilities) where animals are housed for greater than 12 hours for USDA species, and all other animals that are housed for more than 24 hours. Daily husbandry and management must be conducted by the lab. The satellite space is not supported by the core Animal Facility staff.

### Satellite Application Steps

Approval of an IACUC protocol and approval of a Satellite Animal Facility are two separate approvals. Approval of a protocol does not imply automatic approval of the proposed Satellite Animal Facility. Satellite Facilities are approved only if sufficiently justified. The process of Satellite Animal Facility approval is dependent on several factors and the process can take a considerable amount of time.

The steps for development of a Satellite Facility at the University of Maine are as follows:

1. Written justification for a Satellite Animal Facility in the protocol approved by the IACUC.
2. Review by Safety Management (SM), IACUC and the Attending Veterinarian of the following:
  1. Space assignment
  2. Satellite Disaster Plan
  3. Appropriate SOPs for the space
3. Final inspection and approval by the IACUC (with assistance from SM)
4. Upon completion of steps 1-3, the space may be occupied

## Approval steps for the PI

1. The PI must submit a request with justification to the IACUC through a protocol. The justification cannot be based on convenience. It must be based on the inability to house animals in one of the core Facilities (ARC, SARF, Zebrafish Facility, Witter Farm, CCAR) owing to the inability of a core facility to provide desired space, care, or for scientific reasons.
2. The PI must submit the completed Satellite Disaster Plan paperwork and any SOPs for the space to the IACUC Office.
3. If the IACUC has approved the justification and appropriate paperwork has been submitted, the PI can begin coordinating an initial inspection. IACUC and SM representatives must be included in the initial inspection. These representatives will be able to identify issues such as safe arrangement of equipment in the space, proper storage of equipment, adequate air exchanges, ability to control temperature, humidity and light cycles, etc. If representatives find any concerns during initial inspection, the PI will need to schedule a re-inspection once the concerns have been addressed.
4. **Prior to using the space to house the animals, the PI must receive written notification from the IACUC Office of approval for using the space to house vertebrates.**

## Maintenance of the Satellite Site – PI responsibilities

1. It is the responsibility of the PI to ensure that all federal and institutional requirements are implemented consistently. This includes the care and use of all animals, seven days a week including weekends and holidays. The PI **must maintain daily husbandry documentation**, which includes date, caretaker initials, and a description of tasks (daily observations, feed, cage cleaning, water quality monitoring, temperature/humidity etc.).
2. All required signage must be posted. This includes any safety signage, after-hours emergency contact information along with veterinary contact information for health related issues. The PI is responsible for maintaining an **accurate** emergency contact information sheet.
3. It is the responsibility of the PI to ensure that anyone providing care for animals in the Satellite Facility has been adequately trained.
4. Appropriate caging, food, water, bedding, cleaning materials, etc. are the responsibility of the PI. Stored materials must be kept in sealed vermin-proof containers. Milling date or date of expiration must be clearly indicated on animal feed.
5. Biosecurity: PI are responsible for implementing methods to minimize the risk of pathogen transmission. Examples include the use of foot baths at points of entry to the facility and use of appropriate personal protective equipment (PPE). Personnel handling wild rodents should not enter the SARF on the same day.
6. The PI should alert the IACUC when animals no longer are being held at the satellite facility.





**University of Maine**  
**Institutional Animal Care and Use Committee**  
**Guidelines for Use of Zebrafish in Research, Teaching, and Testing**

**General Guidelines**

This document is intended to assist researchers/instructors working with Zebrafish in determining when Institutional Animal Care and Use Committee (IACUC) review is required. These guidelines were adapted from the “Guidelines for Use of Zebrafish in the NIH Intramural Research Program.”

Current Office of Laboratory Animal Welfare (OLAW) interpretation of Public Health Service (PHS) policy considers aquatic species as "live, vertebrate animals" at hatching (as does the University of Maine's Policies and Procedures for the Humane Care and Use of Animals). Although this is an imprecise stage for Zebrafish, it can be approximated at 72 hours post fertilization. The IACUC has agreed on the following guidelines for all research, teaching, or testing activities involving Zebrafish:

- 1) 0-3 days post fertilization (dpf), IACUC protocol submission for approval IS NOT required; however, euthanasia guidelines must be followed, (see below).
- 2) 4+ dpf, IACUC protocol submission for approval IS required. Since early stages (4-7dpf) do not feel pain or distress, the researcher/instructor may indicate Class C for the pain when working at those stages. The pain and distress categorization of the  $\geq 8$ dpf fish should be determined by the investigator based on the specific procedures described in the protocol.
- 3) If proposed studies involve fish at both stages 1 and 2 above, the protocol should mention the use of Zebrafish at 0-3 dpf, but only descriptions of procedures at the 4+ dpf stage are required.

**Scientific Background**

These guidelines are predicated on the need to minimize suffering and distress in Zebrafish. Suffering requires that the animal have both the neural apparatus for detecting noxious stimuli as well as the mental ability to interpret such stimuli as aversive (1). Many studies have demonstrated that adult Zebrafish show evidence of higher order cognition, being responsive to a variety of learning protocols (e.g. 2, 3, 4, 5), including learning to avoid aversive stimuli (6, 7, 8, 9). Thus while the ability of adult fish to experience suffering remains controversial in the scientific literature [for recent reviews reaching conflicting opinions see (10) and (11)], there is sufficient evidence to take a cautious approach in adult Zebrafish by instituting guidelines that ensure rapid euthanasia.

In contrast, there is no evidence of higher order cognition in Zebrafish during the first week of development although this may change as research techniques in pain perception science

improve (12). Developmental studies examining learning (13), reward (14), social (15, 16) and fright (17) behaviors have found that these functions become operational only in older fish. During the first week of development, embryonic movements are simple reflexes that do not provide evidence for a capacity for suffering. Thus during the first week, Zebrafish larvae can respond to simple stimuli but are assumed not to have reached the point in brain development where stimuli can be experienced as aversive.

Zebrafish larvae during the first week resemble early mouse embryos in that they are chiefly sustained by nutrients derived from the yolk. The criterion of nutritional independence for developmentally immature animals is subject to empirical verification and has found support in international regulations for the welfare of immature vertebrates (18). While the capacity for suffering is the primary criterion for establishing a threshold for 8 days post fertilization (dpf) for euthanasia in Zebrafish, the criterion of independent feeding also supports this age.

Hatching occurs at approximately 72 hours (which would be at the end of day 3 post fertilization), although hatching is not an accepted staging index in Zebrafish (19). Zebrafish larvae are not able to feed upon hatching and are sustained by nutrients derived from the yolk, which is not depleted until 7 dpf (20). Only after 7 dpf do Zebrafish larvae manifest signs of ill health in the absence of external feeding (21). Active feeding cannot commence at hatching because brain structures required for detecting and catching prey have not developed and the mouth and gut are occluded. At hatching, larvae lack taste buds (22, 23), have poor visual acuity (15), and cannot swim effectively as they lack a swim bladder and have deficient motor control (24, 25). Therefore, in Zebrafish the period between hatching and nutritional independence at 8 dpf is essentially an extension of the early embryonic stage during which the fish continues to develop sensory and motor functions required for the independent larval stage.

### **Euthanasia Guidelines**

The acceptable method of euthanasia of Zebrafish at all stages is by overdose of tricaine methane sulfonate (MS222, 200-300 mg/l) by prolonged immersion. Fish should be left in the solution for at least 10 minutes following cessation of opercular movement. A request for an exception to use any other method must be submitted to the IACUC for review/approval.

Zebrafish carcasses should be disposed of as according to University policies.

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**UNIVERSITY OF MAINE**  
**POLICIES AND PROCEDURES FOR THE**  
**HUMANE CARE AND USE OF ANIMALS**

University of Maine  
Office of the Vice President for Research  
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Orono, ME 04469-5703  
581-2657

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## CONTENTS

<b>I. Preamble .....</b>	<b>1</b>
<b>II. Policies.....</b>	<b>1</b>
<b>III. Definitions.....</b>	<b>3</b>
<b>IV. Procedures .....</b>	<b>4</b>
A. Responsibilities of the Investigator or Instructor.....	4
B. Responsibilities of the Department Chair or Unit Director .....	5
C. The Institutional Animal Care and Use Committee.....	5
1. Responsibilities.....	5
2. Authority.....	6
3. Membership.....	6
4. Functions and Operations.....	8
5. Review of protocols.....	8
6. Suspension and termination of animal use.....	11
7. Recordkeeping requirements.....	12
8. Reporting requirements.....	12
D. Occupational Health and Safety Program.....	13
E. Training Programs for Personnel Who Work with Animals .....	16
F. Whistle Blowing Policy .....	16

## **I. Preamble**

The University of Maine is committed to the ethical principles stated in this preamble concerning the use of live vertebrate animals for research, teaching, or testing. These principles shall guide all persons associated with the University of Maine.

Vertebrate animals may share in varying degree many sensory, emotional, and cognitive responses with humankind. It is essential that we assume responsibility for their welfare and that animal use for research or teaching purposes be conducted in a humane, compassionate manner.

To justify the ethical costs of using live animals in research, teaching, or testing, there must be reasonable expectation that such usage will contribute to the advancement of knowledge which may eventually benefit humankind and/or animals.

The University of Maine accepts and incorporates into the policy and code of ethics: (1) the National Institutes of Health *Guide for the Care and Use of Laboratory Animals*, (2) the *Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching*, and (3) applicable government regulations.

## **II. Policies**

- A. The University of Maine acknowledges and accepts responsibility for the ethical care and use of live vertebrate animals.
- B. The University shall maintain and support an Institutional Animal Care and Use Committee (IACUC), whose function it is to determine whether and how live animals may be used in research, teaching, and testing, and to educate the community with regard to the ethical use of animals.
- C. No research, teaching, or testing activities using live vertebrate animals shall be initiated until the IACUC has approved a protocol for such use. Before such approval is granted, proper consideration shall be given to the degree of pain and stress to the animals, the anticipated benefits of the proposed use, and the importance of the knowledge that may result from that use.
- D. Researchers and instructors shall abide by the humanitarian dictum that animals not be subjected to unnecessary pain or distress.
- E. The IACUC shall generally consider animal welfare of greater importance than issues of experimental expense or inconvenience.

- F. If pain or distress are necessary concomitants of an approved experiment, they shall be minimized both in intensity and in duration. In no case shall pain result in suffering.
- G. If the withholding of food and water is necessary to an approved experiment, it shall be as short-term as possible and result in the least detrimental effect on the health of the animal.
- H. Prolonged physical restraint procedures are prohibited. Short-term physical restraint procedures may be approved only after alternative procedures have been considered and found to be inadequate.
- I. Multiple major surgical procedures on a single animal are discouraged, except when they are interrelated and essential to the primary surgical objectives.
- J. Potentially painful experiments, otherwise consistent with these policies, may be approved provided the animal is anaesthetized and insensitive to pain during the entire procedure, unless justified (in writing) for scientific reasons.
- K. An animal that is observed to be in a state of severe pain which cannot be alleviated, or an anaesthetized animal that would be in such a state if allowed to regain consciousness, shall be immediately killed using a humane, acceptable method which must include as an initial action, in the case of still conscious animals, rapid inducement of unconsciousness.
- L. Experiments involving the use of tumors, toxic or infectious agents shall be designed, whenever possible, with an endpoint other than death caused by the treatment. As soon as the experimental endpoint has been reached, diseased animals should be humanely killed.
- M. Each investigator shall consider alternatives to the use of live animals in research before presenting a protocol for the use of live animals.
- N. Live animals shall be used for teaching and demonstration purposes only to achieve specific instructional objectives which cannot be achieved through available alternative methods, such as the use of videotapes, films, or computer models.
- O. The responsible faculty member shall provide sufficient supervisory staff per student to achieve the instructional objectives and to assure the humane use of the animals involved.

- P. The responsible faculty member shall use the fewest animals possible, consistent with the instructional and research objectives. Permission to use more animals may be granted, if they are subsequently to be used as food.
- Q. Hands-on surgical procedures shall not be taught to students whose educational needs and/or long-term professional aspirations will not normally require such experience with live vertebrates.
- R. If the instructional procedures will cause pain or distress, the same guidelines governing research with live animals shall apply also to their use in teaching and demonstration.
- S. The University's policies and procedures for the humane care and use of animals shall apply to all research, teaching, and testing activities which make use of live vertebrate animals *and*:
1. are sponsored by the University; *or*
  2. are conducted by or under the direction of any faculty, staff member, or student of the University in connection with his or her institutional responsibilities; *or*
  3. are conducted by or under the direction of any faculty, staff member, or student of the University using any property or facility of the University.
- T. The University of Maine shall encourage and promote constructive communication among research administrators, department chairs, deans and directors, investigators, instructors, staff, and students as a means of maintaining a high level of awareness regarding the humane care and use of live vertebrate animals.
- U. The University of Maine shall comply with all federal, state, and local regulations pertaining to the humane care and use of animals.

### **III. Definitions**

- A. "Animal" means, for the purposes of this policy, any live, vertebrate, non-human animal used or intended for use in research, teaching, biological testing, or related purposes.
- B. "Animal facility" means any building, room, area, enclosure, or vehicle, including satellite facilities, used for animal confinement, transport, maintenance, breeding, or experiments inclusive of surgical manipulation. A satellite facility is any containment outside of a core facility or centrally

designated or managed area in which animals are housed for more than 24 hours.

- C. "Assurance" means the Animal Welfare Assurance submitted by the University to the US Department of Health and Human Services, National Institutes of Health, Office of Laboratory Animal Welfare.
- D. "Guide" means the Public Health Service *Guide for the Care and Use of Laboratory Animals*, Eighth Edition or succeeding revised editions.

#### **IV. Procedures**

##### *A. Responsibilities of the Investigator or Instructor*

The individual faculty, staff, or student of the University who uses animals for research, teaching, testing, or related purposes shall exercise the following responsibilities:

1. The investigator or instructor shall abide by the humanitarian dictum that animals not be subjected to unnecessary pain or stress.
2. The investigator or instructor shall design and present first to the department chair (or appropriate unit director) and then to the IACUC a protocol for the proposed care and use of animals.
3. The investigator or instructor shall not initiate any activity using animals without the prior approval of the IACUC.
4. The investigator or instructor shall make no significant alterations to the approved protocol without the prior approval of such alterations by the IACUC.
5. The investigator or instructor shall report at once to the IACUC any unanticipated harm to animals.
6. The investigator or instructor shall report annually to the IACUC on the conduct of approved projects using animals and shall seek approval for continuation of such use at least once every three years, and more frequently if the IACUC so requires.
7. The investigator or instructor shall cooperate fully with the IACUC in monitoring the care and use of animals.

*B. Responsibilities of the Department Chair or Unit Director*

The chair of any department or director of any other unit in which animals are used for research, teaching, testing, or related purposes shall exercise the following responsibilities:

1. The chair or director shall assure compliance with the University's policies and procedures for the humane care and use of animals in the activities conducted within the department or other unit.
2. The chair or director shall assure proper management of the animal facilities within the department or other unit and proper supervision of the animal care personnel.
3. At the request of the President, the chair or director shall nominate from among the members of the unit who use live vertebrate animals a representative to serve on the IACUC.

*C. The Institutional Animal Care and Use Committee*

1. *Responsibilities.* The Institutional Animal Care and Use Committee (IACUC) shall exercise the following responsibilities:
  - a. The IACUC shall review at least once every six months the University's program for humane care and use of animals, using the *Guide* as a basis for evaluation.
  - b. The IACUC shall inspect at least once every six months the University's animal facilities (including satellite facilities), using the *Guide* or the *Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching* as a basis for evaluation.
  - c. The IACUC shall prepare reports of the evaluations required above and submit the reports to the Institutional Official for Animal Welfare.
  - d. The IACUC shall review concerns about the care and use of animals at the University brought to its attention by any member of the community.
  - e. The IACUC shall make recommendations to the Institutional Official for Animal Welfare regarding any aspect of the University's animal program, facilities, or personnel training.

- f. The IACUC shall review and approve, require modifications in (to secure approval), or withhold approval of activities related to the care and use of animals in research, teaching, or testing.
  - g. The IACUC shall review and approve, require modifications in (to secure approval), or withhold approval of proposed significant changes in previously approved activities related to the care and use of animals in ongoing research, teaching, or testing.
  - h. The IACUC shall devise and conduct programs of education in matters relevant to the care and use of animals for the benefit of students and employees of the University.
  - i. The IACUC shall maintain records of its activities.
2. *Authority.* The IACUC is authorized to
- a. Approve, disapprove, or require modifications (to secure approval) in the protocols submitted to it.
  - b. Monitor the care and use it has approved by any means it deems appropriate.
  - c. Suspend or terminate approved use of animals, whenever such use is not being made in accordance with the IACUC's requirements or whenever it has been associated with unexpected harm to animals.
  - d. Inspect animal facilities (including satellite facilities) at any time and without prior notice.
3. *Membership.* The IACUC shall nominate and the President of the University shall appoint members of the IACUC to three-year terms. Members may be reappointed to further terms. The President may also appoint alternates when desirable. Such alternates shall have the same voting privileges as the member for whom they substitute.

The President shall appoint one member of the IACUC to serve as Chair for a term of two years. At the beginning of the Chair's second year of service, the President shall appoint a Chair-Elect to succeed the current Chair. The Chair shall normally be a member of the University's tenured faculty who engages in research or

teaching with animals and who has substantial experience in the review of research and teaching with animals.

The IACUC shall have no fewer than seven members, qualified through their combined experience and expertise to oversee the University's animal program, facilities, and procedures. In addition to possessing the professional competence necessary to review specific activities, the IACUC shall be able to ascertain the acceptability of proposed animal use in terms of institutional commitments and regulations, applicable law, and standards of professional conduct and practice. The IACUC shall therefore include persons knowledgeable in these areas, or have access to the counsel of such persons.

The IACUC shall include at least:

- a. One Doctor of Veterinary Medicine, with training or experience in laboratory animal science and medicine, who has direct or delegated program responsibility for activities involving animals at the University.
- b. One practicing scientist experienced in research involving animals.
- c. One member whose primary concerns are in a nonscientific area, such as an ethicist, a lawyer, or a member of the clergy.
- d. One individual who is not affiliated with the University in any way other than as a member of the IACUC, and is not a member of the immediate family of a person who is affiliated with the University.
- e. The Biosafety Officer (BSO) for the University and a member of the Department of Safety and Environmental Management (SEM) shall be appointed to the IACUC as non-voting, ex officio member(s) of the IACUC.

An individual who meets the requirements of more than one of these categories may fulfill more than one requirement. However, the IACUC may not consist of fewer than seven members.

No member of the IACUC may participate in the IACUC's review or approval of any project in which the member has a conflicting interest, except to provide information requested by the IACUC; nor may a member who has a conflicting interest contribute to the constitution of a quorum.

The IACUC may, at its discretion, invite individuals with competence in special areas to assist in the review of complex issues. These consultants may not approve or withhold approval of an activity or vote with the IACUC.

4. *Functions and Operations.* The Chair shall convene monthly meetings of the IACUC for the purpose of reviewing protocols for approval of the use of animals in research, teaching, or testing. Except when a designated member review (DMR) is used, the IACUC shall review proposed protocols only at such meetings. Because members of the IACUC need to study protocols before the convened meeting, the IACUC shall normally consider only those that have been submitted at least two weeks prior to the meeting. In acting on protocols for approval of animal use, the IACUC shall follow the written procedures outlined in this document.

A quorum consisting of the majority of the membership shall be necessary for action on protocols. Approval of a protocol shall require the approval of a majority of the members present at the meeting.

At least once every six months, the IACUC shall appoint a subcommittee of at least two members to inspect and evaluate each animal facility. Using the *Guide* or the *Guide for the Care and Use of Agricultural Animals in Agricultural Research and Training* as a basis, the subcommittee shall evaluate both the physical plant and the animal husbandry associated with each facility. The findings and recommendations of the subcommittees shall be reported to the Institutional Official for Animal Welfare.

At least once every six months, the IACUC shall review the University's program for the care and use of animals, including (in addition to animal husbandry and physical facilities), these policies and procedures, veterinary care, the qualifications of personnel responsible for animal care and use, training programs, and measures related to personal hygiene and occupational health for employees and students working with animals. In addition, the evaluation will include a review of the Institution's Public Health Service (PHS) Assurance. Its findings and recommendations shall be reported to the Institutional Official for Animal Welfare.

5. *Review of protocols.* In order to approve proposed projects or proposed significant changes in ongoing projects, the IACUC shall conduct a review of those components related to the care and use of animals and determine that the proposed projects are in

accordance with University policy. In making this determination, the IACUC shall confirm that the project will be conducted in accordance with the Animal Welfare Act insofar as it applies to the project, and that the project is consistent with the *Guide* unless acceptable justification for a departure is presented. Further, the IACUC shall determine that the project conforms with the University's Assurance and meets the following requirements:

- a. Procedures with animals will avoid or minimize discomfort, distress, and pain to the animals, consistent with sound research or instructional design.
- b. Procedures that may cause more than momentary or slight pain or distress to the animals will be performed with appropriate sedation, analgesia, or anaesthesia, unless the procedure is justified for scientific reasons in writing by the investigator or instructor.
- c. Animals that would otherwise experience severe or chronic pain or distress that cannot be relieved will be painlessly and humanely killed at the end of the procedure or, if appropriate, during the procedure.
- d. The living conditions of animals will be appropriate for their species and maintain their health and comfort. The housing, feeding, and nonmedical care of the animals will be directed by a veterinarian or other scientist trained and experienced in the proper care, handling, and use of the species being maintained or studied.
- e. Medical care for animals will be available and provided as necessary by a qualified veterinarian.
- f. Personnel conducting procedures on the species being maintained or studied will be appropriately qualified and trained in those procedures.
- g. Methods of euthanasia used will be consistent with the recommendations of the American Veterinary Medical Association Panel on Euthanasia, and other standard references, unless a deviation is justified for scientific reasons in writing by the investigator or instructor.

Protocols for approval of the use of animals shall be prepared by the principal investigator or instructor and submitted to the IACUC, via the Office of the Vice President for Research using the

protocol review form found on the [IACUC website](#). Copies of project protocols shall be provided to each member prior to the review meeting.

When a protocol undergoes a full committee review (FCR) and modifications are required to secure approval, a designated member review (DMR) may be used. The DMR will typically be conducted by the IACUC Chair. The IACUC Chair may seek the assistance of the Institutional Veterinarian, or any other IACUC member he/she deems necessary to evaluate the revised protocol.

All IACUC members must agree (in advance and in writing) that the quorum of members present at a convened meeting may decide by unanimous vote to use DMR subsequent to FCR when modification is needed to secure approval. Any member of the IACUC may, at any time, request to see the revised protocol and/or request FCR of the protocol.

In some special circumstances, where a protocol or amendment requires review outside of the normally scheduled IACUC meeting dates, a DMR may be conducted by one IACUC member, following initial consultation with the Institutional Veterinarian. If the protocol or amendment involves significant pain or distress, DMR may be conducted by three members of the IACUC, following initial consultation with the Institutional Veterinarian. Prior to final protocol approval via DMR, each IACUC member will be provided with a copy of the protocol, and a polling procedure will be used to determine whether all members of the IACUC are in agreement that the protocol or amendment is suitable for approval via DMR. Consent to approve DMR is obtained by direct vote or assumed based on silent assent after five (5) working days. Objection by any voting member of the IACUC results in the protocol being scheduled for FCR.

In the event that a DMR is conducted by more than one IACUC member, all DMR member reviewers must either approve or require (the same) modifications (to secure approval); failing either, they must submit the protocol for FCR. If modifications are required to secure approval, all members of the DMR will review the revised protocol for approval. Decisions on reviews conducted by the DMR, including requested modifications, are maintained and recorded in the minutes of the next convened meeting of the full IACUC.

No member may participate in the IACUC review or approval of a protocol in which the member has a conflicting interest (e.g., is

personally involved in the project) except to provide information requested by the IACUC; nor may a member who has a conflicting interest contribute to the constitution of a quorum. The IACUC may invite consultants to assist in reviewing complex issues. Consultants may not approve or withhold approval of an activity or vote with the IACUC unless they are also members of the IACUC.

Protocols receiving IACUC approval may be subject to further administrative review by the Institutional Official for Animal Welfare or by another officer of the University appointed to that purpose by the President. This review may result in limitations and restrictions on the use of animals beyond that required by the IACUC. In extreme cases, the use of animals may be denied. Under no circumstances can the administration approve a project not approved by the IACUC or ease any restrictions imposed by the IACUC.

The IACUC shall notify investigators and instructors in writing of its decision to approve or withhold approval of activities related to the care and use of animals, or of modifications required to secure IACUC approval. If the IACUC decides to withhold approval of an activity, it shall include in its written notification a statement of the reasons for its decision and give the investigator or instructor an opportunity to respond in person or in writing.

The IACUC shall conduct continuing review of activities covered by these policies at appropriate intervals as determined by the IACUC, but at least once every three years.

6. *Suspension and termination of animal use.* The IACUC may suspend an activity that it previously approved if it determines that the activity is not being conducted in accordance with applicable provisions of the Animal Welfare Act, the *Guide*, the University's Assurance, or the *Public Health Service Policy on Humane Care and Use of Laboratory Animals*. The IACUC may suspend an activity only after review of the matter at a convened meeting of a quorum of the IACUC and with a vote for suspension by a majority of the quorum present.

If the IACUC suspends an activity involving animals, the Institutional Official for Animal Welfare in consultation with the IACUC shall review the reasons for suspension, take appropriate corrective action, and report that action with a full explanation, in writing to the Office of Laboratory Animal Welfare. If required, any extramural agency sponsoring the activity will also be notified.

7. *Recordkeeping requirements.* The IACUC shall maintain
- a. minutes of its meetings, including records of attendance, activities of the committee, and committee deliberations;
  - b. records of protocols, proposals, and proposed significant changes in the care and use of animals and whether IACUC approval was given or withheld;
  - c. records of semiannual IACUC reports and recommendations, including minority views, as forwarded to the Institutional Official for Animal Welfare; and
  - d. records of the qualifications of those certified to care for and use animals in University activities.

All records shall be maintained for at least three years; records that relate directly to protocols, proposals, and proposed significant changes in ongoing activities reviewed and approved by the IACUC shall be maintained for the duration of the activity and for an additional three years after completion of the activity. All records shall be accessible for inspection and copying, at reasonable times and in a reasonable manner, by members of the IACUC, by representatives of governmental agencies responsible for regulating research with animals, by representatives of extramural sponsors of University activities involving animals, and by any other person so authorized by the President or by the Institutional Official for Animal Welfare.

8. *Reporting requirements.* The IACUC shall report to the Institutional Official for Animal Welfare the actions it takes on all protocols for approval of activities involving animals, and to the Director of Research and Sponsored Programs all actions pertaining to activities supported by extramural funding or proposed for such support.

The IACUC shall report to the Institutional Official for Animal Welfare at once any action to suspend or terminate approved activities, and any serious or continuing non-compliance by University personnel with the IACUC's requirements and determinations. The IACUC shall provide through the Institutional Official for Animal Welfare to the Office of Laboratory Animal Welfare of the National Institutes of Health a full explanation of the circumstances and actions taken with respect to any serious or continuing noncompliance with these policies, any serious

deviations from the provisions of the *Guide*, or any suspension of an activity by the IACUC.

The IACUC shall report through the Institutional Official for Animal Welfare to the Office of Laboratory Animal Welfare at least annually:

- a. any change in the University's program or facilities which would place the University in a different category than specified in its Assurance;
- b. any change in the description of the University's program for animal care and use;
- c. any changes in the IACUC membership; and
- d. notice of the dates that the IACUC conducted its semiannual evaluations of the University's program and facilities.

Reports filed under these requirements shall include any minority views filed by members of the IACUC.

*D. Occupational Health and Safety Program*

The IACUC works closely with the Institution's occupational health and safety program. All animal care protocols submitted for review by the IACUC include a risk assessment questionnaire to provide ongoing review of safety concerns. The University's occupational health and safety program (for all personnel working in laboratory animal facilities or have frequent contact with animals) is as follows:

The Department of Safety and Environmental Management is responsible for the overall management and monitoring of the Occupational Health and Safety Program.

The Occupational Health/Medical Surveillance Program is administered through the Department of Human Resources (HR). In most cases, the hiring department, the Safety and Environmental Management Department (SEM), and a UMaine Healthcare Provider will be involved in conducting and evaluating the risk assessment. Human Resources will communicate with the employee regarding the need to schedule medical follow-up. When animals or animal facilities are involved, the Attending Veterinarian will also be consulted to ensure the protection of both the workers and the animals.

Employees and students may be enrolled in the Occupational Health/Medical Surveillance Program for a number of reasons related to the duties they are required to perform (Respirator Use, Bloodborne Pathogens Exposure, Scientific Diving, working with certain Hazardous Chemicals such as pesticides, Asbestos, Animal Care and Use, etc.)

An initial evaluation for enrollment involves the completion of Pre-Employment Health & Safety Checklist prior to filling a position or whenever duties change that introduces significant new hazards. If warranted, a risk assessment will also be required from the area-supervisor or hiring department. After the initial assessment has been conducted, medical consultation and/or exposure monitoring may be required.

HR, working in conjunction with the department supervisor and SEM, has developed procedures to ensure that existing employees and students receive the appropriate medical and exposure monitoring in a timely manner.

Whenever an assessment of duties indicates that an employee may have been exposed to a hazard for which medical monitoring is needed, the employee's supervisor will work with HR to ensure that appropriate medical consultation is available. Examinations will always be performed under the direct supervision of a licensed physician and will be at no cost to the employee. Baseline and ongoing exposure information will be provided to the physician by UMaine when required. Medical/Health History Questionnaires will be provided to the physician by the employee. Results of medical consultations and examinations are considered confidential and will not be disclosed except with employee consent or as required by law. HR will maintain copies of any required medical information. The supervisor will only receive a report indicating the employee's status for returning to work.

Prevention is the corner stone of this program. Initial worksite assessments, appropriate engineering controls, personal protective equipment, safe work practices, training and medical monitoring will help prevent injuries and illnesses. However, all injuries and illnesses must be immediately reported to the employee's supervisor. The supervisor is required to complete and fax the Supervisors Workplace Injury Report to SEM within 24 hours. Investigation of these reports may indicate additional medical monitoring and worksite assessments that require assistance from (HR, Occupational Health Provider, SEM, Department, IACUC, etc.).

**Hazard Identification and Risk Assessment:** The use of biohazardous materials, hazardous materials, and infectious agents are identified and described in the protocol submitted by the investigator and reviewed by

the IACUC. Risks of these hazards and procedures to manage risks are assessed and developed through the Biosafety Committee, the Radiation Safety Committee, and/or the Department of Safety and Environmental Management. The Attending Veterinarian is consulted by these groups whenever a safety issue arises that is related to the use of animals in research or teaching.

As an example, a common hazard and associated risk that has been identified is exposure to rodent allergens and the subsequent development of allergies. Precautions include training to be made aware of the hazard and risks, procedures to minimize the production of aerosols, the proper use of appropriate PPE, e.g., protective clothing and N95 masks, and appropriate personnel hygiene.

Personnel Training: The Department of Safety and Environmental Management has several policies in place that apply to personnel (faculty, staff, and students) potentially exposed to hazardous agents. The Department of Safety and Environmental Management maintains a comprehensive Web-Based manual of policies, programs, standards, and best business practices, and provides specific guidance in assuring compliance with the laws related to Safety and Environmental Management in the workplace. A Hazard Communication Program was developed to address the specifically unique chemical hazards associated with the University of Maine Facility and to establish a mechanism for its management in order to help ensure the health and safety of all University personnel (faculty, staff, and students) working with or around chemical substances. A Chemical Hygiene Plan applies to all university-sanctioned programs engaged in the laboratory use or creation of hazardous chemicals. Other plans, such as Exposure Control Plans, Emergency Action Plans, and an Incident Reporting and Investigation Plan are also established. University Employees are required to complete Basic Safety Training on an annual basis covering a variety of common basic safety topics. Employees (faculty, staff, and students) working in laboratory or animal housing facilities are further required to complete specific area training to familiarize them with the potential hazards and safety resources relevant to specific work sites, this includes zoonoses. Health and Safety Checklists and Risk Assessments are the responsibility of individual departments. Departments are required to update the information provided whenever there is a significant change in the tasks performed or increase in risk (e.g., health status change). Faculty, staff, and students may inform supervisors of any health change (e.g., pregnancy, illness), so that the existing risk assessment can be reviewed and updated based on the person's change in health status. After reviewing the risk assessment, if personnel have additional concerns based on their change in health status, they may be advised to consult their physician.

Facilities, Procedures and Monitoring: University Policies described above require departments to have mechanisms or processes in place for reporting exposure (including accidents, spills, etc.) as part of its Chemical Hygiene Plan.

Personal Protective Equipment: Adequate PPE is provided by the University. Examples include masks, head caps, gloves, lab coats, coveralls, and boots.

Medical Evaluation and Preventive Medicine for Personnel: The University requires that personnel hired to care for laboratory animals be immunized against tetanus as a condition of employment. Faculty and professional staff certify that they and their project personnel have received a tetanus immunization within the past ten years when they submit a protocol to the IACUC for approval. Students who are working with animals under an approved protocol are considered “project personnel.” They are also required to have received a tetanus immunization within the past ten years. All personnel are instructed to seek medical treatment in the event of a work-related illness or injury. For students, treatment is provided by the Cutler Health Center with appropriate follow-up care or referrals as necessary. For staff, treatment is available at any of the established medical facilities in the area.

*E. Training Programs for Personnel Who Work with Animals*

All personnel named in a protocol, who work directly with animals, shall be required to complete the Collaborative Institutional Training Initiative (CITI) animal care course. The course is valid for four years. Records shall be kept of the names of individuals who complete the training and are certified to work with animals.

Beyond the web based training program, supervisors shall be responsible for additional required training of individuals under their direction who work with animals, and encouraged to call upon the veterinarian and the IACUC for assistance as needed.

*F. Whistle Blowing Policy*

The Institutional Animal Care and Use Committee (IACUC) shall provide every animal facility manager or principal investigator with a notice describing how to report concerns regarding animal care. This information shall be posted in a visible location at every animal facility. This information will also be maintained on the IACUC website.

Complaints may be made anonymously. Complaints shall be dealt with confidentially to the extent reasonably possible. No member of the

University (student or employee) is subject to any reprisal for reporting any suspected violations. Protection against reprisal for employees is also guaranteed through the collective bargaining agreements and/or the State of Maine's Whistleblowers Protection Act.



Risks can be minimized by:

- using proper engineering controls to isolate exposures to personnel (glove box, negative air enclosure, fume hood, etc.)
- using appropriate handling techniques when working with animals, their tissues, and caging
- wearing appropriate PPE and masks for the tasks and species you are working with
- utilizing appropriate personal hygiene practices such as frequent handwashing
- following proper disposal of needles, scalpels, glassware

## Special Health Concerns when working with Animals

You must be medically evaluated for working with animals initially and annually thereafter.

- **Animal Allergies:** Allergies to laboratory animals can become a concern and can affect anyone who works with animals. If you think you might be experiencing allergic symptoms due to your work with animals (including sneezing, runny nose, watery eyes, hives, or wheezing), contact Cutler Health Center or your primary care physician to arrange for an evaluation.

Respirators and other masks may help prevent the development of allergies; the proper use/fitting for this PPE should be discussed with Cutler Health Center. You must not wear a respirator for a job without a clearance, pulmonary function and fit test. If you voluntarily use a respirator, you must fill out a disclosure form.

- **Immune deficiency/illness:** Special precautions may be needed while working with animals if your immune system is weakened due to disease or medication use. You should speak with your primary care physician or Cutler Health Center **as soon as possible** should this apply to you.
- **Pregnancy:** Special precautions may be needed while working with animals if you plan on becoming pregnant or are pregnant. You should speak with your primary care physician or Cutler Health Center **as soon as possible** should this apply to you.

## Accidents, Injury or Illness

Should you have a non-emergency accident related to working with animals during regular business hours you should seek treatment at Cutler Health Services or through your medical provider.

Individuals who experience an accident, injury or illness related to working with animals must:

- Report the event to your supervisor or Principal Investigator (PI), and
- [Submit an incident report via Risk Management](#) (UMaine login required).

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TOP

## Animal Care

IACUC Overview

Guidance & Policy

Training

Forms, Instructions & Samples

Meeting Schedule and Protocol Due Dates

Resources

Standard Operating Procedures (SOPs)

IACUC FAQs

Occupational Health & Safety Program

ANIMAL WELFARE  
REPORTING

## Training

### Required CITI Training

All faculty, staff, and students involved with the use of vertebrate animals in research, teaching, testing, or related purposes are required to complete the Collaborative Institutional Training Initiative (CITI) web-based training in animal welfare before protocols will be approved. [Instructions for CITI Training \(PDF\)](#)

- The CITI training is valid for four years from the date of completion. CITI will send reminders when it is time to retake the training.
- Depending on the number of modules required, it could take several hours and multiple log-ins to complete. Passing score for quizzes is 70%. The components of the CITI training include:
  - Required Course: Working with the IACUC Course (for Investigators, Students, and Staff). THIS IS THE REQUIRED COURSE THAT MUST BE TAKEN.
  - Species Specific Modules and Technique/Additional Information Modules: In addition to the required "Working with the IACUC" course, we strongly recommend you take modules from these sections that apply to your research.

Please [contact us](#) with any questions regarding training.

### Additional Training Guidance

- [Training Requirement for Students Who Handle Live Vertebrate Animals in Class](#)
- [Special Health Concerns When Working with Animals](#): Guidance regarding when additional precautions may be needed, including allergies, illness/immune deficiency & pregnancy



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[Nondiscrimination notice](#)

[Clery Safety and Security Report](#)

[COVID-19 health and safety guidance](#)

[Emergency](#)

University of Maine | Orono, ME 04469 | 207.581.1865



TOP

Animal Care

IACUC Overview

Guidance & Policy

Training

Forms, Instructions & Samples

Meeting Schedule and Protocol Due Dates

Resources

Standard Operating Procedures (SOPs)

IACUC FAQs

Occupational Health & Safety Program

ANIMAL WELFARE  
REPORTING

## Required Training for Students in Class

### Training Requirement for Students Who Handle Live Vertebrate Animals in Class

This training, which includes information about animal handling to reduce risk to both the animals and the handler, is for students who handle animals only for class assignments. If data from vertebrates will also be used in research, then a research protocol must be approved by the Institutional Animal Care and Use Committee (IACUC) before the animals are handled in the class assignments. It is the responsibility of the instructor to ensure that all training requirements have been met.

The training requirement may be met in **one of three ways** at the discretion of the instructor:

1. Students may complete the course "[Working with the IACUC](#)" through the [CITI Program](#). The course instructor is responsible for collecting the certificates from the students and ensuring all students have completed the training before animals are handled.
2. Students may read a document titled "[Use of Animals in a Course: What You Need to Know.](#)" ([Word](#)). The document may be modified and tailored to fit the needs of the course at the discretion of the instructor. Documentation of this training option must be maintained by the instructor.
3. Students may be trained by a method of the instructor's choice, provided that the essentials of proper handling of animals are conveyed in the training. The instructor will be responsible for submitting a written description of the training for IACUC review prior to delivering this training to the students. Documentation of this training option must be maintained by the instructor.

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## USE OF ANIMALS IN A COURSE: WHAT YOU NEED TO KNOW

Two government agencies regulate the use of animals. The United States Department of Agriculture (USDA) enforces the Animal Welfare Act. The Animal Welfare Act protects dogs, cats, nonhuman primates, guinea pigs, hamsters, rabbits, and other warm-blooded animals used for research, teaching, testing, experimentation, or exhibition purposes. The second agency involved in regulating animal use is the Department of Health and Human Services, which is the home of the Public Health Service (PHS). Institutions that accept any PHS agency research funding must agree to follow PHS policy for animal research. The University of Maine does receive money from PHS. PHS policy covers all vertebrate species used for research, teaching, and testing.

The Office of Laboratory Animal Welfare (OLAW) is responsible for monitoring institutional compliance with the PHS policy and guidelines.

OLAW relies on two documents for judging compliance:

1. [PHS Policy on Humane Care and Use of Laboratory Animals](#)
2. [Guide for the Care and Use of Laboratory Animals](#)

By law, the University of Maine has a committee that must review all aspects of the animal care and use program. This committee is the [Institutional Animal Care and Use Committee \(IACUC\)](#). The IACUC is responsible for making sure that all federal laws, regulations and policies are followed when investigators perform animal research.

The IACUC has many responsibilities, including:

1. Reviewing and approving live vertebrate animal use in experiments and teaching courses
2. Monitoring the animal care and use program by conducting semiannual reviews of the program and inspections of the animal facilities.

The University of Maine's IACUC reviewed and approved the use of animals in this course and the facilities in which the animals are housed.

Animals are approved for use in courses only after considering questions such as:

- What is the experimental design or teaching procedure for use of live vertebrates in the study or class?
- Is the species of animal appropriate for the teaching goals?
- Are there good alternatives to using animals? Alternatives include replacing animals with non-animal techniques, reducing the number of animals used, and refining procedures so as to cause minimum discomfort to animals.

It is important for students to carefully follow the procedures given by their instructor since the IACUC reviewed those procedures to assure minimum discomfort to the animals. It is also important that students listen to and carefully follow instructions for handling animals to avoid injury to the animals or themselves.

#### Animal Concerns:

If you observe or learn of activities involving animal care and use at the University of Maine that you believe are inappropriate (inhumane treatment, neglect, unapproved procedures, etc.), you are encouraged to report such activities. You may make your complaint anonymously if you choose. The University of Maine's IACUC is required by federal regulations to investigate all such reports in a confidential manner. No member of the University (student or employee) is subject to any reprisal for reporting any suspected violations.

For more information on how to report an animal concern please refer to the University of Maine [IACUC Animal Welfare Reporting webpage](#).

*Public Health Service Policy on Humane Care and Use of Laboratory Animals*. National Institutes of Health, Office for Protection from Research Risks, March 1996.

[AALAS Learning Library](#)

*Guide for the Care and Use of Laboratory Animals: Eighth Edition 8th Edition*. National Academies Press, 2011.

**PROTOCOL NUMBER:**  
**PI/INSTRUCTOR NAME:**  
**PROTOCOL TITLE:**

**OFFICE OF RESEARCH COMPLIANCE  
INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE  
PROTOCOL REVIEW FORM FOR  
RESEARCH, TEACHING, OR PILOT STUDIES**

**This protocol form is for research, teaching, or pilot studies using vertebrate animals. Husbandry (breeding and production) of vertebrates solely for the purpose of supplying animals for research, teaching or pilot studies requires a different documentation form (found on the IACUC website). This form is for a new protocol. To amend a currently approved protocol, use the protocol amendment form (found on the IACUC website).**

Things to remember when completing the protocol:

- The protocol must be written so that it is understood by an audience of educated nonspecialists.
- For assistance, read the [guidance for completing the protocol](#).
- Call Paula Portalatin (1-2657) if you have questions (or email [umric@maine.edu](mailto:umric@maine.edu))
- Submit the completed protocol to the Institutional Animal Care and Use Committee via email to [umric@maine.edu](mailto:umric@maine.edu).
- All personnel named in the protocol must complete the [web-based training](#) in animal welfare (Note: protocol approval will not be granted until all personnel have completed the training.)
- Remember: activities may not begin until you have received IACUC approval from the Office of Research Compliance.

1. Principal Investigator/Instructor and Co-Investigator(s) (NOTE: faculty or professional staff only):

PI/Instructor Name:  
Department:  
Phone:  
Email:

Co-PI/Co-Instructor Name:  
Department:  
Phone:  
Email:

Include same information if more than one Co-PI/Co-Instructor

Will any non-UMaine personnel handle or have responsibilities for the animals (i.e., collaborations)? ☐ No ☐ Yes. If yes, please name personnel below with his/her affiliation. An [Inter-Institutional Agreement](#) may be required.

2. Title and number of course/Title of project:
  
3. Funding agency for project, if applicable:  
**Please attach the vertebrate animal (VA) section/methods section from the proposal.** If multiple agencies are involved, please send only the VA sections that specifically relate to this protocol.
  
4. Briefly describe the (check appropriate category) ☐ research, ☐ teaching, or ☐ pilot study objectives (**not procedures**) that involve use of animals. Describe these objectives in non-technical language. Do not paste in sections of grant proposals.
  
5. Describe how this use of animals contributes to the advancement of knowledge that may eventually benefit humankind and/or animals.
  
6. Total Animals and Pain Classification: Tabulate the total number of animals per species, life stage (e.g., larval, adult, all) and USDA pain classification. **Do not list animals in combined categories (e.g., C/D).** Indicate if these individuals are genetically modified (e.g., knock-out or transgenic). Individuals should be accounted for only once, under the highest pain classification planned for their use (see [USDA pain classification for classification definitions and examples](#)). Breeding and maintenance colonies used to produce or hold study subjects are generally not included in these numbers, unless this protocol requires significant deviations from approved husbandry practices (see husbandry protocol for associated colony). Any future increases to these numbers require an approved amendment. (NOTE: to add rows, right-click within table, click on “insert” and choose “insert rows above” or “insert rows below”)

Species (Scientific Name/Common Name)	Stage(s)	USDA Class (B, C, D or E)	GMO (Y/N)	3 Year Total
<b>PROJECT TOTAL:</b>				

**Mandatory Requirements for Classification D or E:**

- a. Veterinary Consultation: A consultation is required **before the protocol is submitted**. Please email or phone Dr. James Weber (1-2774, [jaweber@maine.edu](mailto:jaweber@maine.edu)) with a description of the proposed procedures.

Date of veterinary consult:

- b. Search for Alternatives: Federal law requires that the PI conduct a documented search for alternatives to these procedures. This includes a written narrative describing the written and electronic sources surveyed to identify potential alternatives to painful procedures. Complete the required form for this search found at the end of this document.

7. State the rationale for use of this/these species and life stages. Address the issue of replacement by explaining why educational or research objectives cannot be met by the use of nonvertebrate animals, cell or tissue cultures, or non-animal systems. (Please note: the IACUC does not consider "hands-on experience" to be in and of itself an adequate educational objective, unless the course serves students whose anticipated educational and professional futures will require the skills imparted through such hands-on experience. If that is true in this instance, please describe the student population that typically enrolls in the course.)
8. Justify the number of animals with respect to your overall project design:
- a. Study Groups (e.g., treatments and replicates): Briefly outline the specific groups or treatment types that comprise your project. Describe the role each of these groups performs with respect to your specific project objectives/hypotheses (e.g., control or

comparison to another treatment). Indicate whether and how these groups would be replicated.

- b. **Sample Sizes:** Provide a rationale for the number of individuals (per study group or replicate) based on the specific inferential methods to be used. Address the issue of reduction by explaining why the proposed number individuals is sufficient, but not excessive. A simple statement that the number proposed is required for statistical significance is not an adequate response. Formal power analyses often provide the most direct and informative rationale, and are useful in assessing sample sufficiency even when numbers are logistically limited by captures, space etc. See [How to do a Power Analysis](#) regarding doing a power analysis. If a rationale is based on comparison to prior studies, or specific recommendations for a field, provide relevant citations and justify how the current design compares to those contexts. In the case of pilot studies, meaning investigations conducted for the express purpose of determining suitable approaches and sample sizes for future research, justify your numbers in terms of those objectives.
- c. **Summary:** Provide summary formula(s) that clearly depict how the numbers of individuals listed in #6 above are obtained as a product of the number of study groups, replicates and sample sizes presented in 10a and 10b. (Example: 500 adult zebrafish = 5 exposure groups (including control) \* 2 time points \* 50 individuals per group). Consider providing a table or figure to indicate numbers per treatment and experiment.

## 9. Procedures

The Committee does not wish to receive copies of research proposals or laboratory manuals. The Principal Investigator or Instructor is asked to address succinctly the following questions, as applicable. Special care should be taken to justify any procedures generally discouraged by the University's code of ethics and policy.

- a. Major categories of procedures. Please check the appropriate box for **EACH category**.

**Any “yes” responses must be described in sections b. (nonsurgical procedures), c. (surgical procedures) or d. (euthanasia) that follow.**

<u>Yes</u>	<u>No</u>	<u>Categories</u>
<input type="checkbox"/>	<input type="checkbox"/>	1. collection or capture (provide details under section 12)
<input type="checkbox"/>	<input type="checkbox"/>	2. nonsurgical marking, tagging, or device attachment
<input type="checkbox"/>	<input type="checkbox"/>	3. antibody production: describe antigen, adjuvant and route of immunization
<input type="checkbox"/>	<input type="checkbox"/>	4. noninvasive physical or physiological measurements
<input type="checkbox"/>	<input type="checkbox"/>	5. dietary manipulations

- |                          |                          |     |  |
|--------------------------|--------------------------|-----|--|
| <input type="checkbox"/> | <input type="checkbox"/> | 6.  | pharmacology/toxicology: material used, route of administration, etc.  |
| <input type="checkbox"/> | <input type="checkbox"/> | 7.  | blood draw, biopsy or other nonsurgical tissue collection  |
| <input type="checkbox"/> | <input type="checkbox"/> | 8.  | behavior studies   |
| <input type="checkbox"/> | <input type="checkbox"/> | 9.  | environmental stress, e.g., temperature, restraint, forced exercise  |
| <input type="checkbox"/> | <input type="checkbox"/> | 10. | irradiation: type, facility to be used   |
| <input type="checkbox"/> | <input type="checkbox"/> | 11. | hazardous materials, e.g., carcinogens, radioactive materials, immunogens and teratogens   |
| <input type="checkbox"/> | <input type="checkbox"/> | 12. | biohazardous or infectious agents (use of Class 2 or higher agents requires the approval of the University's Biosafety Committee). Description must include precautions to restrict the spread of biohazardous or infectious agents to non-target animals or humans. |
| <input type="checkbox"/> | <input type="checkbox"/> | 13. | experimental trauma, e.g., planned injury, significant behavioral stress   |
| <input type="checkbox"/> | <input type="checkbox"/> | 14. | anesthesia/sedation/immobilization (describe in sections 11 b or 11 c)   |
| <input type="checkbox"/> | <input type="checkbox"/> | 15. | nonsurvival surgical procedure   |
| <input type="checkbox"/> | <input type="checkbox"/> | 16. | survival surgical procedure (animal is allowed to recover for any length of time)  |
| <input type="checkbox"/> | <input type="checkbox"/> | 17. | multiple major operative procedures from which animal is allowed to recover  |
| <input type="checkbox"/> | <input type="checkbox"/> | 18. | planned euthanasia (describe method in section 11 d, e.g., harvest tissue, necropsy, etc.)   |
| <input type="checkbox"/> | <input type="checkbox"/> | 19. | other, <b>specify:</b>   |

b. Nonsurgical Procedures (**Categories 2-14 and potentially 19**):

1. **USING THE ABOVE NONSURGICAL CATEGORIES MARKED “YES” AS HEADINGS**, provide a succinct description of the procedures to be conducted on live vertebrate animals. Specify any drug(s), including adjuvants, doses (including frequency) and routes of administration (if you are using several substances, create a table with the required information – see [guidance for completing the protocol](#) for example). Specify duration of procedures. Include any monitoring procedures used to ensure effective anesthesia/sedation or recovery from other nonsurgical procedures.

**Example (remove example before submitting to IACUC):**

*4. Noninvasive physical or physiological measurements: fish will be weighed and measured and then immediately released; procedure should take 2-3 minutes.*

c. Surgical Procedures (**Items 14-17; and potentially 19**):

1. **USING THE ABOVE SURGICAL CATEGORIES MARKED “YES” AS HEADINGS**, provide a succinct description of the surgical procedures to be conducted on live vertebrate animals. Specify any drug(s), including adjuvants, doses (including frequency) and routes of administration (if you are using several substances, create a table with the

required information – see [guidance for completing the protocol](#) for example). Specify duration of procedures. Be sure to include any monitoring procedures use to ensure safe and effective anesthesia/sedation.

**Example (remove example before submitting to IACUC):**

*16. Survival surgical procedure: Following anesthesia, a 2cm incision will be made anterior to the pelvic fins...*

2. Is animal allowed to regain consciousness after surgery? Yes/No
  3. Describe the postsurgical monitoring and care procedures, including what response(s) you will look for to indicate recovery or deterioration and the frequency of observations. Indicate dosage or frequency of any analgesics, other drugs, or pain relieving measures that will be used post-operatively.
- d. Euthanasia (**Both questions must be answered**):

1. Will the animals be killed as part of the study design or at the conclusion of the study?

Yes/No.

If yes, how will this be accomplished (include dosages/duration if applicable) and verified?

2. If euthanasia becomes necessary due to unplanned injury or illness to the animal(s), how will it be accomplished (include dosages/duration if applicable) and verified? \*

\*See the [2020 Report of the AVMA Panel on Euthanasia](#) for assistance. NOTE: When possible, euthanasia should be conducted in a place or fashion that minimizes the potential for cues that could cause distress in other animals (e.g., outside housing room or in an isolated chamber or container).

10. Animal Sources: Please indicate source of animals. Note: The IACUC will approve animal purchases from a licensed pet store provided the researcher/instructor informs the pet store (in writing) that the purchased animals will be used for research/teaching.

a) ☐ Purchased/conveyed from a company/other institution (please answer the following)

1. What are the specific planned commercial or institutional sources?
2. Are Federal permits required? If so, does source hold permit or is PI securing permit? Please provide brief explanation. **NOTE: Permit documents must be made available if requested by the IACUC.**
3. If the purchase/conveyed species is **non-native** to Maine, please complete section 6.ii., below.

b) ☐ Captured from the wild (please answer the following)

1. Where and when will the animals be captured?
2. What specific capture gear will be employed (nets, traps, electrofishing etc.) and how will it be operated (e.g., frequency of net or trap checks). Include information how often traps checked, how long animal(s) will be in trap, how non-target species will be avoided or handled if captured (e.g., immediately released, euthanize, weigh/measure).
3. What steps will be taken to protect animals from exposure or other danger during collection?
4. Please include your plans for removal of traps, barriers or other gear from the field site.
5. If your field study protocol includes trapping, please indicate at least two people who can be contacted to respond to a reported animal care emergency at your trapping location:

Primary person to contact in case of an emergency =  
 Office phone =  
 Home phone =  
 Cell phone =

Secondary person to contact =  
 Office phone =  
 Home phone =  
 Cell phone =

Tertiary person to contact =  
 Office phone =  
 Home phone =  
 Cell phone =

6. Indicate if Federal permits are required and whether they have been obtained.

**NOTE: Permit documents must be made available if requested by the IACUC.**

7. State Permit for Native/Non-Native Wildlife and Freshwater Fish Species (please review the [guidance for completing the protocol](#) prior to answering the questions below):

NOTE: Marine fish require a [state permit](#) from the Maine Department of Marine Resources (MDMR) issued to the individual researcher. Contact Amanda Ellis [amanda.ellis@maine.gov](mailto:amanda.ellis@maine.gov) for more information about the marine fish permit.

- i) For use of **native species**:

\_\_\_\_\_ The species/number/purpose for wildlife or fish collection is included in my current annual year's permit filed with the Bangor office of Maine Department of Inland Fisheries and Wildlife (MDIFW). Note: Your department may submit one permit request for all researchers in the department. Other departments require individual researchers to submit their permit requests to MDIFW individually. Contact your department chair if you are uncertain about your department's process for obtaining an annual MDIFW research permit.

OR

\_\_\_\_\_ The PI holds a current permit issued by MDMR for the species and proposed research. Date permit issued: \_\_\_\_\_

OR

\_\_\_\_\_ The PI is in process of making an individual request to MDIFW for a wildlife or freshwater fish permit or to MDMR for a [marine fish permit](#) issued to the individual researcher. The request must include the requested native species, number of individuals, and project purpose. (See [guidance for completing the protocol](#) for instructions on this process.)

OR  
Date request sent to MDIFW: \_\_\_\_\_

Date request sent to MDMR: \_\_\_\_\_

- ii. For use of **non-native species** (Read the information from the [MDIFW](#) website (unrestricted, prohibited, and restricted species), as well as see the [guidance for completing the protocol](#) for an explanation of the process for obtaining a non-native species permit and the list of unrestricted, restricted, and prohibited species:

\_\_\_\_\_ Proposed species is on the “unrestricted” list; no permit from MDIFW is required.

OR

\_\_\_\_\_ Species is on the Prohibited/Restricted List:

If PI is importing the species directly (not receiving it from another person who holds a current, valid importation permit):

\_\_\_\_\_ The species is already on the UMaine non-native species permit agreement with MDIFW. Inquire with IACUC ([umric@maine.edu](mailto:umric@maine.edu)) to confirm.

OR

\_\_\_\_\_ The species is NOT on the current UMaine non-native species permit held by IACUC, but PI has obtained a current importation permit from MDIFW (**NOTE: the IACUC needs to see this permit; please attach a copy to the protocol.**)

OR

\_\_\_\_\_ The species is NOT on the UMaine non-native species permit. PI is in process of making an individual request to MDIFW. (See [guidance for completing the protocol](#) for instructions on this process.)

Date request sent to MDIFW: \_\_\_\_\_

\_\_\_\_ If PI is receiving the species from another person, the contact information must be provided for the person who holds a valid importation permit from MDIFW.

Name:

Phone:

e-mail:

8. What precautions will be taken in the field to restrict the spread of pathogens among study animals or between study animals and humans?

#### 11. Animal Care/Housing:

IMPORTANT NOTE: Investigators are expected to follow care and housing guidelines outlined in the [Guide for the Care and Use of Lab Animals](#) or the [Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching](#) unless special exceptions are requested and approved. If specific requirements for your animals are not listed in the Guides (e.g. some wildlife), you are expected to adhere to recommended practices of the field (e.g., as outlined by professional societies) and known biological needs of the species. All investigators working with housed animals are expected to keep records of daily care/feeding, as well as records of other periodic care (e.g., grooming, water quality, medical care) for inspection by the IACUC. Please note that it is the responsibility of the PI to be aware of drugs that require prescription and to work with the attending veterinarian (Dr. James Weber) to obtain a prescription for drugs that require one.

Will animals be housed or maintained for more than 12 hours?

- ☐ Yes  
☐ No

**If yes – answer the following. If no, skip to question #12.**

- a. Where will the animals be housed and maintained?
- b. Does your housing deviate from the requirements of the Guides or recommended practices? If so, include a justification for an exception to the Guides for taxa covered therein. For taxa not covered by the guides, specify any other guidelines you intend to

follow, or provide a detailed description of housing and care based on your study organism's known requirements.

- c. For genetically modified animals (GMAs – produced via targeted or random genetic manipulations), the Guide requires enhanced monitoring and reporting to the IACUC. If this protocol involves GMAs, describe any special care and monitoring (including frequency) that will be used to minimize known or unknown adverse effects in the genetically altered line.
  
- d. Identify the room or facility in which the procedures will be conducted.
  
- e. What precautions will be taken to restrict the inadvertent spread of pathogens among study animals or between study animals and humans?
  
- f. list the name, phone number, and email of the person who should be contacted to accompany the IACUC during facility inspections:
  
- g. Disaster Planning and Emergency Preparedness. The Guide requires that facilities have disaster plans to “define the actions necessary to prevent animal pain, distress, and deaths due to loss of systems such as those that control ventilation, cooling, heating, or provision of potable water.” Safety Management, in conjunction with the IACUC and researchers, are putting disaster plans in place that meet University and individual investigator needs, include provisions for triage and euthanasia, and provide for training and contact of essential personnel. Please provide the following information:
  1. Triage: Some animals may require priority care (or euthanasia) under a facility-wide or campus-wide disaster. For example, they may have greater potential to experience severe pain or distress under disruption of services (e.g., post-operative individuals) or they may be irreplaceable in a replicate study (e.g., novel genetic lines). Do any animals used in this study require special priority for triage? If so, please describe the basis for this special priority and indicate how such animals will be made identifiable within the facility (e.g., special marks, lists).
  
  2. Special euthanasia: Would a different method of euthanasia than that listed in section 9.d. be used in the event of a disaster that disrupts normal services required for humane care and treatment of these animals? If yes, please describe the special method (include dosing information for pharmaceutical approaches).

3. Satellite Facility: If the facility listed under section 11.a. is not a “core” facility (Aquaculture Research Center, Center for Cooperative Aquaculture Research, Small Animal Research Facility, or the Witter Center), the facility must have an approved Satellite Facility Designation and Disaster Plan (contact the IACUC Office for the form).

- ☐ The facility under section 11.a. is designated as a ‘core’ facility.
- ☐ A Satellite Facility Designation and Disaster Plan is has been approved for this facility.
- ☐ I have attached a completed Satellite Facility Designation and Disaster Plan for approval.

4. Emergency Contact for the Care of Animals: (at least two people must be listed):

Primary person to contact in case of an emergency =

Office phone =

Home phone =

Cell phone =

Secondary person to contact =

Office phone =

Home phone =

Cell phone =

Tertiary person to contact =

Office phone =

Home phone =

Cell phone =

12. List all person(s) (including PI) who will handle animals (e.g., carry out the procedure(s), animal care, etc.) or provide training of personnel. For each person named below, describe what proposed procedures he/she will carry out, his/her individual experience in performing those proposed procedures (e.g., years of experience and specific skills); if none, explain how training will be obtained. (NOTE: to add rows, right-click within table, click on “insert” and choose “insert rows above” or “insert rows below”) See [guidance for completing the protocol](#) for a sample.

Personnel Name	Procedures performed	Years of experience and specific skills	Training plan (if no experience)

13. **If this is a teaching protocol** where students will handle animals as part of course participation, please see [Required Training for Students in Class](#) on the IACUC website.

Indicate which option you will require your class to follow to meet the training requirement:

- ☐ Students will complete the web-based tutorial (referenced above).
- ☐ Students will read the document, “Use of Animals in a Courses: What You Need to Know” (found on the IACUC website under “Training Requirement for Students...” as referenced above).
- ☐ Students will be trained by the instructor; attached is a written description of the training for IACUC review.

## **Risk Assessment** (Risks to researchers)

In compliance with our Public Health Service Animal Welfare Assurance, we have implemented an Occupational Health/Medical Surveillance Program. The first step will be for investigators to identify potential hazards with tasks involved with the study, so the IACUC veterinarian and Safety Management (SM) can assess the risks to determine if further information will be required from everyone named in the protocol (i.e., a health questionnaire).

**NOTE:** In evaluating this risk assessment statement, we will be looking for animal care tasks that increase the risk of illness (such as a zoonotic disease), physical injury (such as animal bites), and/or allergic reactions to those handling the animals. Also consider hazards of animal excrement/hazards to workers handling the animals' bedding that may be important to an accurate risk assessment. The investigator is also responsible for sharing [guidance regarding special health concerns when working with animals](#) with all personnel listed on the protocol.

**Please complete the following for your proposed protocol. See [guidance for completing the protocol](#) for a sample.**

NOTE: For field studies, the [Field Research Hazard Assessment/Safety Plan](#) will be helpful in identifying possible risks)

- a) Provide a brief description of the protocol (cut and paste response from question 6 of the protocol). (NOTE: Only this page, not the whole protocol, goes to SEM and the Occupational Health Physician, thus the request for duplication of the answer to question 6.)
  
- b) List the tasks required. Add additional numbers as needed. (Examples: handling animals, administering drugs, euthanasia; field work could include driving, operating watercraft.)
  - 1.
  - 2.
  - 3.
  
- c) For each of the tasks described in b) above, list the associated hazards. (Examples; exposure to allergens, needle stick.)
  - 1.
  - 2.
  - 3.

- d) For each of the hazards described in c) above list how the hazards will be managed.  
(Examples: use of gloves and goggles, field work training.)

- 1.
- 2.
- 3.

**After this risk assessment is reviewed, everyone named in the protocol may be required to complete a health questionnaire. The health questionnaire may require review by the Occupational Health Physician. If so, there is a charge for this review (~\$45). Researchers are asked to budget for these costs in proposals for outside funding. For unfunded studies, the cost will be covered by the Office of the Vice President for Research and Dean of the Graduate School. If you have any questions regarding the completion of this page, please contact, Safety Management (SM), 1-4055, [SEM@maine.edu](mailto:SEM@maine.edu).**

## SEARCH FOR ALTERNATIVES TO PAINFUL/DISTRESSFUL PROCEDURES

**This form must be completed if the pain classification from Question #6 was D or E**

Please read the background information on the [USDA policy](#) for painful and distressful procedures before completing this form.

The written narrative should include adequate information for the IACUC to assess that a reasonable and good faith effort was made to determine the availability of alternatives or alternative methods.

The following information is required:

- 1) The names(s) of the database(s) searched (due to the variation in subject coverage and sources used, one database is seldom adequate);
- 2) The date the search was performed.
- 3) The time period covered by the search.
- 4) The search strategy (including scientifically relevant terminology) used and number of citations resulting from the search terms.
- 5) Did your database search (or other source) identify a bona fide alternative method (one that could be used to accomplish the goals of the animal use proposed)? Yes/No.

If yes, please explain why the alternative found was not proposed. (NOTE: The IACUC will consider this explanation, but may determine it is not adequate to justify not using the bona fide alternative.

If no, the IACUC would like a description of the results of the database search (or other source) to document the lack of relevant alternatives.

## ASSURANCES FOR THE HUMANE CARE AND USE OF ANIMALS

As the Principal Investigator on this protocol, I assure that...

- 1) I have provided an accurate description of the animal care and use protocol to be followed in the proposed project/course.
- 2) the activities proposed do not unnecessarily duplicate previous experiments.
- 3) all individuals named in this application who are at risk will be registered in the Occupational Health and Safety Program.
- 4) all individuals performing animal procedures described in this application are technically competent and have been (or will be) properly trained in the procedures to ensure that no unnecessary pain or distress will be caused as a result of the procedures.
- 5) I will obtain approval from the IACUC before initiating any changes to this protocol.
- 6) I am familiar with and will comply with the *University of Maine's Policies and Procedures for the Humane Care and Use of Animals*, and I assume responsibility for compliance by all personnel involved with this protocol.
- 7) I have read and will follow the appropriate guidelines for the proposed species.
- 8) if using laboratory animals, all personnel handling the animals have had a tetanus shot within the past ten years.
- 9) all applicable rules and regulations regarding radiation protection, biosafety, recombinant issues, hazardous chemicals, etc., have been addressed in the preparation of this application and the appropriate reviews have been initiated.
- 10) animals will be purchased only from licensed, reputable vendors. If animals are purchased from a pet store, the pet store has been informed (in writing) that the animals will be used for research or teaching purposes.
- 11) I will maintain appropriate animal records (e.g., census, health, veterinary care, euthanasia, surgery, diagnostic, anesthesia, etc.)
- 12) **I will report at once to the IACUC any unanticipated harm to animals.**
- 13) I acknowledge that in the event of a disaster (natural or man-made) it may become necessary to triage, euthanize or otherwise modify the care and disposition of the study animals in order to avoid unacceptable pain or distress. I delegate overriding authority for emergency decisions of animal disposition to the Institutional Veterinarian or his/her designated representative.

**Submission of the protocol indicates you have read and agree to the above Assurances**

**REMINDER:** The Principal Investigator (PI) MUST submit the protocol. Another faculty member (no students) may submit the protocol on behalf of the PI with documentation of an email exchange that the PI has read and approves. We require this because the PI is ultimately responsible for the content of the protocol submission.

**HUSBANDRY PROTOCOL NUMBER:**  
**PI/INSTRUCTOR NAME:**  
**TITLE:**

**UNIVERSITY OF MAINE**  
**INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE**  
**HUSBANDRY FORM**  
**FOR**  
***SUSTAINING A COLONY OF VERTEBRATE ANIMALS***

**This form documents husbandry of a colony of vertebrate animals maintained or bred to supply individuals, or products of those individuals, for use in approved research and teaching activities. This form documents colony maintenance ONLY. Protocols for research, teaching, or pilot studies use a different form (found on the IACUC website) and are subject to a different set of federally and institutionally mandated review criteria governing responsible use of vertebrate animals (e.g., consideration of reduction, replacement and refinement based on research objectives and study design). The intent of this form is to establish the need for ongoing husbandry of animals, ensure that husbandry follows principles of humane and ethical treatment appropriate to the species, facilitate regular inspections of facilities housing animals, serve as a resource for campus planning and emergencies, and assist in documenting the types, numbers and uses of animals at the University of Maine.**

**Husbandry forms must be submitted and approved for any production colony of vertebrate animals and will be approved for a period of up to three (3) years. Responsible personnel will be required to submit an annual report documenting the species, number and disposition of animals maintained and produced in the facility. However, any significant changes in the operations of the production colony that occur during the approved period, including changes in species composition, or substantial changes in the numbers or planned disposition of animals, must be approved by the IACUC via submission and review of an updated husbandry form.**

**GENERAL INSTRUCTIONS:** The Institutional Animal Care and Use Committee (IACUC) consists of scientists from several disciplines, as well as non-scientists, members of the University community, and persons who have no other affiliation with the University than as members of the Committee. Responses in this form should therefore be described in terms understandable by an audience of educated non-specialists. **Please submit the completed form to the Institutional Animal Care and Use Committee via email to [umric@maine.edu](mailto:umric@maine.edu).** The form is due TWO weeks prior to a scheduled IACUC meeting. The meeting dates are posted on the [IACUC meeting schedule webpage](#). Forms received late will be held until the next month's meeting. Please call Paula Portalatin (1-2657) if you have questions.

1. Person responsible for this colony (NOTE: must be a faculty member or professional staff):

Name:

Campus Address:

Phone:

Email:

Add above information for additional staff (if applicable)

Will any non-UMaine personnel handle or have responsibilities for the animals (i.e., collaborations)? ☐ No ☐ Yes. If yes, please name personnel below with his/her affiliation. An [Inter-Institutional Agreement](#) may be required.

2. Descriptive name of the breeding/production colony:
3. Date husbandry procedures will go into effect:  
(REMINDER: Activities may not begin until IACUC approval.)
4. Identify the animals (common name, genus, species) to be used, including any specific strain(s) or genotypes being maintained if applicable.
5. Provide a justification for establishing and maintaining a breeding/production colony in terms of the research or teaching operations it is intended to support. Include a statement of why it is necessary or preferable to maintain this colony on campus than to obtain animals on a need basis from other sources.
6. Animal Numbers: Estimate the number of animals that are likely to be maintained AND produced in this production facility (for each strain/line being maintained) in a given year. Explain how that estimate was obtained. Be sure to include a statement indicating why this number would likely be sufficient, but not overly excessive, to meet the probable demand for animals used in research, teaching or pilot studies. Indicate if plans are in place to reduce production when demand declines, and if that is not possible explain why.

7. Husbandry Procedures: List and describe husbandry procedures to be performed. Procedures that are considered largely routine for the type of animals under consideration may only require a brief description, whereas procedures that are more unique and specialized to your particular species or colony should be described in more detail.
- a. Procedures for breeding and rearing of offspring:
  - b. Procedures for feeding and dietary management:
  - c. Marking or Identification Procedures (including genotyping):
  - d. Procedures to Manage/Maintain Densities:
  - e. Describe the housing (cage/tank size, maximum animals per cage/tank, etc.) and indicate the maximum number of individuals you plan to house in each cage/tank:
  - f. Describe normal cleaning procedures (frequency/indicators of need):
  - g. Other Procedures (e.g., vaccinations, water treatments, training for the purposes of handling, specialized feeds, specialized environmental exposure):
8. Pain or Distress Classification (see [Pain Categories](#) for classification definitions and examples). Routine husbandry procedures typically fall under USDA pain categories B and C. Procedures that fall under USDA categories D and E are more often associated with specific research or teaching protocols. If any of the above husbandry procedures require a higher pain classification than C (i.e., D or E) you will be required to consult with the institutional veterinarian, and conduct a documented search for alternatives.

MUST ANSWER: Do any of the above husbandry procedures exceed USDA pain category C? (check one)

☐

No

☐

Yes - identify the specific procedure and indicate the number and type of individuals to which it would be applied and complete the following.

- a) Veterinary Consult: This must occur before the husbandry form is considered for review. Please phone/email Dr. James Weber, 1-2774, [jaweber@maine.edu](mailto:jaweber@maine.edu), with a description of the proposed procedures.

Date of veterinary consult:

- b) Search for Alternatives: This must occur before the husbandry form is considered for review. A written narrative documenting that less painful alternatives are not available must be included -- following the USDA Policy and using the form available at the end of this document.

## 9. Animal Sourcing and Housing:

### a. Sourcing:

1. What is the original or supplemental source of animals for this colony (vendor, field collection, other institutions).
2. If animals are field collected, what procedures will be used to capture and transport them in a way that reduces risks of injury or death?
3. Have you obtained necessary permits required to import, hold or collect these animals?
4. What procedures will be used to reduce the potential for pathogens to enter this facility and be transmitted to other animals or humans (e.g., quarantine, prophylactic treatments, vendor health certificates, vaccination, treatment of air, water or waste streams).

### b. Housing:

IMPORTANT NOTE: Personnel are expected to follow care and housing guidelines outlined in the [\*Guide for the Care and Use of Lab Animals\*](#) or the [\*Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching\*](#) unless special exceptions are requested and approved. If specific requirements for your animals are not listed in the Guides (e.g. some wildlife), you are expected to adhere to recommended practices of the field (e.g., as outlined by professional societies) and known biological needs of the species. All

personnel working with housed animals are expected to keep records of daily care/feeding, as well as records of other periodic care (e.g., grooming, water quality) for inspection by the IACUC.

1. Where will the animals be housed and maintained for this colony (building, room, etc.)?

3. Does your housing deviate from the requirements of the Guides or recommended practices? Yes/No.

If yes, include a justification for an exception to the Guides for taxa covered therein. For taxa not covered by the guides, specify any other guidelines you intend to follow.

10. Describe the method(s) of euthanasia that will be used to manage the density of animals, provide humane end of life for animals retired from production, or to relieve pain and suffering in animals that experience unanticipated illness or injury.\*

\*See the [2020 Report of the AVMA Panel on Euthanasia](#) for assistance. NOTE: When possible, euthanasia should be conducted in a place or fashion that minimizes the potential for cues that could cause distress in other animals (e.g., outside housing room or in an isolated chamber or container).

11. List all person(s) who will handle animals (e.g., carry out the procedure(s), animal care, etc.) or provide training of personnel. For each person named below, describe his/her individual experience in performing proposed procedures (e.g., years of experience and specific skills); if none, explain how training will be obtained. (NOTE: to add rows, right-click within table, click on “insert” and choose “insert rows above” or “insert rows below”)

Personnel Name	Role	Years of experience	Training plan (if no experience)

12. Have all personnel named above been certified by the IACUC for Responsible Care and Use of Animals?  
☐ Yes ☐ No A web-based tutorial for this certification is available via the [IACUC training webpage](#). (Note: approval will not be granted until all personnel have been certified.)
13. Please list the name, phone number, and email of the person who should be contacted to accompany the IACUC during facility inspections:
14. Disaster Planning and Emergency Preparedness. The Guide requires that facilities have disaster plans to “define the actions necessary to prevent animal pain, distress, and deaths due to loss of systems such as those that control ventilation, cooling, heating, or provision of potable water.” Safety and Environmental Management, in conjunction with the IACUC and researchers, are putting disaster plans in place that meet University and individual investigator needs, include provisions for triage and euthanasia, and provide for training and contact of essential personnel. Please provide the following information:
- a. Triage: Some animals may require priority care (or euthanasia) under a facility-wide or campus-wide disaster. For example, they may have greater potential to experience severe pain or distress under disruption of services (e.g., post-operative individuals) or they may be irreplaceable in a replicate study (e.g., novel genetic lines). Do any animals used in this colony require special priority for triage? If so, please describe the basis for this special priority and indicate how such animals will be made identifiable within the facility (e.g., special marks, lists).
  - b. Special Euthanasia: Would a different method of euthanasia than that listed in section 11.d. be used in the event of a disaster that disrupts normal services required for humane care and treatment of these animals? If yes, please describe the special method (include dosing information for pharmaceutical approaches).
  - c. If the facility is not a “core” facility (Aquaculture Research Center, Center for Cooperative Aquaculture Research, Small Animal Research Facility, or the Witter Center), you will need to have on file with the IACUC a Satellite Facility Designation and Disaster Plan (contact the IACUC Office for the form).
    - ☐ I currently have a Satellite Facility Designation and Disaster Plan for my lab on file with the IACUC.
    - ☐ I have attached a completed Satellite Facility Designation and Disaster Plan for approval.

d) Emergency Contacts for Care of Animals (at least two people must be listed):

Primary person to contact in case of an emergency =

Office phone =

Home phone =

Cell phone =

Secondary person to contact =

Office phone =

Home phone =

Cell phone =

Tertiary person to contact =

Office phone =

Home phone =

Cell phone =

## **Risk Assessment** (Risks to researchers)

In compliance with our Public Health Service Animal Welfare Assurance, we have implemented an Occupational Health/Medical Surveillance Program. The first step is for responsible personnel to identify potential hazards associated with animal care and use, so the IACUC veterinarian and Safety Management (SM) can assess the risks to determine if further information will be required from everyone named in the form (i.e., a health questionnaire).

**NOTE:** In evaluating this risk assessment statement, we will be looking for animal care tasks that increase the risk of illness (such as a zoonotic disease), physical injury (such as animal bites, sharp instrument), and/or allergic reactions to those handling the animals. Also consider hazards of animal excrement/hazards to workers handling the animals' bedding that may be important to an accurate risk assessment. The investigator is also responsible for sharing [guidance regarding special health concerns when working with animals](#) with all personnel listed on the protocol.

**Please complete the following for your proposed husbandry form.**

- a) Provide a brief description of the colony to be established.
  
- b) List the tasks required.
  - 1.
  - 2.
  - 3.
  - etc.
  
- c) For each of the tasks described in b) above, list the associated hazards.
  - 1.
  - 2.
  - 3.
  - etc.
  
- d) For each of the hazards described in c) above list how the hazards will be managed.
  - 1.
  - 2.
  - 3.
  - etc.

**After this risk assessment is reviewed, everyone named in the form may be required to complete a health questionnaire. The health questionnaire may require review by the Occupational Health Physician. If so, there is a charge for this review (~\$45). Researchers are asked to budget for these costs in proposals for outside funding. For unfunded studies, the cost will be covered by the Office of the Vice President for Research. If you have any questions regarding the completion of this page, please contact, Safety Management (SM), 1-4055.**

## SEARCH FOR ALTERNATIVES TO PAINFUL/DISTRESSFUL PROCEDURES

**This form must be completed if the pain classification from Question #8 was D or E**

Please read the background information on the USDA policy for painful and distressful procedures before completing this form ([Pain Categories](#))

The written narrative should include adequate information for the IACUC to assess that a reasonable and good faith effort was made to determine the availability of alternatives or alternative methods.

The following information is required:

- 1) The names(s) of the database(s) searched (due to the variation in subject coverage and sources used, one database is seldom adequate);
- 2) The date the search was performed.
- 3) The time period covered by the search.
- 4) The search strategy (including scientifically relevant terminology) used.
- 5) Did your database search (or other source) identify a bona fide alternative method (one that could be used to accomplish the goals of the animal use proposed)?  
Yes/No.

If yes, please explain why the alternative found was not proposed. (NOTE: The IACUC will consider this explanation, but may determine it is not adequate to justify not using the bona fide alternative.

If no, the IACUC would like a description of the results of the database search (or other source) to document the lack of relevant alternatives.

## ASSURANCES FOR THE HUMANE CARE AND USE OF ANIMALS

As the staff person responsible for this animal colony, I assure that...

- 1) I have provided an accurate description of the animal care and use procedures to be followed in maintaining this colony.
- 3) all individuals who become involved with maintenance of this colony and who are at risk, will be registered in the Occupational Health and Safety Program.
- 4) all individuals performing animal procedures described in this application are technically competent and have been (or will be) properly trained in the procedures to ensure that no unnecessary pain or distress will be caused as a result of the procedures.
- 5) I will obtain approval from the IACUC before initiating any significant changes or additions to the procedures herein.
- 6) I am familiar with and will comply with the *University of Maine's Policies and Procedures for the Humane Care and Use of Animals*, and I assume responsibility for compliance by all personnel involved with this colony.
- 7) I have read and will follow the appropriate guidelines for the proposed species.
- 8) if using laboratory animals, all personnel handling the animals have had a tetanus shot within the past ten years.
- 9) all applicable rules and regulations regarding radiation protection, biosafety, recombinant issues, hazardous chemicals, etc., have been considered in the preparation of this application and the appropriate reviews/consultations have been initiated.
- 10) animals will be purchased only from licensed, reputable vendors.
- 11) I will maintain appropriate animal records (e.g., census, health, veterinary care, euthanasia, surgery, diagnostic, anesthesia, etc.)
- 12) **I will report at once to the IACUC any unanticipated harm to animals.**
- 13) I acknowledge that in the event of a disaster (natural or man-made) it may become necessary to triage, euthanize or otherwise modify the care and disposition of the animals described herein in order to avoid unacceptable pain or distress. I delegate overriding authority for emergency decisions of animal disposition to the Institutional Veterinarian or his/her designated representative.

**Submitting the completed husbandry form indicates you have read and agree to the above Assurances.**

## Institutional Animal Care and Use Committee (IACUC) Request for Protocol Amendment

### Section I – Read and follow these instructions **(do not submit this page):**

- 1) Complete the information in Section II on reverse side of this form and submit this form with your amendment request.
- 2) Amend the existing approved protocol by describing the proposed changes in the same section, but *following* the original response(s). **DO NOT change the original response(s) but DO underline the new text.** See example below. In this example, the original response to this question was 64 rats; the description of 76 rats is the proposed change. Alternatively, you can use the ‘Track Changes’ feature in MS Word®, as long as the new text is underlined and edited text remains legible (do not ‘Accept’ the tracked changes).

8. Identify the animals to be used (genus, species, life stage) and number for the entire protocol period. Future increases to this number require an approved amendment.

64 adult Sprague Dawley Rat (*Rattus norvegicus*) (Original)

76 adult Sprague Dawley Rat (*Rattus norvegicus*) (Underlined)

**OR**

8. Identify the animals to be used (genus, species, life stage) and number for the entire protocol period. Future increases to this number require an approved amendment.

76 adult Sprague Dawley Rat (*Rattus norvegicus*) (Track Changes)

- 3) **Submit Section II (next page) and the amended protocol to the IACUC via email to [umric@maine.edu](mailto:umric@maine.edu) two weeks prior to a scheduled IACUC meeting.** The [IACUC meeting dates](#) are posted at online. Protocols received late will be held until the next month’s meeting. Please call Paula Portalatin at 1-2657 if you have questions.

## **Section II – Complete requested information:**

Principal Investigator:

Original Approved Protocol Title:

Original Approved Protocol Number:

Provide a brief (fit on this page) description of the amendment, in general terms, and why it is needed to meet or revise the objectives of the original protocol. Please indicate whether this amendment would change the pain classification of the original study (response to protocol question #11e).

## Animal Care

[IACUC Overview](#)

[Guidance & Policy](#)

[Training](#)

[Forms, Instructions & Samples](#)

[Meeting Schedule and Protocol Due Dates](#)

[Resources](#)

[Standard Operating Procedures \(SOPs\)](#)

[IACUC FAQs](#)

[Occupational Health & Safety Program](#)

**ANIMAL WELFARE  
REPORTING**

## Forms, Instructions, & Samples

**Principal Investigators should anticipate that a submitted protocol may require a month to several months to complete the protocol review and approval process. Please plan accordingly. See [Full Review vs. Designated Review](#) for further information.**

### Forms

- [Husbandry Form for Sustaining a Colony of Vertebrate Animals \(Word\)](#): Use this form for requesting for approval to sustain a colony of vertebrate animals.
- [Inter-Institutional Agreement](#): Use this form if proposed research involves collaboration with another institution, federal/state agency, private industry, private animal owners, etc.
- [Protocol Amendment \(Word\)](#): Use this form when amending a currently approved protocol.
- [Protocol Review Form for Research, Teaching or Pilot Studies \(Word\)](#): Use this form for requesting either approval for research, teaching, or pilot studies involving the use of live vertebrate animals.

### Instructions & Guidance

- Guidance/Instructions to help with preparing a protocol:
  - [Guidance for completing a Research, Teaching or Pilot Studies Protocol \(PDF\)](#)
  - [How to Do a Power Analysis](#)
  - G\*Power — tool to compute statistical power analysis
  - [Tips to Speed up Your IACUC Approval](#)

### Sample Documents

These are samples and may not fit your study exactly but should give you helpful ideas of what the IACUC is looking for.

- [Sample risk assessment document \(PDF\)](#)
- [Search for Alternatives \(PDF\)](#)

[Apply](#)[Student Resources](#)[Nondiscrimination notice](#)[Clery Safety and Security Report](#)[COVID-19 health and safety guidance](#)[Emergency](#)

University of Maine | Orono, ME 04469 | 207.581.1865

[TOP](#)



The appointed reviewer(s) can make the following determinations:

- **Approve the submission as submitted**
- **Request modifications to secure approval:** If modifications are requested to secure approval, the original designated reviewers will review the modified protocol/amendment.  
This is the most common determination. This process may require more than one round of modification requests from the appointed reviewer(s) before final approval of the protocol.
- **Request FCR of the protocol:** The protocol/amendment would be reviewed at the next convened meeting.

In addition, with a unanimous vote of the quorum present at a convened meeting, the Committee can vote to have a DMR review and approve protocols/amendments for final protocol approval after modifications requested in the FCR have been addressed in the revised protocol/amendment. In this case, one or more designated reviewers will review the modified protocol/ amendment following the convened meeting once the revised protocol has been resubmitted.

A large number of protocols at the University of Maine are reviewed via DMR. Please note that protocols that are submitted for review within two weeks of a scheduled Committee meeting generally will not be reviewed by DMR and will instead be reviewed in the upcoming Committee meeting.

## Protocol Review via Full Committee Review (FCR)

Protocols and amendments may be reviewed at a Full Committee Meeting. In general if the submission is submitted to the IACUC Office two weeks or less before the scheduled meeting, the protocol will automatically be reviewed at an IACUC meeting and not by DMR. In addition, members of the IACUC may request that protocols and amendments be reviewed via FCR instead of DMR at any time.

### FCR Procedure

Prior to the monthly meeting, at least two reviewers are assigned as primary and secondary reviewers for each of the submissions for that meeting. All committee members are expected to review all protocol submissions, however, the primary and secondary reviewers are responsible for presenting the protocol to the Committee for discussion at the meeting.

After the protocol is discussed at the meeting, the following determinations are possible:

- **Recommended for approval:** The Committee approves the submission as it was submitted.
- **Modifications required to secure approval:** Minor questions and/or clarifications must be resolved by the protocol's PI to secure final protocol approval. The committee members present at the meeting must decide by unanimous vote to use DMR to review the submission after it has been modified and resubmitted. This process may require more than one round of modification requests from the appointed reviewer before final approval of the protocol.  
This is the most common determination.
- **Tabled:** The submission is written in such a way that the Committee cannot complete the review because there are significant omissions and questions that must be resolved to secure approval. A Tabled ruling requires that the revised protocol be resubmitted as a new protocol for FCR at a convened meeting.
- **Withhold Approval:** If the PI and the IACUC cannot agree on fundamental aspects of

the protocol, such as protocol design and animal welfare issues, the Committee may withhold approval. The PI would receive a letter from the IACUC explaining why approval is being withheld.

Protocols/amendments that involve complicated, invasive, or novel procedures and protocols that involve significant pain and distress often will be reviewed at a full committee meeting and not in a DMR. The decision to hold a submitted protocol for FCR is the Committee's prerogative. In addition, protocols involving a principal investigator who has not previously submitted a protocol to the UMaine IACUC should anticipate FCR of his/her first submitted protocol.

### [Time required for FCR and DMR](#)

**The PI should anticipate that a submitted protocol may require a month to several months to complete the protocol review and approval process. Please plan accordingly.**

### [Archived Submissions](#)

Protocols are reviewed by the Committee with the expectation that the PI will address the requested revisions/modifications and resubmit the protocol promptly. Protocols requiring modifications that are not resubmitted within 60 days of receipt of the Committee's comments from the initial review will be archived. An archived protocol that is resubmitted after 60 days will be handled as a new submission.

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### [Diagram of Protocol and Faculty Review Process for IACUC \(PDF\)](#)

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Animal Care
IACUC Overview
Guidance & Policy
Training
Forms, Instructions & Samples
Meeting Schedule and Protocol Due Dates
Resources
Standard Operating Procedures (SOPs)
IACUC FAQs
Occupational Health & Safety Program
ANIMAL WELFARE REPORTING

## Inter-Institutional Agreement

The Institutional Animal Care and Use Committee, in compliance with the *Guide for the Care and Use of Laboratory Animals*, developed an Inter-Institutional Agreement for Care and Use of Vertebrate Animals.

Collaborations among institutions can bring greater expertise and resources to address vertebrate research, teaching or outreach objectives. However, such collaborations can result in uncertainty about which individuals and institutions are responsible for oversight and activities pertaining to the humane care, use and final disposition of vertebrate study subjects. Inter-institutional Agreements are intended to assure that collaborative activities using vertebrate animals receive appropriate Institutional Animal Care and Use Committee (IACUC) review, that all parties involved are aware of their respective roles in providing for humane care and use of study subjects, and that a communication system is in place to meet federally required compliance and reporting requirements (e.g., facility inspections, biannual review of protocols, protocol modifications). Inter-institutional agreements also reduce the potential that investigators will be subject to redundant, but potentially conflicting, protocols at their respective institutions.

Examples of when this form should be used:

- A UMaine investigator wishes to be covered under an approved protocol in place at a collaborating university or other research/teaching center. The UMaine investigator must be specified in the other institution's protocol. This agreement would eliminate the need for the UMaine investigator to submit a protocol to the UMaine IACUC
- A collaborating investigator from another university or research/teaching center wishes to be covered under an approved UMaine protocol. That investigator must be specified in the UMaine protocol. This agreement may eliminate the need for the collaborating investigator to submit a protocol to her/his institution's IACUC if the other institution agrees to those conditions.

- UMaine investigator collaborates with a state or federal agency (e.g., Fish & Wildlife Service). State or federal agencies may have jurisdictional priority over capture, handling, euthanasia or release of animals they manage, and their activities or requirements may conflict with those sought by a UMaine investigator (e.g., euthanasia of a protected species). This agreement clarifies institutional roles in ways that may not be defined in permits and aids the IACUC in protocol review/approval by providing information on which project elements are under the investigator's control.
- UMaine is contracted to conduct animal research for industry. Industry collaborations may entail written or implied agreements concerning animal ownership or disposition, as well as proprietary restrictions on materials, animal products or data. This agreement can help clarify investigator/industry expectations and thus avoid disputes. It can also serve to aid the IACUC in protocol review/approval by providing information on which project elements are under the investigator's control.
- UMaine researchers conduct research with private animal owners. For example, animal husbandry on private farms can differ from procedures typically approved for research or teaching and private property rights may limit investigator options concerning handling, euthanasia and final disposition. This agreement clarifies roles and can aid the IACUC in protocol review/approval by providing information on which project elements are under the investigator's control

NOTE: The submission of an inter-institutional agreement does not guarantee that the terms of the agreement, or associated IACUC protocol elements, will be approved by the IACUC, the UMaine institutional official (Vice President for Research) or the signatory with authority for the collaborating institution. Investigators seeking coverage under another institution's IACUC protocol or collaborating investigators seeking coverage under a UMaine protocol are not permitted to conduct associated research until both the protocol and agreement form are approved. You should also be aware that either UMaine or the collaborating institution may request documentation or conduct reviews to verify compliance and may terminate the agreement with written notice.

#### [Inter-Institutional Agreement \(Word\)](#)

Please [contact the IACUC office](#) with questions.


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# **Institutional Animal Care and Use Committee Guidance for Completing a Protocol Review Form for Research, Teaching, or Pilot Studies**

Please review these guidelines when preparing a protocol for research, teaching, or pilot studies.

## **General Instructions**

- The Institutional Animal Care and Use Committee (IACUC) consists of scientists from several disciplines as well as non-scientists, members of the University community, and persons who have no other affiliation with the University than as members of the Committee. **The protocol should therefore be described in terms understandable by an audience of educated non-specialists.**
- The Principal Investigator or Instructor must justify the ethical costs of using live vertebrate animals by demonstrating a reasonable expectation that such usage will contribute to the advancement of knowledge that may eventually benefit humankind and/or animals. The Principal Investigator or Instructor must further demonstrate that he or she has applied the concepts of "alternatives" in designing the protocol. The term "alternatives" includes three components: replacement (using non-vertebrate animals, cell cultures, tissues from slaughter or autopsy, or non-animal systems); reduction (in the number of animals used); and refinement (of design and methods to reduce pain and stress to animals used as well as ensuring that the number of animals used is optimal for the analysis proposed).
- **Please submit the completed protocol to the Institutional Animal Care and Use Committee via email to [umric@maine.edu](mailto:umric@maine.edu). The form is due TWO weeks prior to a scheduled IACUC meeting. NOTE:** The Principal Investigator (PI) **MUST** submit the protocol. Another faculty member (no students) may submit the protocol on behalf of the PI with documentation of an email exchange that the PI has read and approves. We require this because the PI is ultimately responsible for the content of the protocol submission.
- The [meeting dates](#) are posted on the IACUC website. **Protocols received late will be held until the next month's meeting. Please call Paula Portalatin (1-2657) if you have questions.**

## Guidance on Specific Questions

This section will continue to be updated as needed. Currently, specific guidance is provided for:

### Questions #1, #6a, #9b.1./9.c.1, #10.b.6., #12, and Risk Assessment

**Question #1** – If Principal Investigator and Co-Investigators must be faculty or professional staff. List graduate and undergraduate students under question #11, personnel.

**Question #6a** – Veterinary Consultation: if the pain category classification is D or E (see the [USDA pain classification](#) and examples), you must have a veterinary consult with the attending veterinarian, Dr. James Weber. **This must take place before the protocol is submitted.** Email or call him ([jaweber@maine.edu](mailto:jaweber@maine.edu), 1-2774) with a description of the proposed procedures. Dr. Weber may ask to see a draft protocol, and he may advise you to make changes to your procedures. Be sure you incorporate all changes he requests into the protocol. Be sure to add the date of the consult in the place requested on the form.

**Question #9b.1 and/or 9.c.1** – The question asks you to specify any drug(s), including adjuvants, doses (including frequency) and routes of administration. If you are using several substances, create a table with the required information. Below is a sample table:

Agent	Dose (mg/kg) Volume Route (e.g. ip, im, po etc.)	Frequency (e.g. sid, bid etc.) and duration	Pharmaceutical grade? (If no, a justification is needed)
Enrofloxacin	Dose: 5 mg/kg Volume: 0.03 ml Route: SQ	Frequency: BID for 5 days	Yes
XYZ	Dose: 25 mg/kg Volume: 0.5 ml Route: IV	Frequency: SID for 30 days	No; Pharmaceutical grade (USP) is not available

**Question #10.b.7** – State Permit for Native/Non-Native Wildlife and Freshwater Fish Species  
(how to determine needed action for this section)

**Native Wildlife and Freshwater Fish Species**

Is the species/number included in your current annual year's wildlife and freshwater fish permits filed with the Bangor office of Maine Department of Inland Fisheries and Wildlife (MDIFW)?

**If unsure**, contact your department's chair to inquire about the process used in your department to secure the annual research permit.

**If Yes**, so indicate, and you are done with this question. Note that the species and number handled/captured must be reported annually to MDIFW in December in your permit end-of-year report. (Note: Some departments require that individual researchers submit this report. Contact your department chair for information about your department's process for meeting this permit requirement.) Contact IACUC for more information.

**If No**, PI must make a permit request to IF&W **following your department's procedures**. The request must indicate the requested **native** species, number of individuals, and project purpose. Please follow the approach outlined below.

- 1) Prepare email following format below (copy items below into email and complete):

*SUBJECT: Request addition to UMaine wildlife or freshwater fisheries permit for calendar year\_\_\_\_:*

*PI Name, university affiliation (department/school), contact information: \_\_\_\_\_*

*Species name(s) and numbers of each, by life stage: \_\_\_\_\_*

*Brief (5-6 sentences) explaining the proposed work to be done by PI named above. Indicate the start and end dates for collections, and if the collections will be conducted in multiple years, indicate the numbers per year for each life stage.*

- 2) Send email request to Brenda Lord ([Brenda.Lord@state.gov](mailto:Brenda.Lord@state.gov)) at MDIFW and copy UMaine IACUC ([umric@maine.edu](mailto:umric@maine.edu)). Make sure your email contains your contact information, so that MDIFW can contact you directly if they have questions about your request.
- 3) Answer question #12.a.6.i. by checking the "in process" line if the request is not approved at time of IACUC protocol submission. Also indicate the date that the e-mail request was sent to MDIFW.

## Non-Native Species

(Please read a summary of [Maine's rules on fish and wildlife in captivity](#) and to find the form for requesting an importation permit)

If the proposed **non-native** species is on the “**unrestricted**” list, no permit is required.

If the proposed **non-native** species is on the **prohibited/restricted list**, and you are importing the species directly:

If the species is on the current UMaine non-native species permit agreement with MDIFW, no further action is required (contact the IACUC if you are unsure if the species is currently listed on the species permit).

If the species is not on the current UMaine non-native species permit agreement with MDIFW, you must acquire a permit issued directly to you or show evidence of a permit that had been issued by MDIFW to the person from whom you are receiving the species. If you do not have a current importation permit from MDIFW for importing the species, follow these steps:

- 1) Go to the MDIF&W website, [Fish and Wildlife in Captivity](#).
- 2) Download either the Wildlife Importation Permit or the Fish Importation Permit, available on the [Fish and Wildlife in Captivity webpage](#).
- 3) Complete and e-mail the form to Mr. James Connolly, Wildlife Division Director, Maine Department of Inland Fisheries and Wildlife at this e-mail address: [James.Connolly@maine.gov](mailto:James.Connolly@maine.gov). **Add a note that the request is part of the University of Maine's non-native species permit. Copy IACUC ([umric@maine.edu](mailto:umric@maine.edu)) on the e-mail to Mr. Connolly so that IACUC can assist with questions about the permit request.**  
**NOTE: payment is not required for research conducted by UMaine personnel.**
- 4) Answer question #12.a.6.ii. with “in process” if request isn't approved at time of IACUC protocol submission. Also indicate the date that the e-mail was sent to MDIFW.

(NOTE: *Marine fish species* require a [state permit](#) issued directly to the PI. Contact Amanda Ellis, Department of Marine Resources, [amanda.ellis@maine.gov](mailto:amanda.ellis@maine.gov).)

**NOTE: The above permit guidance applies only to species involved in research or teaching activities that require a UMaine IACUC protocol. Permits issued to the *individual* and not to the University of Maine are required for *personal use or display* of all native vertebrate fish and wildlife species and non-native species not on the State's unrestricted list.**

**Question #12:** Personnel: examples of how responses should be given; the examples cover various types of projects (we don't expect to have a protocol with lab mice, songbirds, and fish!)

Personnel Name	Procedures performed	Years of experience and specific skills	Training plan (if no experience)
Jane Doe, PI	Blood Draws	3 yrs with over 500 mice	n/a
John Student, Graduate Student	Bird collection	< 1 yr mist netting birds	Further training will be provided by PI. PI will directly supervise student, and he will not work independently until PI is confident skills are mastered.
Sally Undergrad, Undergraduate	Fish collection/handling	None	A training plan* will be implemented to ensure that she is proficient in collection/handling techniques prior to the study. She will not work independently; PI will always be present.

\*Training plan – briefly describe

## Risk Assessment Guidance (Sample)

### RISK ASSESSMENT EXAMPLE FOR FIELD STUDY WITH SMALL MAMMALS

(For each numbered task, provide a description of the hazard and the planned approach for managing the hazard)

#### List tasks required:

- 1) Setting and baiting traps
- 2) Anesthetizing/euthanizing small mammals
- 3) Handling small mammals
- 4) Walking through tick and mosquito habitat
- 5) Travel to and from study site

#### For each task described above, list associated hazards

- 1) Potential for cuts/abrasions from metal traps.  
Exposure to infectious agents left from animals (urine, feces etc.)
- 2) Direct contact with [list anesthetic] and/or inhalation of [list anesthetic]  
Transport and disposal of anesthetic
- 3) Biting and scratching from animals.  
Exposure to zoonotic pathogens.
- 4) Exposure to tick and/or mosquito pathogens
- 5) Unable to get prompt emergency services at field study location, limited road access, nearest medical facilities over 1 hour away.

**For each of the hazards described above list how the hazards will be managed.**

1) Cuts/abrasions from traps: Traps will be maintained to minimize risk of injury. A first aid kit will be available in the vehicle. Soap and water will be available in the vehicle to clean wounds. In the event of a wound, the area will be washed thoroughly with soap/water and proper first aid measures will be applied.

Exposure to infectious agents left from animals in the trap: After capturing and processing animal all materials will be removed from the trap. The trap will be wiped down with a bleach solution to disinfect. Nitrile gloves and masks will be worn at all times.

2) Direct contact with / inhalation of isoflurane: Isoflurane will be kept in a sealed container in a locked box in the trunk/truck-bed of the vehicle. Use of isoflurane will be done outside to minimize risk of inhalation. A second person will be on-hand in the event of spill/contact. Nitrile gloves, goggles, and a mask will be worn while handling isoflurane. In the event of direct contact with isoflurane, skin/eyes will be immediately flushed with water and medical attention will be sought.

3) Biting scratching from animals: Nitrile gloves will be worn while handling the animals. Kevlar gloves will be available to personnel. We will encourage the use of Kevlar gloves whenever possible. [If Kevlar gloves cannot be used you need to explain why]. In the event of an animal bite/scratch, the animal will be placed back into the trap, the bite/scratch site will be scrubbed with soap/water for 5 minutes and assessed. For minor wounds an antibiotic cream will be applied and the bite will be bandaged. For deeper punctures with bleeding, pressure will be applied and medical attention will be sought.

Exposure to zoonotic pathogens: Nitrile gloves will be worn while handling animals/traps. Equipment (forceps, scissors, etc.) will be wiped down with ethanol or a bleach solution between traps. All personnel involved in this project will be up to date on tetanus vaccines.

4) Exposure to mosquito and tick-borne pathogens: Participants will be instructed to wear long pants tucked into their socks and check daily for ticks and tick bites. Insect spray will also be made available for use on the face and exposed skin. Participants will be encouraged to wear permethrin-infused clothing. Participants will be given a brief training on the risks of mosquito and tick-borne diseases and the typical signs of the diseases. Participants will also be directed to the [Maine CDC Website](#) to obtain additional information.

5) Establish communication plan with xxxxx using radio/cell phone/satellite phone. Training in first aid/CPR for all members of team. First Aid kit and/or Wilderness First Aid kit included in equipment inventory.

# University of Maine

## Inter-institutional Agreement for Care and Use of Vertebrate Animals

Collaborations among institutions can bring greater expertise and resources to address vertebrate research, teaching or outreach objectives. However, such collaborations can result in uncertainty about which individuals and institutions are responsible for oversight and activities pertaining to the humane care, use and final disposition of vertebrate study subjects. Inter-institutional Agreements are intended to assure that collaborative activities using vertebrate animals receive appropriate Institutional Animal Care and Use Committee (IACUC) review, that all parties involved are aware of their respective roles in providing for humane care and use of study subjects, and that a communication system is in place to meet federally required compliance and reporting requirements (e.g., facility inspections, biannual review of protocols, protocol modifications).

Please note that federal and institutional animal care policies can vary with respect to the nature of the collaborating institutions, funding sources, study organism(s) and animal use contexts. Hence, this agreement is subject to review and approval by the University of Maine's IACUC, the University of Maine's Institutional Official, and a designated official from the collaborating institution. An agreement does not go into effect until a mutually agreed upon version of this document is signed by all parties and the designated IACUC committee(s) approves the associated protocol(s).

*("CLICK" IN GRAY BOXES TO ADD TEXT)*

### SECTION 1: INSTITUTIONAL ANIMAL CARE STATUS

<b>University of Maine (UM):</b>
Name of UM Primary Investigator seeking collaboration:
University of Maine USDA Registration #: 11-R-0006
University of Maine Institutional Animal Welfare Assurance (AWA) #: A3754-01

<b>Collaborating Institution:</b>
Name of Collaborating Institution:
Name of Primary Contact/Collaborator at Institution:
Collaborating Institution USDA Registration # (if applicable):
Collaborating Institution Animal Welfare Assurance (AWA) # (if applicable):
AAALAC Accreditation Status (if applicable):

## SECTION 2: IACUC PROTOCOLS AND PERSONNEL

<b>University of Maine (UM) Protocol Information</b> (if any designated activities will be conducted under a UM protocol)	
Title of Project (grant/contract title):	
Principal Investigator on Protocol	
Sponsor or Funding Agency, if any:	
Sponsor's Award Number, if any:	
IACUC Protocol Title:	
IACUC Protocol Approval #:	
IACUC Approval Date:	

**Are the collaborating institution's representatives seeking to conduct animal care activities and compliance under this University of Maine protocol?** ☐ Yes\* ☐ No

*\*If 'Yes', names of collaborating personnel must be included in or appended to the UM IACUC protocol. Collaborating personnel may be required to complete UM or equivalent animal care training. This protocol will be provided to the collaborating institution.*

<b>Collaborating Institution Protocol Information</b> (if any designated activities conducted under collaborator's protocol)	
Title of Project (grant/contract title):	
Principal Investigator on Protocol:	
Sponsor or Funding Agency, if any:	
Sponsor's Award Number, if any:	
Collaborator's IACUC Protocol Title:	
Collaborator's IACUC Protocol Approval #:	
Collaborator's IACUC Approval Date:	

**Are University of Maine representatives seeking to conduct animal care activities and compliance under this protocol from the collaborating institution?** ☐ Yes\* ☐ No

*\*If "Yes," append the collaborating institution's protocol to this form and provide the names and contact information below for all UM personnel to be covered under the collaborator's protocol.*

**UMaine Personnel to be covered** (Note: These individuals still require UM Animal Care Training):

### SECTION 3: DELINEATION OF ANIMAL CARE RESPONSIBILITIES

Although attention to humane care and use of vertebrate animals is the responsibility of all parties, it is important that each party is aware of their primary responsibilities and authority for major elements of animal care and compliance. Please designate the primary party responsible for the following major care responsibilities (assigning specific procedures is optional).

Animal Care Responsibilities	Responsible Party
<b>Ownership and decisions on final disposition of animals is the responsibility of:</b>	<input type="checkbox"/> UMaine <input type="checkbox"/> Collaborator* <input type="checkbox"/> Not Applicable <input type="checkbox"/> Other:
<b>Purchasing/Acquisition/Collection of animals is the responsibility of:</b> <i>(includes state, federal or other permitting)</i>	<input type="checkbox"/> UMaine <input type="checkbox"/> Collaborator* <input type="checkbox"/> Not Applicable <input type="checkbox"/> Other:
<b>Payment for animal care and procedures is the responsibility of:</b>	<input type="checkbox"/> UMaine <input type="checkbox"/> Collaborator* <input type="checkbox"/> Not Applicable <input type="checkbox"/> Other:
<b>Housing of animals is the responsibility of:</b> <i>(includes facility inspection, accreditation, disaster planning)</i>	<input type="checkbox"/> UMaine <input type="checkbox"/> Collaborator* <input type="checkbox"/> Not Applicable <input type="checkbox"/> Other:
<b>Daily husbandry and veterinary care are the responsibility of:</b>	<input type="checkbox"/> UMaine <input type="checkbox"/> Collaborator* <input type="checkbox"/> Not Applicable <input type="checkbox"/> Other:
<b>Emergency veterinary care and guidelines for unplanned euthanasia are responsibility of:</b>	<input type="checkbox"/> UMaine <input type="checkbox"/> Collaborator* <input type="checkbox"/> Not Applicable <input type="checkbox"/> Other:
<b>Specific Procedures:</b> <i>(optional – list procedures below)</i>	<input type="checkbox"/> UMaine <input type="checkbox"/> Collaborator* <input type="checkbox"/> Not Applicable <input type="checkbox"/> Other:
<b>Specific Procedures:</b> <i>(optional – list procedures below)</i>	<input type="checkbox"/> UMaine <input type="checkbox"/> Collaborator* <input type="checkbox"/> Not Applicable <input type="checkbox"/> Other:

\* 'UMaine' and 'Collaborator' refers to the institutions and associated personnel listed in section 1 and 2 above.

Note: Checking 'Other' requires identification of a third party and may entail further inter-institutional agreements.

## SECTION 4: CONDITIONS OF COLLABORATION

The *University of Maine* requests that the collaborating institution provide, as applicable:

- Documentation of IACUC approval, protocol modifications and annual reviews of the protocols where University of Maine representatives are covered under the collaborating institution's IACUC protocol.
- Notification of review and reporting of any incidents of non-compliance with PHS Policy, the *Guide for the Care and Use of Laboratory Animals*, or any suspension of this activity by the IACUC
- Additionally, the University of Maine requests that the collaborating institution provide notification of any changes in PHS Assurance status or AAALAC International Accreditation status for facilities in use by this collaborative research.

Where *University of Maine* representatives conduct work under the animal care protocol of the collaborating institution, the *University of Maine* remains responsible for ensuring compliance with the collaborating IACUC's determinations and with the terms of its OLAW-approved Animal Welfare Assurance. Likewise, where collaborators conduct work under a *University of Maine* animal care protocol, the collaborating institution remains responsible for ensuring compliance with the *University of Maine's* IACUC determinations and with the terms of the *University of Maine's* OLAW-approved Animal Welfare Assurance. This document must be kept on file by both parties and provided to OLAW upon request. Completion of this document provides assurance that the review performed by an Institution's IACUC meets animal welfare requirements prescribed in the institution's OLAW-approved Animal Welfare Assurance.

### **ADDITIONAL CONDITIONS OF COLLABORATION, IF APPLICABLE:**

- The institutions agree to comply with all applicable provisions of the Animal Welfare Act and other applicable Federal statutes and regulations relating to animals.
- As applicable, the institutions agree to be guided by the U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research, and Training and comply with the PHS Policy on Humane Care and Use of Laboratory Animals (Policy)
- The institutions acknowledge and accept responsibility for the care and use of animals involved in activities covered by this Agreement. As partial fulfillment of this responsibility, the institutions will make a reasonable effort to ensure that all individuals involved in the care and use of laboratory animals understand their individual and collective responsibilities for compliance with this Agreement, as well as all other applicable laws and regulations pertaining to animal care and use.

### **ADDITIONAL CONDITIONS OF COLLABORATION, IF ANY (describe below):**

## SECTION 5: REVIEW AND INSTITUTIONAL APPROVALS

**Name and Signature of *University of Maine* Investigator requesting this collaboration:**

(Type Name)

Signature

Date

Submit this form to:

University of Maine Institutional Animal Care and Use Committee

umric@maine.edu

**FOR ADMINISTRATIVE USE ONLY**

Reviewed and Accepted on behalf of the *University of Maine* IACUC:

Date \_\_\_\_\_

In signing this document, the institutional officials listed below signify that the institutional animal care status information (section 1) is accurate to their best knowledge, recognize which institutional IACUC is responsible for protocol review, approval and amendment (section 2), acknowledge the respective roles of each institution in meeting animal care responsibilities (section 3), and enter into this collaboration under the conditions specified above (section 4).

**Name and Signature of Institutional Official (or Designee) for *University of Maine*:**

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Amanda Ashe

Director of Research Compliance

University of Maine

**Name and Signature of Institutional Official for *Collaborating Institution*:**

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

(Type or Print Name)

(Type or Print Title)



Treated fish:  $1,453 \pm 139$  pmol product/min/mg protein,  $n = 3$  individual fish

If unknown, the term s/d can be replaced by CV/D where CV is the Coefficient of Variation (in %) and D is d in %. The coefficient of variation for these activities varied between ~ 10 – 18% (that is,  $49/269 * 100 = 18.2\%$ ;  $139/1453 * 100 = 9.6\%$ ); in other studies we conducted, the CV for this enzyme varied between 34 – 55%. We would like to detect at least a 50% difference between means. Using an average coefficient variation of 30%, an  $\alpha$  level = 0.05, a desired probability of  $P = 0.8$  and 32 degrees of freedom<sup>1</sup>:

$$\begin{aligned} N_2 &= 2 (30/50)^2 * \{t_{0.05}[32] + t_{2(1-0.8)}[32]\}^2 \\ &= 0.72 * \{2.037 + 0.853\}^2 \\ &= 6 \end{aligned}$$

Note: Since the enzyme activity could go either up or down with treatment, look up the 't' values in a Two-tailed Student's t Table. The value of 't' for an  $\alpha$  of 0.05 and 32 df ( $t_{0.05}[32]$ ) = 2.037; the value of 't' for a P of 0.8 and 32 df ( $t_{2(1-0.8)}[32]$ ) = ( $t_{0.4}[32]$ ) = 0.853.

The second 'round' of calculations (using  $N_2 = 6$ ) leads to a  $df_2$  of 40 and a new  $N_3$  of 6, it is then stable and  $N_{stable} = 6$ . So, 6 fish per group is the number required to detect a significant difference of at least 50 % between the treatments (at a 0.05 level  $\alpha$ ), with a likelihood of detecting this difference 80% of the time, if this difference truly exists (this is the power of the test, P).

<sup>1</sup> Each fish experiment consists of 8 groups (2 sites x 2 sexes x 2 treatments = 8 groups) with 5 replicates per group ( $N_{initial}$  for the calculation of the  $df_{initial}$ ), yielding  $v = 8 * (5 - 1) = 32$  df.

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[Export Control](#)
[Human Subjects](#)  
[Research Misconduct](#)
[Responsible Conduct of Research](#)
[Safety Management](#)

## Animal Care

[IACUC Overview](#)

[Guidance & Policy](#)

[Training](#)

[Forms, Instructions & Samples](#)

[Meeting Schedule and Protocol Due Dates](#)

[Resources](#)

[Standard Operating Procedures \(SOPs\)](#)

[IACUC FAQs](#)

[Occupational Health & Safety Program](#)

**ANIMAL WELFARE  
REPORTING**

## Tips to Speed Up Your IACUC Approval

1. **Always** download the protocol form from the IACUC website to ensure you have the most current version (see [IACUC Forms, Instructions, & Samples](#)).
2. **Use lay terminology:** The scope and animal procedures should be written in lay terms. The IACUC has both scientific and non-scientific members, so it is important to use language that is clear to the general public.
3. **Answer all questions:** Make sure you answer **all** the questions on the form; if a question does not apply say N/A. For example, a common mistake with administered substances is to omit information about concentration, dose, route and frequency.
4. **List all personnel:** Identify all personnel who will work on the protocol. In addition, describe how he/she is qualified to perform the procedure(s) to be conducted.
5. **Pain and distress:** If the procedures will cause pain and distress, you will need to describe in detail your monitoring plan, criteria for removing the animal from the study, and strategies to relieve pain (for example, the use of analgesics). Please refer to the [USDA pain category](#) classification and examples document for guidance.
6. **Justify animal numbers:** You must provide an explanation of how the animal numbers were selected. If possible, a power analysis should be completed. If you believe a power analysis is not appropriate, you still must explain how you arrived at the estimated number of animals needed.
7. **Be consistent:** All sections of the protocol must be consistent. For example, make sure animal numbers match throughout the protocol.
8. **Provide grant information:** Attach a copy of your method or vertebrate animal section from your grant to the protocol.
9. **Amendments:** Make sure that the proposed amendment fits with the existing approved objectives. If the amendment significantly changes the original protocol, a new protocol submission may be more appropriate. You may contact the IACUC Office if you are unsure if an amendment or a new protocol is needed.
10. **Satellites:** Make sure your study location has been inspected, has a satellite facility

designation and disaster plan, and is approved by the IACUC.



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[Nondiscrimination notice](#)

[Clery Safety and Security Report](#)

[COVID-19 health and safety guidance](#)

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TOP

**Risk Assessment Section Sample – the following is just an example; not all the items listed may apply to your specific protocol**

**RISK ASSESSMENT EXAMPLE FOR FIELD STUDY WITH SMALL MAMMALS**

(For each numbered task, provide a description of the hazard and the planned approach for managing the hazard)

**List tasks required:**

- 1) Setting and baiting traps
- 2) Anesthetizing/euthanizing small mammals
- 3) Handling small mammals
- 4) Walking through tick and mosquito habitat
- 5) Travel to and from study site

**For each task described above, list associated hazards**

- 1) Potential for cuts/abrasions from metal traps.  
Exposure to infectious agents left from animals (urine, feces etc.)
- 2) Direct contact with [list anesthetic] and/or inhalation of [list anesthetic]  
Transport and disposal of anesthetic
- 3) Biting and scratching from animals.  
Exposure to zoonotic pathogens.
- 4) Exposure to tick and/or mosquito pathogens
- 5) Unable to get prompt emergency services at field study location, limited road access, nearest medical facilities over 1 hour away.

**For each of the hazards described above list how the hazards will be managed.**

- 1) Cuts/abrasions from traps: Traps will be maintained to minimize risk of injury. A first aid kit will be available in the vehicle. Soap and water will be available in the vehicle to clean wounds. In the event of a wound, the area will be washed thoroughly with soap/water and proper first aid measures will be applied.  
Exposure to infectious agents left from animals in the trap: After capturing and processing animal all materials will be removed from the trap. The trap will be wiped down with a bleach solution to disinfect. Nitrile gloves and masks will be worn at all times.
- 2) Direct contact with / inhalation of isoflurane: Isoflurane will be kept in a sealed container in a locked box in the trunk/truck-bed of the vehicle. Use of isoflurane will be done outside to minimize risk of inhalation. A second person will be on-hand in the event of spill/contact. Nitrile gloves, goggles, and a mask will be worn while handling isoflurane. In the event of direct contact with isoflurane, skin/eyes will be immediately flushed with water and medical attention will be sought.
- 3) Biting scratching from animals: Nitrile gloves will be worn while handling the animals. Kevlar gloves will be available to personnel. We will encourage the use of Kevlar gloves whenever possible. [If Kevlar gloves cannot be used you need to explain why].  
In the event of an animal bite/scratch, the animal will be placed back into the trap, the bite/scratch site will be scrubbed with soap/water for 5 minutes and assessed. For minor wounds

an antibiotic cream will be applied and the bite will be bandaged. For deeper punctures with bleeding, pressure will be applied and medical attention will be sought.

Exposure to zoonotic pathogens: Nitrile gloves will be worn while handling animals/traps. Equipment (forceps, scissors, etc.) will be wiped down with ethanol or a bleach solution between traps. All personnel involved in this project will be up to date on tetanus vaccines.

4) Exposure to mosquito and tick-borne pathogens: Participants will be instructed to wear long pants tucked into their socks and check daily for ticks and tick bites. Insect spray will also be made available for use on the face and exposed skin. Participants will be encouraged to wear permethrin-infused clothing. Participants will be given a brief training on the risks of mosquito and tick-borne diseases and the typical signs of the diseases. Participants will also be directed to the [Maine CDC Website](#) to obtain additional information.

5) Establish communication plan with xxxxx using radio/cell phone/satellite phone. Training in first aid/CPR for all members of team. First Aid kit and/or Wilderness First Aid kit included in equipment inventory.

# EXAMPLE

## SEARCH FOR ALTERNATIVES TO PAINFUL/DISTRESSFUL PROCEDURES

**This form must be completed if the pain classification from Question #8 was D or E**

Please read the background information on the [USDA policy for painful and distressful procedures](#) before completing this form.

The written narrative should include adequate information for the IACUC to assess that a reasonable and good faith effort was made to determine the availability of alternatives or alternative methods. **The narrative should not be a description of the selected proposed methods but should explain the alternative methods that were identified in the search for alternatives and why those methods are not acceptable for the proposed project.**

The following information is required:

- 1) The names(s) of the database(s) searched (due to the variation in subject coverage and sources used, one database is seldom adequate);

**Web of Science, Google Scholar, PubMed, Science Direct, vendor websites (e.g., [www.mermaidtags.com](http://www.mermaidtags.com))**

- 2) The date the search was performed.

**2/21/2018**

- 3) The time period covered by the search.

**1900-February 21, 2018**

- 4) The search strategy (including scientifically relevant terminology) used.

**tagging, marking, surgery, implant, stress, survival, methods, alternatives, stress, mermaid tagging, growth**

- 5) Did your database search (or other source) identify a bona fide alternative method (one that could be used to accomplish the goals of the animal use proposed)? Yes/No.

**No.**

If yes, please explain why the alternative found was not proposed. (NOTE: The IACUC will consider this explanation, but may determine it is not adequate to justify not using the bona fide alternative.

If no, the IACUC would like a description of the results of the database search (or other source) to document the lack of relevant alternatives.

#### **Narrative: Search for Alternative to Painful or stressful Procedures**

##### **SURGICAL IMPLANTATION OF MERMAID TAGS**

The use of implanted tags is essential to identify or track individuals through time. The implantation of tags described in this form is envisioned to cause some level of extended pain and stress. Successful surgical implantation of tags relies on proficiency of those performing the surgery. When done properly, the surgical wound heals quickly and with minimal long term behavioral and physiological interference. Two general types of alternatives are available; alternatives to tag type and alternatives to surgical implantation. These are discussed below.

Alternatives to surgical implantation are limited to non-surgical internal implants or non-surgical external attachments. These alternatives would also need to be examined for radio tagging.

- 1) Gastric implantation requires the forceful insertion of tags into the gut of subject animals. Problems with this methodology include expulsion through regurgitation, variable retention based on the tag size (fixed) relative to subject size (variable), internal damage to the subject during implantation or by barbs used to hold tag in place, concerns for altering basic behavior (feeding) of subjects
- 2) External attachment has the advantage over peritoneal implant of not requiring insertion into the peritoneal cavity. However, there are considerable drawbacks that make this method more appropriate to other situations. Thread or wire must be used to attach a tag and this subjects the tissue to tearing and infection. External attachment is best when it involves affixing to a bony plate or hard surface- features that are not (for example) found in mermaids. Tags attached in this manner can also be shed by the subject through abrasion and encumber the mermaid with hydrodynamic drag. External tagging may also affect the interaction behavior of conspecifics (e.g., schooling) and encourage others to pull on tags.

In many cases, these alternatives risk the quality of data or risk greater pain and stress to the subject. Given the small size of the internal tag, neither of these techniques (gastric implantation, external attachment) is expected to be effective with regard to retention and are expected to be a greater risk for tissue damage and infection.

#### **Sources**

*Magic, I.M. (2003) Development of a tagging technique for mermaids. Sea Research 282, pp. 13-14.*  
*Zee, X.Y., and A.B. Sea. (2018). Effects of surgically and gastrically implanted tags on growth and feeding behavior of migrating mermaids. Trans. Intern. Res. Myth. Creat. 111: 188-192.*



The appointed reviewer(s) can make the following determinations:

- **Approve the submission as submitted**
- **Request modifications to secure approval:** If modifications are requested to secure approval, the original designated reviewers will review the modified protocol/amendment.  
This is the most common determination. This process may require more than one round of modification requests from the appointed reviewer(s) before final approval of the protocol.
- **Request FCR of the protocol:** The protocol/amendment would be reviewed at the next convened meeting.

In addition, with a unanimous vote of the quorum present at a convened meeting, the Committee can vote to have a DMR review and approve protocols/amendments for final protocol approval after modifications requested in the FCR have been addressed in the revised protocol/amendment. In this case, one or more designated reviewers will review the modified protocol/ amendment following the convened meeting once the revised protocol has been resubmitted.

A large number of protocols at the University of Maine are reviewed via DMR. Please note that protocols that are submitted for review within two weeks of a scheduled Committee meeting generally will not be reviewed by DMR and will instead be reviewed in the upcoming Committee meeting.

### Protocol Review via Full Committee Review (FCR)

Protocols and amendments may be reviewed at a Full Committee Meeting. In general if the submission is submitted to the IACUC Office two weeks or less before the scheduled meeting, the protocol will automatically be reviewed at an IACUC meeting and not by DMR. In addition, members of the IACUC may request that protocols and amendments be reviewed via FCR instead of DMR at any time.

#### FCR Procedure

Prior to the monthly meeting, at least two reviewers are assigned as primary and secondary reviewers for each of the submissions for that meeting. All committee members are expected to review all protocol submissions, however, the primary and secondary reviewers are responsible for presenting the protocol to the Committee for discussion at the meeting.

After the protocol is discussed at the meeting, the following determinations are possible:

- **Recommended for approval:** The Committee approves the submission as it was submitted.
- **Modifications required to secure approval:** Minor questions and/or clarifications must be resolved by the protocol's PI to secure final protocol approval. The committee members present at the meeting must decide by unanimous vote to use DMR to review the submission after it has been modified and resubmitted. This process may require more than one round of modification requests from the appointed reviewer before final approval of the protocol.  
This is the most common determination.
- **Tabled:** The submission is written in such a way that the Committee cannot complete the review because there are significant omissions and questions that must be resolved to secure approval. A Tabled ruling requires that the revised protocol be resubmitted as a new protocol for FCR at a convened meeting.
- **Withhold Approval:** If the PI and the IACUC cannot agree on fundamental aspects of

the protocol, such as protocol design and animal welfare issues, the Committee may withhold approval. The PI would receive a letter from the IACUC explaining why approval is being withheld.

Protocols/amendments that involve complicated, invasive, or novel procedures and protocols that involve significant pain and distress often will be reviewed at a full committee meeting and not in a DMR. The decision to hold a submitted protocol for FCR is the Committee's prerogative. In addition, protocols involving a principal investigator who has not previously submitted a protocol to the UMaine IACUC should anticipate FCR of his/her first submitted protocol.

### [Time required for FCR and DMR](#)

**The PI should anticipate that a submitted protocol may require a month to several months to complete the protocol review and approval process. Please plan accordingly.**

### [Archived Submissions](#)

Protocols are reviewed by the Committee with the expectation that the PI will address the requested revisions/modifications and resubmit the protocol promptly. Protocols requiring modifications that are not resubmitted within 60 days of receipt of the Committee's comments from the initial review will be archived. An archived protocol that is resubmitted after 60 days will be handled as a new submission.

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### [Diagram of Protocol and Faculty Review Process for IACUC \(PDF\)](#)

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University of Maine Animal Care and Use Committee  
Protocol and Facility Review Process

Preparation (May require weeks to months)	Review/Approval (Requires weeks to months)	Post-Approval (Continuous, over life of protocol)
<b>1. PI obtains <u>current</u> protocol form from website</b> <ul style="list-style-type: none"><li>guidelines and tips documents and links to tools on the IACUC website to assist the PI in protocol preparation</li></ul>	<b>4. Initial Protocol Review</b> <ul style="list-style-type: none"><li>Full Committee (determined by timing of submission, pain category, member request)</li><li>Designated Member (no/low pain, no member request, &gt;2 weeks from scheduled committee meeting*)</li></ul>	<b>7. Inspections of Facilities</b> (twice per year required by OLAW) <ul style="list-style-type: none"><li>Primary facilities reviewed annually by May and November</li><li>Satellite facilities are reviewed before research begins and 2x yearly</li><li>Inspections are rotated among IACUC members</li><li>Non-compliance and corrections are reported in twice yearly report to Institutional Official (IO)</li></ul>
<b>2. PI completes form with detailed information; protocol may require:</b> <ul style="list-style-type: none"><li>Consultation with veterinarian (required for D,E pain classification)</li><li>Search for Alternatives</li><li>Consultation with SEM for Risk Assessment</li><li>Inter-institutional Agreement</li><li>Collection or import permits</li><li>Satellite facility form</li></ul>	<b>5. Revise and Re-submit</b> (requires days to months depending on the revisions requested, completeness of responses, timing of resubmission) <ul style="list-style-type: none"><li>Committee Review can result in tabling a protocol (resubmission treated as a new protocol), requesting revision and resubmission, or an approved protocol without modification</li><li>Protocol revision feedback letter</li><li>Many opportunities for committee feedback:<ul style="list-style-type: none"><li><u>before</u> protocol initial submission (from IACUC member, experienced colleague)<ul style="list-style-type: none"><li>at IACUC meeting (PI attends)</li><li>in letter following IACUC meeting review of protocol</li></ul></li><li>Before resubmission (review by IACUC member, experienced colleague)</li></ul></li></ul>	<b>8. Annual Reporting</b> <ul style="list-style-type: none"><li>PI reports numbers used</li><li>Facility and number reported to OLAW</li><li>IACUC reports to IFW (imports)</li></ul>
<b>3. Faculty submits protocol for review at meeting or DMR</b> (initial review requires ≥2 weeks depending on DMR or full committee review)	<b>6. Final Review</b> <ul style="list-style-type: none"><li>Designated Member</li><li>Full committee Review</li></ul>	<b>9. Protocol expires</b> (3 years max; 1-year for pilot) <ul style="list-style-type: none"><li>Faculty submits new protocol</li></ul>
		<b>10. Prior to protocol expiration, PI requests to amend protocol</b> <ul style="list-style-type: none"><li><b>GO BACK TO #2;</b> <u>amendment</u> is submitted on original protocol with <u>track changes</u>; PI must consult most current protocol form for updates on form</li></ul>

# Office of Research Compliance

[Home](#)
[Contact Us](#)
[News & Events](#)
[Animal Care](#)
[Biosafety](#)
[Conflict of Interest](#)
[Controlled Substances](#)
[Export Control](#)
[Human Subjects](#)
[Research Misconduct](#)
[Responsible Conduct of Research](#)
[Safety Management](#)

## Animal Care

[IACUC Overview](#)
[Guidance & Policy](#)
[Training](#)
[Forms, Instructions & Samples](#)
[Meeting Schedule and Protocol Due Dates](#)
[Resources](#)
[Standard Operating Procedures \(SOPs\)](#)
[IACUC FAQs](#)
[Occupational Health & Safety Program](#)
[ANIMAL WELFARE  
REPORTING](#)

## Resources

- [Institutional Animal Care and Use Committee Membership](#)
- [Standard Operating Procedures \(SOPs\)](#)

### Federal Regulations/Information

- [Animal Welfare Act, Regulations and Standards \(PDF\)](#)
- [Animal Welfare Information Center Home Page](#)
- [Office of Laboratory Animal Welfare](#)
- [Public Health Service Policy on Humane Care and Use of Laboratory Animals](#)

### Guidelines

- [American Society of Mammalogists](#)
  - [Guidelines for the Capture, Handling, and Care of Mammals \(PDF\)](#)
- [American Veterinary Medical Association \(AVMA\) Guidelines on Euthanasia \(PDF\)](#): Revised 2020; these guidelines set the standards for euthanasia practices. PHS Policy incorporates these guidelines by reference.
- [Amphibians and Reptiles, Recommendations for the Care of \(PDF\)](#)
- [Code of Practice, prepared by the Declining Amphibian Populations Task Force \(DAPTF\) \(PDF\)](#) to provide guidelines for use by anyone conducting fieldwork at amphibian breeding sites or in other aquatic habitats.
- [Database on Refinement of Housing and Handling Conditions and Environmental Enrichment for Laboratory Animals](#) (Rodents, Rabbits, Cats, Dogs, Ferrets, Farm Animals, Horses, Birds, Fishes, Amphibians, and Reptiles).
- [Guidance Concerning Use of Carbon Dioxide for Euthanasia of Small Animals](#)  
The Office of Laboratory Animal Welfare has issued PHS Policy on Humane Care and Use of Laboratory Animals guidance to Assured institutions clarifying current requirements regarding the use of carbon dioxide (CO2) as a euthanasia agent for

small laboratory animals. Guidance regarding prompt reporting of related serious noncompliance is included. The guidance is contained in a July 17, 2002 notice published in the [NIH Guide for Grants and Contracts \(OD-02-062\)](#)

- [Guide for the Care and Use of Agricultural Animals in Agricultural Teaching and Research \(Ag Guide 2010\) \(PDF\)](#)
- [Guide for the Care and Use of Laboratory Animals \(8th Edition\)](#)
- [Guidelines for Use of Fishes in Field Research \(PDF\)](#)
- [Guidelines for Use of Live Amphibians and Reptiles in Field and Laboratory Research \(PDF\)](#)
- [Institute for Lab Animal Research: Online Journals](#)
  - [Pain and Distress in Fish](#)
- [Scientists Center for Animal Welfare](#)
- Status of Clove Oil and Eugenol for Anesthesia of Fish: [The Food and Drug Administration issued this information regarding the use of clove oil and its components for the anesthesia of fish \(PDF\)](#)
- [Zebrafish Information Network](#)

#### Other

- [NIH Office of Laboratory Animal Welfare – Useful Links](#)

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TOP

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[Home](#)
[Contact Us](#)
[News & Events](#)

[Animal Care](#)
[Biosafety](#)
[Conflict of Interest](#)
[Controlled Substances](#)
[Export Control](#)
[Human Subjects](#)  
[Research Misconduct](#)
[Responsible Conduct of Research](#)
[Safety Management](#)

## Animal Care

[IACUC Overview](#)

[Guidance & Policy](#)

[Training](#)

[Forms, Instructions & Samples](#)

[Meeting Schedule and Protocol Due Dates](#)

[Resources](#)

[Standard Operating Procedures \(SOPs\)](#)

[IACUC FAQs](#)

[Occupational Health & Safety Program](#)

**ANIMAL WELFARE  
REPORTING**

## Standard Operating Procedures (SOPs)

Please note: login credentials for @maine.edu are required to view files for SOPs.

- [SOP for Adverse Reporting in Animals Used in Research Projects at the University of Maine \(PDF\)](#)
- [SOP for Preparation, Storage, Handling and Use of Tricaine Methansulfonate \(Tricaine-S, MS-222\) \(PDF\)](#)

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Q. How long does it take to get IACUC approval?

Q. What do reviewers look for when they are reviewing my submitted protocol?

Q. Am I required to attend an IACUC meeting to answer questions about my protocol?

Q. I need to have a protocol reviewed before the next committee meeting. Can review of my protocol be expedited?

Q. My original protocol was reviewed and returned to me to address committee feedback, and then I was asked to provide additional information about the revised protocol, requiring an additional delay in beginning my work. Why doesn't the committee provide all of their feedback in one request?

Q. How soon after the meeting will I hear back from the IACUC?

Q. Who is required to participate in the Occupational Health & Safety Program (OHSP)?

## Facility Inspections

Q. What is the purpose of the IACUC facility inspections?

Q. When are inspections scheduled?

Q. How does the inspection process work?

Q. Does the Principal Investigator need to be present for the inspection?

Q. Will the IACUC also review documents during the inspection?

Q. What signage should be posted in the lab or Animal Facility?

Q. How can I make sure my lab/facility is inspection ready?

Q. What are common deficiencies found during IACUC inspections?

Q. What are USDA inspections?

## Principal Investigator and Study Team Management

Q. Who is eligible to be a PI on an Animal Care and Use Protocol?

Q. I will be hiring some additional students to work on my approved IACUC protocol; what do I need to do to add them?

Q. Who should be listed as personnel on the IACUC protocol?

Q. What training documentation does my lab need to maintain?

Q. I am the PI on a protocol and I am leaving the University of Maine, what do I need to do?

Q. How do I submit a change in PI?

Q. How do I remove personnel from the IACUC protocol?

## Funding

Q. Why is a grant to protocol review needed?

Q. How do I add a new or updated grant to a protocol?

Q. I have a grant application due, when I should submit the IACUC protocol?

## Materials Used in Animal Studies

Q. Can I use expired pharmaceuticals and materials in animals?

Q. What do I do with hazardous materials I do not want any more?

Q. May non-pharmaceutical-grade compounds be used in my study with animals?



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[Student Resources](#)

[Nondiscrimination notice](#)

[Clery Safety and Security Report](#)

[COVID-19 health and safety guidance](#)

[Emergency](#)



## Animal Care

[IACUC Overview](#)

[Guidance & Policy](#)

[Training](#)

[Forms, Instructions & Samples](#)

[Meeting Schedule and Protocol Due Dates](#)

[Resources](#)

[Standard Operating Procedures \(SOPs\)](#)

[IACUC FAQs](#)

[Occupational Health & Safety Program](#)

**ANIMAL WELFARE  
REPORTING**

## Occupational Health & Safety Program

### What is the Occupational Health & Safety Program (OHSP)?

The Occupational Health and Safety Program (OHSP) for Personnel with Animal Contact is a part of the University of Maine IACUC overall program of animal care and focuses on maintaining a safe and healthy environment for individuals with exposure to animals. Participation in the OHSP is required for all personnel who have contact with animals.

See also [Tips About your Health and Working with Animals](#)

### Why is participation required?

Participation in the OHSP is required per federal regulations. The [Guide for the Care and Use of Laboratory Animals \(Guide\)](#) states that:

- “Each institution must establish and maintain an occupational health and safety program as an essential part of the overall Program of animal care and use... The nature of the OHSP will depend on the facility, research activities, hazards, and animal species involved.” (page 17)
- “A comprehensive OHSP should include a hierarchy of control and prevention strategies that begins with the identification of hazards and the assessment of risk associated with those hazards. An effective occupational health and safety program must encompass all personnel that have contact with animals.” (page 18)

The federal Office of Laboratory Animal Welfare (OLAW) requires all institutions conducting animal research to provide occupational health support for all of its animal researchers and staff.

### Who should participate in the OHSP?

All individuals at the University of Maine who have exposure to research and/or teaching animals must participate. Some examples include: animal caretakers/technicians, principal investigators, veterinary staff and personnel listed on active IACUC protocols.

### What does participation involve?

Upon enrolling in the OHSP, you will be asked to complete a questionnaire with questions about your health history, and the animals and potentially hazardous substances you will be handling. The questionnaire will be reviewed by a nurse specializing in occupational health. The nurse will follow up with you if any further action is required. Once you have completed this process, you will receive OHSP clearance.

### How often do investigators need to update their enrollment?

In accordance with federal requirements for periodic updates to ensure the OHSP captures changes to your health and job description a new questionnaire must be completed if your job responsibilities change or there is a change in your health status.

### Where can I find the OHSP form?

The [Animal Health Surveillance questionnaire](#) is available online. Instructions for where to return the form is on the questionnaire.

*Adapted from IACUC training and occupational health and safety HMA Standing Committee on Animals at Harvard Medical School*

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↑  
TOP



[Apply](#)[Student Resources](#)[Nondiscrimination notice](#)[Clery Safety and Security Report](#)[COVID-19 health and safety guidance](#)[Emergency](#)[University of Maine](#)[Orono, ME 04469](#)[207.581.1865](#)[TOP](#)

# Office of Research Compliance

[Home](#)
[Contact Us](#)
[News & Events](#)
[Animal Care](#)
[Biosafety](#)
[Conflict of Interest](#)
[Controlled Substances](#)
[Export Control](#)
[Human Subjects](#)
[Research Misconduct](#)
[Responsible Conduct of Research](#)
[Safety Management](#)

## Animal Care

[IACUC Overview](#)
[Guidance & Policy](#)
[Training](#)
[Forms, Instructions & Samples](#)
[Meeting Schedule and Protocol Due Dates](#)
[Resources](#)
[Standard Operating Procedures \(SOPs\)](#)
[IACUC FAQs](#)
[Occupational Health & Safety Program](#)
[ANIMAL WELFARE  
REPORTING](#)

## Animal Care Concerns

Have questions or concerns regarding animals used in research or teaching?

The University of Maine acknowledges and accepts responsibility for the ethical care and use of live vertebrate animals. It is essential that we assume responsibility for their welfare and that animal use for research or teaching purposes be conducted in a humane, compassionate manner.

If you observe or learn of activities involving animal care and use that you believe are inappropriate (inhumane treatment, neglect, unapproved procedures, etc.), you are encouraged to report such activities. You may make your complaint anonymously if you choose. The University of Maine's Institutional Animal Care and Use Committee (IACUC) is required by federal regulations to investigate all such reports in a confidential manner. No member of the University (student or employee) is subject to any reprisal for reporting any suspected violations.

If you believe an activity is inappropriate, the most direct way to deal with the problem is to speak with the people involved (supervisor, principal investigator, technician, etc.). Persons not familiar with animal research may misinterpret some procedures as causing pain or distress, when in fact that is not the case. If for any reason you do not wish to speak to the people involved with the activity, you may pursue the question within the University.

If you have a question or concern involving animals used on the campus for research or teaching, their human handlers, or any related matter, please contact any one of the following individuals.

Dr. James Weber  
Institutional Veterinarian  
342 Hitchner Hall  
581.2774

[jaweber@maine.edu](mailto:jaweber@maine.edu)

Dr. Ian Bricknell

IACUC Chair

179 Hitchner Hall

581.4380

[ian.bricknell@maine.edu](mailto:ian.bricknell@maine.edu)

Ms. Paula Portalatin

Office of Research Compliance

311 Alumni Hall

581.2657

[paula.portalatin@maine.edu](mailto:paula.portalatin@maine.edu)

Dr. Kody Varahramyan

Institutional Official for Animal Welfare

209 Alumni Hall

581.1506

[varahramyan@maine.edu](mailto:varahramyan@maine.edu)



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[Student Resources](#)

[Nondiscrimination notice](#)

[Clery Safety and Security Report](#)

[COVID-19 health and safety guidance](#)

[Emergency](#)

University of Maine | Orono, ME 04469 | 207.581.1865

[TOP](#)

Animal Care

IACUC Overview

Guidance & Policy

Training

Forms, Instructions & Samples

Meeting Schedule and Protocol Due Dates

Resources

Standard Operating Procedures (SOPs)

IACUC FAQs

Occupational Health & Safety Program

ANIMAL WELFARE REPORTING

## Report a Concern

### Report a Concern

This form can be used to report an animal concern anonymously.


Date of the incident: \*



Time of the incident: \*

:

AM



HHMM

Location of the incident:

Please describe the incident: \*

Submit



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