

**USM DEPARTMENT OF BIOLOGY  
GRADUATE STUDENT HANDBOOK  
2009-2010**

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## I. BIOLOGY GRADUATE PROGRAM CALENDAR

### A. IMPORTANT DATES FOR FULL-TIME STUDENTS\*

#### YEAR 1 (2009-2010)

<b>FALL</b>	
End of August	Register for all classes – consult with the graduate advisor
xxx August 2008	Office of Graduate Studies' Graduate Student Orientation, 7th floor Glickman Library, Portland
End of September	Form Advisory Committee and submit signed form (see Appendix)
End of October	Convene 1st Advisory Committee meeting: * Complete proposed plan of study and submit signed form (see Appendix) * Identify research/review paper topic
<b>SPRING</b>	
End of April	Convene 2nd Advisory Committee meeting to discuss research proposal OR progress on review paper  NOTE: Research proposal or review paper outline must be submitted to Advisory Committee at least 2 weeks prior to the scheduled meeting
14 May 2009	Graduate Student Thesis Proposal Presentations

#### YEAR 2 (2010-2011)

<b>FALL</b>	
mid-October	Convene 3rd Advisory Committee meeting: * Present progress report on project * Determine remaining work on project
<b>SPRING</b>	
Beginning of semester	File for May graduation – check with Registrar for exact date
Mid-February	Convene 4th Advisory Committee meeting: * Present progress report on project * Set date for thesis defense
Mid-April	Complete thesis seminar and defense  NOTE: Completed research or literature review thesis must be submitted to Advisory Committee at least 2 weeks prior to the scheduled seminar.
End of April	Submit approved thesis to Office of Graduate Studies with Advisory Committee's and Department Chair's signatures

\* Part-time graduate students follow this general sequence in consultation with their Advisory Committee

## **B. DETAILS OF THE CALENDAR**

### **1. YEAR 1**

#### **USM's New Graduate Student Orientation**

This is a university-wide event designed to orient new students to policies associated with graduate studies at USM. Students are expected to read the Academic Policies section of the Graduate Catalog (available online at <http://www.usm.maine.edu/catalogs/>) as well as the section on the Biology Graduate Program. Refreshments are served.

Date:

Place:

#### **Formation of the Advisory Committee**

The Advisory Committee shall be composed of at least three faculty members, one of whom is the graduate advisor. Like the advisor, committee members should have research interests related to the student's topic of interest. At least two of the three members must be regular members of the Biology Graduate Faculty (i.e., not Adjunct Graduate Faculty). A student may choose a fourth committee member, but this is optional. The graduate student is responsible for contacting potential Advisory Committee members prior to the first committee meeting.

#### **First Advisory Committee Meeting**

The first Advisory Committee meeting takes place during the first semester. At this meeting, the student and Advisory Committee formulate the proposed plan of study, composed of two parts:

1. Coursework for the degree, along with any course deficiencies
2. Research or review paper topic

Two forms must be completed at this first committee meeting:

1. GRADUATE STUDENT ADVISORY COMMITTEE FORM, which specifies the composition of the Advisory Committee, and
2. PLAN OF STUDY FORM, which outlines courses that the graduate student will take during his/her graduate program to ensure that all course requirements are met by the anticipated time of graduation.

All committee members must sign both forms during the first committee meeting. The student should retain a copy of the Plan of Study Form for his/her own records. Then the student is responsible for obtaining the signature of the Graduate Coordinator.

#### **Second Advisory Committee meeting**

The second Advisory Committee meeting takes place during the second semester. At this meeting, the student and Advisory Committee discuss the student's research proposal (research thesis option) or outline of the review paper (literature review thesis option). The committee suggests any modifications or revisions.

#### **The Research Thesis Proposal**

The research thesis proposal must include the following:

1. A brief literature review in the field of intended study
2. Purpose of the project: objectives and hypotheses
3. Methods, including statistical analyses
4. A timetable for the project
5. Any preliminary data that the student already has collected
6. References

The thesis proposal must be submitted to the Advisory Committee at least two weeks prior to the second Advisory Committee meeting. At the meeting, the THESIS PROPOSAL COVER

PAGE must be signed by the committee members. Then the student is responsible for obtaining the signature of the Graduate Coordinator.

### **Graduate Student Proposal Presentations**

This event provides an opportunity for graduate students to inform Biology faculty and fellow students about their research projects and to practice giving a seminar. The event takes place during the week following spring semester final exams. Students present their thesis proposals to interested faculty, graduate students, and undergraduate students in a casual setting. The format models that of a scientific meeting, with students giving 30 minute PowerPoint presentations. After each presentation, students answer questions and receive feedback. Refreshments are served.

Date: Friday, 14 May 2009

Place: TBA

## **2. YEAR 2**

### **Third Advisory Committee Meeting**

This meeting takes place early in the third semester. The student reports his/her progress on summer research or the literature review to the Advisory Committee. The student and committee also discuss remaining work to be done and the timeline, including possible extensions.

### **File for Graduation**

If the student plans to graduate at the end of his/her second year, then the student fills out the Application for Degree form available on the USM Registrar's website. Students always can withdraw from May graduation if they later determine they will not finish on time.

### **Fourth Advisory Committee Meeting**

This meeting takes place at the beginning of the fourth semester. The Advisory Committee and student discuss the project status and determine whether the coursework and project are close to completion. If so, the student and committee set the date for the public seminar, and the student needs to have filed for May graduation. If the committee determines that more work needs to be done and the graduate student cannot graduate in May, then both parties outline remaining requirements, and another committee meeting should be scheduled.

### **Research Thesis/Review Paper**

The research thesis or review paper must be written in a form satisfactory to the Advisory Committee and ideally suitable for submission to a peer-reviewed scientific journal. Students are strongly encouraged to submit their theses for publication, in collaboration with their advisor, during or soon after obtaining the degree.

### **Thesis Defense/Seminar**

The completed research thesis or review paper must be submitted to the Advisory Committee at least two weeks prior to the seminar date. The student must advertise the seminar (in the form of posters, email, etc.) to the Biology Department and campus community at least one week prior to the seminar date.

The seminar is open to the department and to the public. Students give a 45-55 minute seminar presenting either their research or literature review topic, followed by a question and answer session. In both cases, the seminar is followed by a private meeting of the student and Advisory Committee to discuss details of the project, the research thesis or review paper, and the seminar.

Once the thesis is complete, the student and Advisory Committee must sign the THESIS COVER PAGE. The student is responsible for obtaining signatures from the Biology Department Chair and from the Dean of the College of Arts and Sciences. The student then submits at least two copies of the completed thesis, with signed cover page, to the Office of Graduate Studies, along with a \$25 fee for binding the second copy. The student may submit additional copies to be bound, at a cost of \$25 per copy. See the Office of Graduate Studies' web page for guidelines on preparing the thesis (<http://www.usm.maine.edu/grad/resources/thesis.htm>).

## **II. PEOPLE**

### **A. BIOLOGY FACULTY AND THEIR RESEARCH INTERESTS**

#### **Dr. David Champlin, Associate Professor**

Dr. Champlin studies hormonal control of development, steroid control of insect visual system metamorphosis, cell cycle control, and transcription regulation.

Office: 305B Science

Phone: 228-8349

Email: [champlin@maine.edu](mailto:champlin@maine.edu)

#### **Dr. Douglas Currie, Assistant Professor**

Dr. Currie is a neuroscientist who investigates development of the mammalian brain.

Office: 176D Science

Phone: 228-8192

Email: [dcurrie@usm.maine.edu](mailto:dcurrie@usm.maine.edu)

#### **Dr. Louis F. Gainey, Jr., Professor and Graduate Coordinator**

Dr. Gainey studies cell signaling and neural control of smooth muscle and cilia in bivalve mollusk gills.

Office: 306 Science

Phone: 780-4264

Email: [gainey@usm.maine.edu](mailto:gainey@usm.maine.edu)

#### **Dr. Thomas Knight, Associate Professor**

Dr. Knight investigates molecular, biochemical and environmental factors affecting nitrogen use efficiency of plants as well as nitrogen and carbon metabolic interactions.

Office: 225 Science

Phone: 780-4577

Email: [tknight@usm.maine.edu](mailto:tknight@usm.maine.edu)

#### **Dr. Christine Maher, Associate Professor and Department Chair**

Dr. Maher's research focuses on the evolution of social behavior in mammals.

Office: 201 Science

Phone: 780-4612

Email: [cmaher@usm.maine.edu](mailto:cmaher@usm.maine.edu)

#### **Dr. Michael Mazurkiewicz, Professor**

Dr. Mazurkiewicz studies the ecology of estuarine and tidal marsh invertebrates and the reproductive biology of benthic marine invertebrates.

Office: 314 Science

Phone: 780-4262

Email: [mazurkie@usm.maine.edu](mailto:mazurkie@usm.maine.edu)

**Dr. Lisa Moore, Associate Professor**

Dr. Moore investigates the physiological ecology of marine microbial phytoplankton, focusing on environmental factors that control growth and influence population composition and dynamics.

Office: 406 Science

Phone: 780-4261

Email: lmoore@usm.maine.edu

**Dr. Haig Najarian, Professor**

Dr. Najarian has published widely in the field of parasitology.

Office: 105B Science

Phone: 780-4266

Email: najarian@maine.edu

**Dr. Patricia O'Mahoney-Damon, Associate Professor**

Dr. O'Mahoney-Damon is interested in human anatomy and physiology, human pathophysiology, and the comparative anatomy of vertebrates.

Office: 221 Science

Phone: 780-4263

Email: pato@usm.maine.edu

**Dr. Theresa Theodose, Associate Professor**

Dr. Theodose studies plant community ecology and plant-nutrient interactions in stressful environments, with a current emphasis on salt marshes.

Office: 408 Science

Phone: 780-4074

Email: theodose@usm.maine.edu

**Dr. Jeffrey Walker, Associate Professor**

Dr. Walker investigates the mechanics of swimming and flying and the evolution of locomotor morphology in order to model constraints on phenotypic evolution.

Office: 305A Science

Phone: 228-8166

Email: walker@usm.maine.edu

**Dr. Kenneth Weber, Professor**

Dr. Weber studies evolutionary genetics, including genetic control of organic shapes and the experimental observation of the operation of natural selection.

Office: 212 Science

Phone: 780-4265

Email: keweber@usm.maine.edu

## **B. ADJUNCT BIOLOGY FACULTY AND THEIR RESEARCH INTERESTS**

### **Dr. Michele Dionne, Research Director, Wells National Estuarine Research Reserve**

Dr. Dionne's research interests focus on estuarine ecosystems and conservation issues surrounding these ecosystems.

Phone: 646-1555 x136

Email: [dionne@wellsnerr.org](mailto:dionne@wellsnerr.org)

### **Dr. S. Monroe Duboise, Associate Professor, Dept. of Applied Medical Science, USM**

Dr. Duboise is a virologist whose research examines the molecular genetics of gammaherpesvirus and development of herpesvirus gene transfer vectors.

Phone: 780-4377

Email: [duboise@usm.maine.edu](mailto:duboise@usm.maine.edu)

### **Dr. David Evers, Executive Director, Biodiversity Research Institute**

Dr. Evers investigates local, regional, and global ecotoxicology issues in birds and other wildlife. He currently focuses on effects of mercury exposure in fish and wildlife as well as investigations into toxicological, behavioral, genetic, and demographic aspects of the Common Loon.

Phone: 839-7600

Email: [david.evers@briloon.org](mailto:david.evers@briloon.org)

### **Dr. David E. Harris, Associate Professor, Natural and Applied Sciences of Lewiston-Auburn College, USM**

Dr. Harris has expertise in two areas of biology: cardiovascular disease (CVD) and public implementation of programs for caring for CVD, and population dynamics and health of seal species in the Gulf of Maine.

Phone: 753-6586

Email: [deharris@usm.maine.edu](mailto:deharris@usm.maine.edu)

### **Dr. Lewis Incze, Research Professor, Dept. of Environmental Science, USM**

Dr. Incze's research interests focus on coupled biological-physical processes in the oceans and their effects on plankton ecology and population dynamics of organisms with pelagic life stages.

Phone: 228-8070

Email: [lincze@usm.maine.edu](mailto:lincze@usm.maine.edu)

### **Dr. Ira A. Levine, Associate Professor, Natural and Applied Sciences of Lewiston-Auburn College, USM**

Dr. Levine's research focuses on algal physiological ecology and marine agronomy, particularly commercial applications.

Phone: 753-6969

Email: [ilevine@usm.maine.edu](mailto:ilevine@usm.maine.edu)

### **Dr. Ah-Kau Ng, Professor, Dept. of Applied Medical Sciences, USM**

Dr. Ng's studies of cell-cell interactions focus on investigation of the roles of selected surface proteins in tumor immunity, tumor diagnosis, and tumor metastasis and also in platelet activation in cardiovascular disease.

Phone: 228-8444

Email: [ahkaung@maine.edu](mailto:ahkaung@maine.edu)

### **Dr. Karen Wilson, Assistant Research Professor, Dept. of Environmental Science, USM**

Dr. Wilson's current research focuses on linkages between freshwater and marine ecosystems and anadromous alewife, salt marsh restoration and impacts on marsh-marine

linkages, and freshwater crayfish in Maine.

Phone: 780-5395

Email: kwilson@usm.maine.edu

**Dr. John P. Wise, Sr., Professor, Dept. of Applied Medical Sciences, USM**

Dr. Wise works extensively in the field of toxicology and molecular epidemiology, focusing on the effects of metals and particulates on human and marine mammal cells.

Phone: 228-8049

Email: john.wise@usm.maine.edu

**C. SUPPORT STAFF FOR THE BIOLOGY DEPARTMENT**

**Ann Perry, Administrative Assistant**

Ann provides office assistance to graduate assistants teaching laboratory courses. She can copy any quizzes or handouts related to class, but she must receive materials at least 24 hours in advance. Graduate assistants may also photocopy materials themselves using the biology photocopy account number. Ann also manages the departmental budgets, including graduate student research grant funds.

Office: 105 Science

Phone: 780-4260

Email: aperry@usm.maine.edu

**Michael Callahan, Laboratory Manager**

Mike sets up labs for the department's introductory biology lab course (BIO 106K) and nonmajors lab courses (BIO 102K, 104K). He also manages and coordinates repairs to shared equipment, and he maintains the chemical inventory.

Office: 150 Science

Phone: 780-4571

Email: mcallahan@usm.maine.edu

**James Davis, Laboratory Associate**

Jim's primary responsibility involves overseeing and teaching Human Anatomy and Physiology lab courses (BIO 112 and BIO 212).

Office: 118 Science

Phone: 228-8582

Email: jdavis@usm.maine.edu

**D. OTHER FACULTY WITH RELATED RESEARCH INTERESTS**

**Dr. Matthew Bampton, Associate Professor, Dept. of Geography-Anthropology**

Geographic Information Systems (GIS) and physical geography

Email: bampton@usm.maine.edu

**Dr. Christina Beaudoin, Associate Professor, Dept. of Exercise, Health and Sport Sciences**

Exercise science and public health policy

Email: beaudoin@usm.maine.edu

**Dr. Diana Crader, Associate Professor, Dept. of Geography-Anthropology**

Zooarchaeology and human evolution

Email: dinah@usm.maine.edu

**Dr. Robert Kuech, Associate Professor, Dept. of Teacher Education**

Science education

Email: rkuech@usm.maine.edu

**Dr. Samantha Langley-Turnbaugh, Professor, Dept. of Environmental Science**

Forest ecology, soils, and phytoremediation

Email: [langley@usm.maine.edu](mailto:langley@usm.maine.edu)

**Dr. Marjorie Thomas Lawson, Associate Professor, Dept. of Nursing**

Genetics and primary care medicine

Email: [lawson@usm.maine.edu](mailto:lawson@usm.maine.edu)

**Dr. Vincent Markowski, Associate Professor, Dept. of Psychology**

Behavioral toxicology and neuroendocrinology

Email: [vincentm@usm.maine.edu](mailto:vincentm@usm.maine.edu)

**Dr. Firooza Pavri, Associate Professor, Dept. of Geography-Anthropology**

Geographic Information Systems (GIS), remote sensing, and land use changes

Email: [fpavri@usm.maine.edu](mailto:fpavri@usm.maine.edu)

**Dr. Stephen Pelsue, Associate Professor, Dept. of Applied Medical Sciences**

Molecular genetics and immunology

Email: [pelsue@usm.maine.edu](mailto:pelsue@usm.maine.edu)

**Dr. Robert Sanford, Associate Professor, Dept. of Environmental Science**

Environmental planning and cultural ecology

Email: [rsanford@usm.maine.edu](mailto:rsanford@usm.maine.edu)

**Dr. Lydia Savage, Professor, Dept. of Geography-Anthropology**

Urban, social and economic geography

Email: [lsavage@usm.maine.edu](mailto:lsavage@usm.maine.edu)

**Dr. Christopher Scott, Associate Professor, Dept. of Exercise, Health, and Sport Sciences**

Exercise physiology

Email: [cscott@usm.maine.edu](mailto:cscott@usm.maine.edu)

**Dr. Douglas Thompson, Professor, Dept. of Applied Medical Sciences**

Epidemiology and biostatistics

Email: [dougt@usm.maine.edu](mailto:dougt@usm.maine.edu)

**Dr. Brian Toy, Interim Dean, College of Nursing and Health Professions**

Human anatomy and athletic training

Email: [btoy@usm.maine.edu](mailto:btoy@usm.maine.edu)

**Dr. Calvin Vary, Principal Investigator, Maine Medical Center Research Institute**

Angiogenesis, regulation of vascular homeostasis, and vascular pathology

Email: [varyc@mmc.org](mailto:varyc@mmc.org)

**Dr. Janet Whatley Blum, Associate Professor, Dept. of Exercise, Health, and Sport Sciences**

Clinical exercise physiology and nutrition

Email: [jwblum@usm.maine.edu](mailto:jwblum@usm.maine.edu)

**Dr. Blake Whitaker, Associate Professor, Natural and Applied Sciences**

Cell and molecular biology and toxicology

Email: [blakew@usm.maine.edu](mailto:blakew@usm.maine.edu)

### **III. RESOURCES**

#### **A. RESEARCH FACILITIES AT USM**

The USM Biology Department has equipment and facilities for research in most areas of biological research, particularly in our three areas of specialization: Physiology, Cell and Molecular Biology, and Evolution and Ecology. In addition, the Department of Applied Medical Sciences houses equipment for cell and molecular biology and toxicology work, whereas the Department of Geography-Anthropology oversees a Geographic Information Systems lab and state-of-the-art field survey equipment.

#### **B. RESEARCH LABORATORIES NEAR USM**

Bigelow Laboratory for Ocean Sciences, West Boothbay Harbor (<http://www.bigelow.org>)

Gulf of Maine Research Institute (<http://www.gmri.org>)

Maine Medical Center Research Institute, Scarborough (<http://www.mmcri.org>)

The Foundation for Blood Research, Scarborough (<http://www.fbr.org>)

#### **C. FIELD STATIONS NEAR USM**

Due to its transitional location between two biomes, its varied topography, and its coastline, Maine contains a large diversity of habitat types. Students can conduct ecological research at several active field stations near USM. In addition, nearby field sites owned by the Maine Audubon Society (<http://www.maineaudubon.org>) and The Nature Conservancy (<http://www.nature.org>) usually are open to research projects. Specific sites include:

Wells Estuarine Research Reserve, Wells, Maine (<http://www.wellsnerr.org>)

Massabesic Experimental Forest, Alfred, Maine

(<http://www.fs.fed.us/ne/durham/4155/massabes.htm>)

Darling Marine Center, Walpole, Maine (<http://server.dmc.maine.edu>)

Bartlett Experimental Forest, Bartlett, New Hampshire

(<http://www.fs.fed.us/ne/durham/4155/bartlett.htm>)

Bates-Morse Mountain Conservation Area, Phippsburg, Maine

(<http://www.bates.edu/morse-mountain.xml>)

#### **D. LIBRARIES**

Through the library's website (<http://library.usm.maine.edu>), students have internet access to several online databases, including BIOSIS and the Web of Science (Science Citation Index). A student's USM Card must be activated before one can access online resources, and then students can use many databases from both on and off campus locations.

USM also carries many journals, both print and electronic versions, that publish original, peer-reviewed research in areas of biology. See the USM library website for a list of journals carried for the Departments of Biology, Environmental Science, and Applied Medical Sciences. USM also is a member of the University of Maine System and so can access many University of Maine journals online. See the Biology Department homepage (journals link) or USM library website for journals that can be accessed this way.

If USM does not have the journal that a student needs, he/she can easily request a copy through the interlibrary loan process (<http://illiad.usm.maine.edu/>). It takes between 3 and 5 days to receive the article, most of which are delivered free of charge in PDF form.

#### **IV. ACADEMIC POLICIES OF THE BIOLOGY GRADUATE PROGRAM**

\*\* See USM's Graduate Catalog for details on general university policies and procedures.

##### **A. POLICIES INVOLVING COURSEWORK**

Students enrolled in the research thesis option must take a minimum of 24 hours of coursework and 6 credits of thesis research (BIO 698). Students enrolled in the literature review thesis option must take a minimum of 32 hours of coursework and 3 credits of Literature Review (BIO 699).

All students shall take four required courses for the degree: Research Methods in Biology (BIO 601), Applied Biostatistical Analysis (AMS 545) or Introduction to Biostatistics (STA 588), and two graduate seminar courses (BIO 621). Remaining coursework should be chosen from at least two of three areas (Physiology, Genetics and Molecular Biology, and Ecology and Evolution) to maintain breadth. Upon approval of the Advisory Committee, students also may take graduate level courses in other USM departments. Up to 6 hours of undergraduate credit hours may count toward graduate coursework, upon approval of the Advisory Committee.

Students may transfer up to 9 credits of graduate coursework (earned within the last 5 years and with a grade of B- or better) into the program. Transfer credit is considered graduate credit earned from USM or another institution. Approval of transfer credit must be requested at the time of admission.

##### **B. THESIS SUBMISSION**

After presenting the seminar and meeting with the Advisory Committee, students typically must make revisions to the thesis before it is finalized and submitted. Following the defense, students must submit their final thesis to the Office of Graduate Studies by the following deadlines:

- Defenses held during Fall semester: no later than the last day of Spring semester
- Defenses held during Spring semester: no later than the day prior to the start of Fall semester
- Defenses held during Summer: no later than the last day of Fall semester

If a student fails to meet that deadline, then he/she must petition the Biology Graduate Faculty (through the Graduate Coordinator) for an extension, and the Graduate Faculty may ask the student to defend the thesis again.

##### **C. CONTINUOUS ENROLLMENT**

USM requires graduate students to maintain continuous enrollment as they make progress toward graduate degrees. If students complete coursework but have not yet submitted their thesis, they must enroll in GRS 601, a noncredit course that carries a fee and that allows them to meet the enrollment requirement. If the student wishes to defer student loan payments, however, he/she must enroll in GRS 602, which carries one credit. For more information, see the Graduate Catalog.

##### **D. TIME LIMIT FOR THE PROGRAM**

All coursework must be completed within 5 years of matriculation into the program. Graduate students must complete the master's degree (including research thesis or review paper) within 6 years of matriculation (See Requirements for Graduate Study in the Graduate Catalog for details). These time limits apply equally to full time and part time students. Students may apply to the Graduate Coordinator for an extension, which must be approved by the Biology Graduate Faculty.

Full time students who extend their program beyond 2 years still must meet with their Advisory Committee every semester. Part-time students must meet with their Advisory Committee at least once each year.

### **E. SATISFACTORY PROGRESS IN THE PROGRAM**

Satisfactory progress in the Biology Master of Science program includes a cumulative GPA of at least 3.0 and appropriate progress on the research thesis or review paper.

Students must earn a grade of B- or better for courses to count toward the M.S. degree. If the cumulative GPA falls below 3.0 in one semester, the student will be placed on academic probation. Probation will last one semester, during which time the student must bring the cumulative GPA up to 3.0. If this requirement is not achieved, the student may be dismissed from the program at the discretion of the Advisory Committee.

If the student's Advisory Committee does not deem progress on the research thesis/review paper satisfactory, the committee must communicate this matter to the student in writing. The letter must include the following:

1. Why progress is not satisfactory
2. What the student can do to remedy the problem
3. A specified time period for remedying the problem

If after this time period, satisfactory progress is still not achieved, the Advisory Committee may dismiss the student from the program. In this case, the student will receive a letter from the Advisory Committee indicating this action. Copies of the dismissal letter will be sent to the Graduate Coordinator and the Department Chair

For further information, see the Withdrawal Policies in the USM Graduate Catalog.

### **F. APPEALS PROCESS**

If the student wishes to appeal a dismissal, he/she must do so in writing within 30 days of receiving the dismissal letter from the Advisory Committee. The appeals letter, written by the student, should be addressed to the Biology Department Chair. The student must also forward a copy to the Dean of the College of Arts and Sciences.

The Department Chair shall render a decision to the student in writing within 30 days of receiving the appeals letter.

If the student is not satisfied with the Chair's decision, he/she then can appeal the Chair's decision by writing a second appeals letter to the Associate Provost and Dean of Graduate Studies, Margo Wood. This letter must reach the Associate Provost within 14 days of the student receiving the department's decision. The final decision of the Associate Provost shall be rendered within three weeks of receiving the appeals letter and shall be final.

### **V. FINANCIAL ASSISTANCE**

Graduate Assistantships (GA) will be available from the Graduate School on a competitive basis. Only students who wish to attend full time may apply for a GA. GAs will be awarded for one academic year prior to the fall semester of that year. Receiving a GA in one year does not guarantee receiving one the following year. GAs teach introductory lab sections, or other appropriate classes, in addition to coursework and conducting their own research. GAs are expected to spend approximately 20 hours per week on teaching and teaching-related activities (preparation, grading, office hours, etc.).

Research Assistantships (RA) may be available to students working with particular faculty who have external funding. In addition, external funding (fellowships, scholarships, research supplies) is available from various government agencies and private foundations. For further information on outside funding for graduate students, contact the graduate advisor.

Modest financial assistance for research expenses is available through the Biology Department's Graduate Student Research Fund. These funds are designed to help graduate student research projects that are not funded by a primary investigator. They are competitive and require a proposal and a final report. More detailed information will be provided during the Fall semester, or a student may contact the Graduate Coordinator.

## **VI. MISCELLANEOUS**

### **A. PROBLEMS**

If a graduate student experiences any problems with the advisor, the Advisory Committee, or the graduate program, he/she should communicate concerns to the advisor first. If this approach is not fruitful, the student may contact many other people, including the Biology Department Graduate Coordinator, the Biology Department Chair, the Dean of the College of Arts and Sciences, or a staff member in the Office of Graduate Studies.

### **B. SWITCHING ADVISORS**

After being admitted to the program, some students may wish to change advisors (i.e., due to a change in research interest, compatibility issues, etc.). If a student wishes to switch, he/she first should speak to the potential new advisor. If this faculty member agrees to accept the student, the student then can communicate his/her intentions to the current advisor. Once both faculty members are informed, communicate the plans to the Graduate Coordinator. If the project changes greatly, the student may need to form a new Advisory Committee, too.

### **C. RESEARCH COMPLIANCE**

If a student's research project involves working with vertebrate animals, human subjects, or biological materials such as recombinant DNA or biological agents, the student must obtain approval from the appropriate committee BEFORE beginning their project. These committees are:

Institutional Animal Care and Use Committee (IACUC) – for work with vertebrates

Institutional Review Board (IRB) – for work with human subjects

Institutional Biosafety Committee (IBC) – for work with pathogens and recombinant DNA

More information can be obtained from the student's graduate advisor or the Office of Research Compliance (<http://www.usm.maine.edu/orc>).

### **D. SEMINAR SERIES**

The Biology Department sponsors a seminar series during the academic year, and students present their thesis seminar as part of this series. Because the series highlights current research and often brings in scientists from outside USM, it presents an excellent opportunity for students not only to learn about a different area of research but also to meet and network with other researchers. Thus, all graduate students are expected to attend seminars.

The seminar series is organized by the second year graduate students, often working closely with the graduate coordinator. They are responsible for choosing and hosting speakers, advertising talks, and coordinating refreshments. Seminars typically are held on Fridays in 7 Science.

## **E. OTHER**

**The Graduate Commons** – The Graduate Commons are located in the basement of the Biology Wing of the Science Building. Currently, the room is shared among several graduate programs at USM, including Biology, Computer Science, Applied Medical Sciences, and Statistics. Students will be given space in the Commons that houses a desk, chair, bookshelf, and internet access. A refrigerator, coffee maker, and phone (228-8532) are available for community use.

**Keys** – Students will be assigned keys to the Graduate Commons and their advisor's research laboratory. Speak with the graduate advisor or Ann Perry to obtain keys. Access to the Science Building's outside doors can be obtained using the student's USM Card, which must be coded accordingly. Students should see their advisors for details.

**Computers** – Two computers are available for use by Biology graduate students: a PC and a Mac, with internet access and a printer. They are located in the Graduate Commons. Students need to enter their USM Novell username and password to gain access, and they should log out when finished.

**Student ID cards** – Students can obtain a USM Card in room 4 Payson Smith.

**Email** – Students will be issued an email account upon registration. Typically, the address consists of first and last names separated by a period (.) and followed by @maine.edu.

**Mail** – Graduate student mailboxes are located in the Biology Department office (105 Science). Mail from both campus and outside sources is delivered to the office. The mailing address for our program is:

Department of Biological Sciences  
University of Southern Maine  
96 Falmouth Street  
P.O. Box 9300  
Portland ME 04104-9300

**APPENDIX:  
IMPORTANT FORMS FOR GRADUATE STUDENTS**

The following pages contain forms required at various stages of the student's progression through the program. They include the Advisory Committee Form, Plan of Study, Thesis Proposal Cover Page, and Thesis Cover Page.

**USM BIOLOGY MASTERS PROGRAM  
Graduate Student Advisory Committee**

**Graduate Student:** \_\_\_\_\_

**Research Thesis or Literature Review:** \_\_\_\_\_

Date of enrollment in Biology graduate program:

Anticipated date of graduation:

**Signatures:**

Student: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signature)

Primary Advisor (Print): \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Member of Advisory Committee (Print): \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Member of Advisory Committee (Print): \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Additional Member of Advisory Committee (optional): \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

If outside the Biology Department, please provide the following:

Name: \_\_\_\_\_ Name: \_\_\_\_\_

Position: \_\_\_\_\_ Position: \_\_\_\_\_

Address: \_\_\_\_\_ Address: \_\_\_\_\_

Email: \_\_\_\_\_ Email: \_\_\_\_\_

Graduate Coordinator (Signature): \_\_\_\_\_ Date: \_\_\_\_\_

## USM BIOLOGY MASTERS PROGRAM PLAN OF STUDY

Graduate Student: \_\_\_\_\_ Thesis Option: \_\_\_\_\_

### A. COURSE WORK

#### 1. Make up of deficiencies (if any):

Course Number	Course Name	Semester/Year Taken	Credits*

\*Up to 6 undergraduate credit hours may count toward graduate work

#### 2. Required courses:

Course Number	Course Name	Semester/Year Taken	Credits***
BIO 601	Research Methods in Biology		3
BIO 621	Graduate seminar		
BIO 621	Graduate Seminar		
AMS 545 OR STA 688	Applied Statistical Analysis OR Introduction to Biostatistics		3

#### 3. Electives:

Area Fulfilled**	Course Number	Course Name	Semester/Year Taken	Credits***

\*\*Courses must be chosen from at least 2 of 3 areas

\*\*\*Research thesis option = min. of 24 cr.; Literature review thesis option = min. of 32 cr.

#### 4. Thesis Research (BIO 698) or Literature Review (699)

Semester/Year Taken	Credits****

\*\*\*\*Research thesis option = min. 6 cr. of BIO 698; Literature review thesis option = min. 3 cr. of BIO 699

Total Credits: \_\_\_\_\_



**USM BIOLOGY MASTERS PROGRAM  
Thesis Proposal Cover Page**

Student Name: \_\_\_\_\_

Thesis Title: \_\_\_\_\_

Student: \_\_\_\_\_ Date: \_\_\_\_\_  
(Signature)

Primary Advisor (Print): \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Member of Advisory Committee (Print): \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Member of Advisory Committee (Print): \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Member of Advisory Committee (Print): \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Graduate Coordinator (Signature): \_\_\_\_\_ Date: \_\_\_\_\_

**THE UNIVERSITY OF SOUTHERN MAINE  
DEPARTMENT OF BIOLOGICAL SCIENCES**

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

We hereby recommend that the thesis of \_\_\_\_\_,

entitled:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

be accepted as partial fulfillment of the requirements for the degree of

**Master of Science in Biology**

**Signatures**

Author:

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

Advisory Committee:

\_\_\_\_\_ Date: \_\_\_\_\_  
(Graduate Advisor)

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

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

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

Chair of the Department of Biological Sciences:

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

Dean of the College of Arts and Sciences

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