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1. Introduction

This handbook provides an overview and practical details of requirements for the M.S. and Ph.D. degrees in the Graduate Program in Biological Sciences (comprising options in Agricultural Sciences, Integrative & Organismal Biology, and Marine Biology). It outlines the usual sequence and timetable for completion of these degrees, and includes information about policies and expectations, student support, committees, proposals, and exams. The Biological Sciences program, like all other graduate programs at UNH, is part of the UNH Graduate School; additional details, links, and resources for graduate students are available at the UNH Graduate School website (gradschool.unh.edu/).

The current version of this handbook is available online at the program's website (https://colsa.unh.edu/dbs/biological-sciences-graduate-program).

Comments, corrections, and suggestions for additions and updates are welcome at any time, and should be addressed to the Graduate Coordinator for the Biological Sciences Graduate Program.

2. Program Overview

This chapter offers a (relatively) quick summary of program structure and requirements. Later sections include more details (e.g. rules for committees, format for thesis proposals and defenses, information on particular courses, policies and issues).

Program goals and emphasis

The graduate program in Biological Sciences is intended for students who aspire to a professional career in some aspect of animal or plant biology, whether in academia, government, non-profit organizations, or industry. The program emphasizes successful performance of original research accompanied by

- development of independent and critical thinking;
- mastery of a range of research techniques;
- broad knowledge of modern biology;
- effective seminar and conference presentations; and
- writing scientific proposals, reports and publications.

The program is administered through the Department of Biological Sciences (https://colsa.unh.edu/dbs), and includes faculty from other COLSA departments (colsa.unh.edu/about) as well as the School of Marine Sciences and Ocean Engineering (marine.unh.edu).

Degrees and options

The Biological Sciences Graduate Program offers M.S. and Ph.D. degrees in Biological Sciences, with options in (1) Agricultural Sciences (AS), (2) Integrative and Organismal Biology (IOB), and (3) Marine Biology (MB).
Option in Agricultural Sciences

This option is intended for students interested in careers in agriculture and aquaculture-related fields, particularly in linking the diverse components of agricultural production systems. The option centers on basic and applied research on agriculturally relevant plants, microbes and animals, both terrestrial and aquatic, spanning genetics, physiology, biotic and abiotic stresses, environmental interactions, production systems, and cultural practices. Students in agricultural sciences will acquire a broad knowledge of agricultural production, with strong emphasis on improving productivity and overall sustainability while minimizing environmental impacts. Within this overarching theme, students will conduct focused research in one or more of the following areas: controlled environment agriculture; integrated agricultural production systems; agricultural nutrient capture and reuse; aquaculture of freshwater and marine plants and animals; agroecology; dairy nutrition and reproductive management; equine management; crop production; integrated pest management; agricultural biotechnology; plant breeding, genetics, and genomics; and/or plant pathology. The agricultural sciences option prepares students to become experts in professional fields related to agriculture, and leaders in collaborative and interdisciplinary efforts to address local, regional, national and/or global agricultural issues. Students may pursue careers in teaching and/or research in federal, state, and private organizations.

Option in Integrative and Organismal Biology

This option offers a home to students interested in basic organismal biology in all of its diverse aspects (physiology, neurobiology, cell biology, genetics, evolution, ecology, systematics, etc.), in both terrestrial and aquatic environments. Modern biology employs approaches and tools ranging from molecular to ecological levels to gain a deep understanding of organismal functions and adaptations. Students in IOB approach their studies with a focus on organisms, and apply whatever tools are necessary to answer thematic and specific questions. Students interested in combining hands-on biological projects with research on teaching and learning biology at the post-secondary level should choose this option, unless their intended projects have a specifically agricultural or marine focus. Students completing degrees in IOB will be prepared for a wide range of professional careers in animal and/or plant biology, whether in academia, government, research, or non-profit organizations.

Option in Marine Biology

This option is intended for students interested in marine, coastal, and estuarine ecosystems, and the organisms that inhabit them, at all levels of inquiry. Some faculty at UNH study/use marine organisms as model systems for learning about molecular phylogeny, cellular metabolism, cancer and neurobiology, and others are more interested in the structure and function of marine ecosystems. Some faculty members focus primarily on basic research; others work in more applied areas such as aquaculture and fisheries; many combine the two. Students who have earned advanced degrees at UNH have gone on to lead agencies involved in managing valuable marine resources, teach marine biology at other universities and colleges, own their own aquaculture companies, or earn a living conducting research in marine sciences. In addition to on-campus facilities, UNH owns the Coastal Marine Laboratory and the Jackson Estuarine Laboratory, and a range of vessels associated with each laboratory. UNH has an excellent SCUBA diving program for students interested in becoming certified to dive as part of their research. The Marine Biology option is also affiliated with UNH’s School of Marine Sciences and Ocean Engineering (marine.unh.edu).
Summary of academic requirements

Common (shared) requirements

A common set of policies and guidelines applies to all degree options (AS, IOB, and MB). Additional option-specific course recommendations or requirements may be established by the faculty within each option.

Number of credits:

The M.S. degree requires completion of a minimum of 30 credits, up to 10 of which may be earned for thesis research (BIOL 899). There is no specific credit requirement for the Ph.D., though students must take all required core courses. The Biological Sciences Program specifies 4 credits’ worth of required (core) courses (BIOL 901 and 903, 2 credits each); most students use 6 more credits to satisfy competencies in experimental design/analysis (BIOL 811 or 933, 4 credits) and in writing/communication (BIOL 902 or BIOL/LSA 950, 2 credits), though these competencies may also be fulfilled by other graduate coursework approved by the student’s committee.

Course requirements:

1. Graduate Core Courses. The first-semester Introductory Graduate Seminar (BIOL 901) focuses on key information and skills for a successful transition into the graduate program, familiarizing students with program requirements and faculty. Graduate Research Techniques (BIOL 903) is normally taken in the second semester, and introduces students to a diversity of research approaches, tools, and facilities within the program.

2. Competency requirements in (a) experimental design and analysis, and (b) scientific writing/communication. These may be fulfilled by previous graduate coursework (as determined by the student’s advisor and graduate committee), or by taking one graduate-level course in each area. For details about specific courses, see Chapter 3.

3. Electives. Students will work with their advisor and committee to identify additional courses appropriate for their area of specialization.

Teaching experience:

All students in the Biological Sciences Program are expected to acquire teaching and/or mentoring experience while pursuing their research. Those with a strong interest in teaching should consider the Cognate in College Teaching (www.unh.edu/cetl/cognate); individual courses in the cognate curriculum can also be taken separately.
M.S. degree
Students plan a program of study in conjunction with their advisor and Master’s Thesis Committee, including the required core courses and competencies. Completion of at least 30 credits, including research credits, is required. A thesis proposal is developed within the first year. Students complete thesis research for 6 to 10 credits; the degree is completed when results are acceptable, a formal thesis presentation and defense has occurred, and the thesis is approved by the Master’s Thesis Committee and accepted by the Graduate School. For details about committee formation, thesis proposals, presentations, and defenses, see Chapter 3.

Ph.D. degree
Students work with their advisor and their Doctoral Guidance Committee to plan a program of study including the required core courses and competencies, and develop a viable research proposal. The Guidance Committee is normally established by the end of the first semester, and should meet by the end of the second semester. The student presents to the Guidance Committee a preliminary research proposal in which the soundness, originality, and feasibility of the planned research are clearly described. The Guidance Committee is responsible for approving the proposal, and also oversees the qualifying examination through which the student is admitted to doctoral candidacy. The Doctoral Dissertation Committee is established at this point. To earn the Ph.D. degree, students must complete an original dissertation project, present the results at a public seminar, and pass an oral thesis defense consisting of questions from members of the Dissertation Committee. For details about committees, thesis proposals, qualifying exams, presentations, and defenses, see Chapter 3.

Choice and role of faculty advisor

Every incoming graduate student is formally sponsored by one, or sometimes jointly by two, member(s) of the faculty. Sponsorship is decided at the time the offer of admission is made, based on the student’s interests and on prior discussion between the applicant and individual faculty members. The purpose of immediate sponsorship is to ensure that every student has a faculty mentor from the start. The expectation is that the student will do research under the supervision of his/her initial sponsor, and this is usually the case. However, entering students who do not yet have a clearly-defined research interest are not obliged to work in the area of their initial advisor. A change of advisor does occasionally occur when a student discovers that his/her interests lie in an area best served by some other faculty member. The aim of the program is to provide each student with the best guidance available, and occasional changes of advisor are a part of this process.¹

Program faculty

Potential applicants are strongly encouraged to communicate with potential advisors as part of the application process. Identifying an advisor is normally a prerequisite for admission.

Any faculty member in the Biological Sciences Graduate Program can serve as the primary or co-advisor

¹ Need to specify a procedure for changing advisors; right now all that’s required is informal notification at the department level. If the change occurs after the M.S. Thesis Committee or Ph.D. Guidance Committee has been established, then a new form needs to be submitted to the Graduate School.
for a student in the program. Most faculty in the Department of Biological Sciences (DBS; https://colsa.unh.edu/faculty/3 ) are members of this program; additional faculty in the program are affiliated with other departments and units, such as Molecular, Cellular and Biomedical Sciences (MCBS; https://colsa.unh.edu/faculty/8 ), Natural Resources and the Environment (NREN; https://colsa.unh.edu/faculty/9 ), and the School of Marine Sciences and Ocean Engineering (SMSOE; marine.unh.edu/faculty). An individual must be a member of the UNH Graduate Faculty to serve as a primary advisor (rules for membership are specified in the Graduate School Bylaws, available at https://www.gradschool.unh.edu/pdf/pol_bylaws.pdf ).

**Biological Sciences faculty list and option affiliations**
(updated June 2016)

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<th>Name</th>
<th>E-Mail</th>
<th>Webpage</th>
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Related research programs and facilities

The Biological Sciences graduate program is enhanced by research in other departments and institutes across the University.

These include the School for Marine Sciences and Ocean Engineering (http://marine.unh.edu/) and its associated programs and facilities: N.H. Sea Grant Program (http://seagrant.unh.edu); the Center for Collaborative Science (http://marine.unh.edu/center-for-collaborative-science); the Institute for the Study of Earth, Oceans, and Space (EOS) (http://www.eos.unh.edu); the UNH Center for Coastal and Ocean Mapping (CCOM) (http://ccom.unh.edu); the Joint Hydrographic Center (http://marine.unh.edu/center-coastal-and-ocean-mapping/joint-hydrographic-center); and the Ocean Processes Analysis Laboratory (OPAL) (http://www.opal.sr.unh.edu). There are five marine laboratories: Jackson Estuarine Lab (http://marine.unh.edu/facility/jackson-estuarine-laboratory), Judd Gregg Marine Research Complex (http://marine.unh.edu/facility/judd-gregg-marine-research-complex), Anadromous Fish and Aquatic Invertebrate Research Lab (FAIR) (http://marine.unh.edu/facility/anadromous-fish-and-aquatic-invertebrate-research-laboratory-affair-lab), the Aquaculture Research Center (ARC) (http://zoology.unh.edu/facilities), and the Shoals Marine Laboratory (SML) (http://marine.unh.edu/SML). The Center for Freshwater Biology (CFB) (http://cfb.unh.edu) jointly administers (with the UNH Cooperative Extension) the Lakes Lay Monitoring Program (http://extension.unh.edu/lmmp), which is dedicated to the preservation and sound management of lakes through citizen-based monitoring and research.

The New Hampshire Agricultural Experiment Station (https://colsa.unh.edu/nhaes/) supports a range of basic and applied research – including graduate student assistantships – as part of its mission “to [generate] knowledge and technology to support a highly diversified agricultural and natural resource system that produces, processes and delivers food, fiber, forest products, and myriad environmental services for our citizens...in the context of protecting environmental quality, and helping to maintain the viability of rural communities.” (https://colsa.unh.edu/nhaes/mission) Agricultural facilities include the Keener Dairy Research Building, Fairchild Dairy Teaching and Research Center (http://www.colta.unh.edu/aes/fairchild), Burley-DeMerritt Organic Dairy Research Farm (http://colsa.unh.edu/aes/odrf), Woodman Horticultural Research Farm (https://colsa.unh.edu/nhaes/woodman) and Kingman Farm (http://colsa.unh.edu/woodlands/properties/KingmanFarm) along with other outlying fields and forests.
Additional research in plant biology and agriculture is carried out in the Macfarlane Research Greenhouses ([https://colsa.unh.edu/nhaes/macfarlane-research-greenhouses](https://colsa.unh.edu/nhaes/macfarlane-research-greenhouses)) and the Hogdon Herbarium ([http://www.unh.edu/herbarium/](http://www.unh.edu/herbarium/)).

The Hubbard Center for Genomic Studies ([http://hcgs.unh.edu](http://hcgs.unh.edu)) provides training and research in comparative and environmental genomics, with a special emphasis on novel model species. It provides expertise in constructing DNA libraries, DNA sequencing, fragment analysis, and the analysis of gene expression.

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### 3. Program Requirements and Timeline

**Overview (including summary table)**

The M.S. degree should normally be completed in two years. The University requires that all graduate work for any master's degree must be completed within six years from the date of enrollment in the program.

The Ph.D. degree should normally be completed within five years (three years for students entering with a master's degree). All graduate work for the Ph.D. must be completed within eight years of enrollment, or within seven years if the student entered with a master's degree in the same field. Per University policy, the student must be advanced to candidacy within five years after enrollment or within four years if the student entered with a master's in the same field; however, these are outside limits: advancement to candidacy should usually occur in the second or third year.

Subject to satisfactory progress by the student, financial support is provided up to the limit stated in the admission letter: normally two years for M.S. and four years for Ph.D. Additional support may be available based on a clear need arising from the nature of the research (e.g. field or agricultural projects that require two summers of data), and evidence of strong progress toward completion. A decision to request additional support must be made by the start of the final semester of guaranteed support (see Chapter 4 for details).

Students and research projects do not all progress at the same pace. The following is offered as a guide, but departure from it is permissible when circumstances warrant. There are, however, some firm Graduate School deadlines that must be adhered to: see [https://www.gradschool.unh.edu/dates.php](https://www.gradschool.unh.edu/dates.php) for details.
# I. M.S. THESIS TRACK in BIOLOGICAL SCIENCES (all options)

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<td>Meet with advisor</td>
<td>at or before start of 1st semester</td>
<td>Initial curriculum and research planning</td>
</tr>
<tr>
<td>BIOL 901 (Intro Grad Seminar)</td>
<td>first fall semester</td>
<td>Core requirement</td>
</tr>
<tr>
<td>BIOL 903 (Grad Research Techniques)</td>
<td>first spring semester</td>
<td>Core requirement</td>
</tr>
<tr>
<td>BIOL 811 or 933</td>
<td>1st year</td>
<td>Experimental design/analysis competency; prior graduate coursework may fulfill</td>
</tr>
<tr>
<td>BIOL 902 or BIOL/LSA 950</td>
<td>(may be taken in 2nd year)</td>
<td>Scientific writing/communication competency; prior graduate coursework may fulfill</td>
</tr>
<tr>
<td>Preliminary research proposal</td>
<td>end of 1st semester</td>
<td>Usually as part of BIOL 901</td>
</tr>
<tr>
<td>MS THESIS COMMITTEE formed</td>
<td>by end of 1st semester</td>
<td>Submit form to Graduate School</td>
</tr>
<tr>
<td>MS thesis proposal</td>
<td>by end of 2nd semester</td>
<td>Submit to advisor &amp; committee</td>
</tr>
<tr>
<td>Annual progress review by GPCC</td>
<td>spring semester</td>
<td>Student and advisor reports submitted in advance; GPCC provides feedback</td>
</tr>
<tr>
<td>First committee meeting</td>
<td>spring semester</td>
<td>Present &amp; get feedback on research proposal and summer research plans</td>
</tr>
<tr>
<td>Seminar presentation</td>
<td>spring semester, as part of BIOL 903</td>
<td>Coordinate with committee meeting if possible</td>
</tr>
<tr>
<td>Teaching/mentoring experience</td>
<td>(may be either year)</td>
<td>As defined by committee</td>
</tr>
</tbody>
</table>

## Second Year

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Timing</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal committee meeting</td>
<td>once per semester</td>
<td></td>
</tr>
<tr>
<td>Presentation in UNH Graduate Research Conference, or other public seminar on campus</td>
<td>spring semester</td>
<td>Presentation of thesis research at a professional meeting may substitute</td>
</tr>
<tr>
<td>Thesis defense: public seminar, oral exam by committee</td>
<td></td>
<td>Replaces annual review by GPCC in final year</td>
</tr>
<tr>
<td>File intent to graduate form</td>
<td>by Graduate School deadline: <a href="https://www.gradschool.unh.edu/dates.php">https://www.gradschool.unh.edu/dates.php</a></td>
<td>Submit form to Graduate School</td>
</tr>
<tr>
<td>Submit thesis</td>
<td>by Graduate School deadline</td>
<td>Electronic submission to Graduate School</td>
</tr>
</tbody>
</table>

### Total credits required

- at completion
- Minimum 30 credits, including a thesis of 6-10 credits (BIOL 899)

## Possible Additional Year(s)

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Timing</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal committee meeting</td>
<td>once per semester</td>
<td></td>
</tr>
<tr>
<td>Presentation in UNH Graduate Research Conference, or other public seminar on campus</td>
<td>one per year</td>
<td>Fulfilled by thesis defense in final year</td>
</tr>
<tr>
<td>Annual progress review by GPCC</td>
<td>spring semester (not required in final year)</td>
<td>Student and advisor reports submitted in advance; GPCC provides feedback</td>
</tr>
<tr>
<td>File intent to graduate form, submit thesis to Graduate School</td>
<td>by Graduate School deadlines</td>
<td></td>
</tr>
</tbody>
</table>
## II. Ph.D. in BIOLOGICAL SCIENCES (all options)

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Timing</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year One</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meet with advisor</td>
<td>at or before start of 1\textsuperscript{st} semester</td>
<td>Initial curriculum and research planning</td>
</tr>
<tr>
<td>Responsible Conduct of Research training</td>
<td>first semester</td>
<td><a href="http://www.unh.edu/research/rcr-training-unh">http://www.unh.edu/research/rcr-training-unh</a></td>
</tr>
<tr>
<td>BIOL 901 (Intro Grad Seminar)</td>
<td>first fall semester</td>
<td>Core requirement</td>
</tr>
<tr>
<td>BIOL 903 (Grad Research Techniques)</td>
<td>first spring semester</td>
<td>Core requirement</td>
</tr>
<tr>
<td>BIOL 811 or 933</td>
<td>1\textsuperscript{st} year</td>
<td>Experimental design/analysis competency; prior graduate coursework may fulfill</td>
</tr>
<tr>
<td>BIOL 902 or BIOL/LSA 950</td>
<td>(may be taken later)</td>
<td>Scientific writing/communication competency; prior graduate coursework may fulfill</td>
</tr>
<tr>
<td>Preliminary research proposal</td>
<td>end of 1\textsuperscript{st} semester</td>
<td>Usually as part of BIOL 901</td>
</tr>
<tr>
<td><strong>PhD GUIDANCE COMMITTEE formed</strong></td>
<td>end of 1\textsuperscript{st} semester</td>
<td><strong>Submit form to Graduate School</strong></td>
</tr>
<tr>
<td>Annual progress review by GPCC</td>
<td>spring semester</td>
<td><strong>Student and advisor reports</strong> submitted in advance; GPCC provides feedback</td>
</tr>
<tr>
<td>First committee meeting</td>
<td>spring semester</td>
<td>Present &amp; get feedback on research proposal and summer research plans</td>
</tr>
<tr>
<td>Seminar presentation</td>
<td>spring semester, as part of BIOL 903</td>
<td>Coordinate with committee meeting if possible</td>
</tr>
<tr>
<td>Teaching/mentoring experience</td>
<td>(may be any year)</td>
<td>As defined by committee</td>
</tr>
<tr>
<td><strong>Year Two</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formal committee meeting</td>
<td>once per year</td>
<td></td>
</tr>
<tr>
<td>Ph.D. dissertation proposal</td>
<td>by end of 2\textsuperscript{nd} year</td>
<td>Submit to advisor &amp; committee</td>
</tr>
<tr>
<td>Presentation in UNH Graduate Research Conference, or other public seminar on campus\textsuperscript{2}</td>
<td>spring semester</td>
<td>Presentation of thesis research at a professional meeting may substitute\textsuperscript{2}</td>
</tr>
<tr>
<td>Annual progress review by GPCC</td>
<td>spring semester</td>
<td><strong>Student and advisor reports</strong> submitted in advance; GPCC provides feedback</td>
</tr>
<tr>
<td><strong>Additional Years</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formal committee meeting</td>
<td>once per year</td>
<td></td>
</tr>
<tr>
<td>Annual progress review by GPCC</td>
<td>spring semester</td>
<td><strong>Student and advisor reports</strong> submitted in advance; GPCC provides feedback (not required in final year)</td>
</tr>
<tr>
<td>Presentation in UNH Graduate Research Conference</td>
<td>spring semester</td>
<td>Presentation of thesis research at a professional meeting may substitute</td>
</tr>
<tr>
<td>Qualifying exam (oral and written components)</td>
<td>by end of fifth semester</td>
<td>Condition for advancement to candidacy</td>
</tr>
<tr>
<td><strong>ADVANCEMENT TO CANDIDACY</strong></td>
<td>by end of fifth semester</td>
<td><strong>Submit form to Graduate School</strong></td>
</tr>
<tr>
<td><strong>PhD DISSERTATION COMMITTEE formed</strong></td>
<td>upon advancement to candidacy</td>
<td><strong>Submit form to Graduate School</strong></td>
</tr>
<tr>
<td>Ph.D. defense: public seminar, oral exam by committee</td>
<td>in final year</td>
<td>replaces annual seminar presentation and progress review</td>
</tr>
</tbody>
</table>

\textsuperscript{2} Strongly recommend a formal, public (on campus) presentation of the research proposal; GRC may not be an appropriate venue at this stage.
Change of degree status, M.S. to Ph.D. enrollment

M.S. graduates normally go elsewhere for further study or for employment after completing their thesis. However, students enrolled for an M.S. degree may petition the Graduate School to continue for the Ph.D. after receipt of the M.S. or, rarely, to convert to Ph.D. enrollment without first completing the M.S. If a student wishes to convert from M.S. to Ph.D., the advisor will convene a meeting of the GPCC, the Graduate Admissions Committee, and the student’s Master’s Thesis Committee to consider the application. If the application has departmental support, a “change of degree” form is then completed and submitted for Graduate School approval (https://gradschool.unh.edu/pdf/frm_cod.pdf).

Admission to Ph.D. enrollment should not be considered automatic on completion of the M.S., and conversion from M.S. directly to Ph.D. enrollment is done only in extraordinary circumstances. Conversion, when appropriate, should occur no later than the beginning of the third semester of enrollment.

Students who change to a Ph.D. program (and have not already done so) are required to attend the Responsible Conduct of Research Training. Further information is available here (https://gradschool.unh.edu/rcr.php).

Masters Thesis, Doctoral Guidance, and Doctoral Dissertation Committees

Roles and membership

M.S. candidates assemble a Master’s Thesis Committee by the end of their first semester, and submit the Master’s Supervisory Committee Nomination Form to the Graduate School (http://gradschool.unh.edu/pdf/frm_master_comm.pdf). The Master’s Thesis Committee comprises the thesis advisor plus two or more additional faculty.

Ph.D. students require two sequential and formally distinct faculty committees as specified by the Graduate School, such that the initial Doctoral Guidance Committee is replaced upon advancement to candidacy by the Dissertation Committee. The thesis advisor is a member of both committees; other Guidance Committee members usually continue on as Dissertation Committee members, though this is not required.

Each Ph.D. student sets up a Doctoral Guidance Committee (typically four faculty in addition to the advisor) as soon as possible – no later than the end of the second semester – and submits a Doctoral Guidance Committee Nomination Form to the Graduate School (http://gradschool.unh.edu/pdf/frm_doct_guide_comm.pdf). The Guidance Committee provides course recommendations, assists with proposal development, assesses the initial research proposal, and ultimately supervises and assesses the candidacy exam. The Guidance Committee also provides ongoing feedback about the research concept, and monitors research progress.

Upon advancement to candidacy, the Doctoral Dissertation Committee is officially declared, and the Dissertation Committee Nomination Form is submitted to the Graduate School (http://gradschool.unh.edu/pdf/frm_doct_diss_comm.pdf). While the formal establishment of the Dissertation Committee occurs at this stage, the committee is normally already in place and has been functioning for some time. Most commonly, a single committee performs the functions of both the
Guidance and the Dissertation Committees, with the exception that outside members (required for the Dissertation Committee) are typically added along the way rather than at the very start.

With continuity provided by the thesis advisor and other members continuing from the Guidance Committee, the Dissertation Committee supervises the dissertation, administers the final examination (thesis defense), and determines that the work merits the award of the Ph.D. degree. The Dissertation Committee has at least five members: three from within and two from outside the Biological Sciences Graduate Program. The committee may be larger if desired. The Graduate School requires that at least two members of the Dissertation Committee be from outside the program; they may be from related departments/programs at UNH, or from other institutions. Students are strongly encouraged to consider recruiting committee members from beyond UNH, to broaden their professional networks.

Any faculty member in the Biological Sciences Graduate Program can serve as the primary or co-advisor for a student in the program. Individuals who are not members of the program faculty can serve on M.S. and Ph.D. committees (though not as primary advisors) for students in the program.

In addition to regular members of the Graduate Faculty, the following may serve on graduate committees with the recommendation and approval of the graduate program and the Graduate Dean:

- Tenure and tenure-track faculty from departments that do not offer graduate degrees
- Research faculty
- Clinical faculty
- Extension faculty
- Faculty emeriti
- Lecturers
- Adjunct faculty
- Affiliate faculty
- Individuals with no formal appointment at UNH

**Timing and purpose of committee meetings**

The student, advisor, and committee should work together to ensure that all committee members are kept informed of progress and important dates and deadlines (e.g. when the student intends to defend the M.S. thesis, schedule qualifying exams, or defend the doctoral dissertation).

M.S. students should meet with their committee once per semester; the timing is more flexible for Ph.D. students, but there should be at least one committee meeting per year.

Ideally committees meet in person, but where this is not possible, Skype or other electronic participation by some members is acceptable. Scheduling committee meetings is the responsibility of the student.
General agenda for Master’s Thesis Committee meetings:
• Spring of 1st year: assess progress, review thesis/research proposal, plan summer research, discuss any further coursework that may be needed; discuss possible funding applications, meetings/presentations, and publication plans
• Fall of 2nd year: review summer progress; get advice about curriculum, data analysis, and future studies
• (Early) spring of 2nd year: review progress, discuss timing of thesis writing & degree completion; plan/schedule thesis defense (seminar presentation and oral exam by committee); if a need for additional support is anticipated, advisor presents a written request to the Chair and Admissions Committee.³

General agenda for Ph.D. committee meetings:
• Spring of 1st year: assess progress, review thesis/research proposal, plan summer research, discuss any further coursework that may be needed; discuss possible funding applications, meetings/presentations, and publication plans
• Fall of 2nd year: review summer progress; discuss data analysis, future studies, additional coursework; determine when final dissertation proposal will be drafted, critiqued, and revised; preliminary plans for qualifying exam and advancement to candidacy

In subsequent meetings:
• Continue to review progress, discuss funding applications, meetings/presentations, publications, etc.
• Plan Ph.D. qualifying exam (written and oral) and advancement to candidacy; discuss composition of the Doctoral Dissertation Committee (appointed when the student advances to candidacy).
• Discuss timing of dissertation writing and degree completion; plan/schedule thesis defense (seminar presentation and oral exam by committee).
• If a need for additional support is anticipated, advisor presents a written request to the Chair and Admissions Committee.³

Coursework

Credit requirements
Graduate students are normally required to maintain continuous enrollment each Fall and Spring semester by registering for courses, research (Grad 900/BIOL 999), or continuing enrollment (Grad 800) (see below for distinctions). Students who don’t register for the Fall and Spring semesters will have their degree status discontinued (Graduate Coordinator Handbook, Fall 2015).

The M.S. degree requires completion of a minimum of 30 credits, up to 10 of which may be earned for thesis research (BIOL 899). There is no specific credit requirement for the Ph.D., though students must take the core courses required by the program. The Biological Sciences Program specifies 4 credits’ worth of required courses (BIOL 901 and 903, 2 credits each); most students use 6 more credits to satisfy competencies in experimental design/analysis (BIOL 811 or 933, 4 credits) and in writing/communication (BIOL 902 or LSA 950, 2 credits), though these competencies may also be fulfilled by other graduate coursework approved by the student’s committee.

The level of the courses taken to meet registration requirements is not specified. However, taking non-graduate classes does not move one towards degree completion, so taking undergraduate (UG) classes

³ The required form is available on the website https://colsa.unh.edu/dbs/biological-sciences-graduate-program.
is not a common practice. A grad student cannot petition to take a 500-level course.

Students should discuss with their advisor and committee which courses will be most useful, and what course load makes sense in light of specific research and assistantship obligations (for example, an intense field season).

How many credits to take, and financial implications:

Graduate students registered for 9 or more credits, Master's Continuing Research (Grad 900), or Doctoral Research (999) are classified as full-time students. Students holding assistantship appointments are also considered full time and must register for a minimum of 6 credits, Master's Continuing Research (Grad 900), or Doctoral Research (999) each semester.

Students registered for fewer than 9 credits pay reduced mandatory fees (fee information: http://www.unh.edu/business-services/tuitgrad.html). While there is obvious short-term financial benefit to staying below 9 credits to avoid paying full fees, a higher load may enable a student to graduate sooner, saving a semester or more of tuition and fees. (Tuition is commonly waived or covered for students on TA or RA appointments; however, mandatory fees remain the responsibility of the student.)

Students enrolled for more than 16 credits pay additional tuition based on the number of additional credits (http://www.unh.edu/business-services/tuitgrad.html).

Doctoral students who have advanced to candidacy may petition each semester to waive fees if they meet the specified conditions (http://www.unh.edu/gradcatalog/gi.cfm?thisid=157&masterid=127&headingid=127).

Tuition and fee information from UNH Business Services is available here; Graduate School information about fees and financial support is at http://www.unh.edu/gradcatalog/gi.cfm?thisid=157&masterid=127&headingid=127.

Which courses count:

Graduate courses are numbered 800- or 900-level. Course descriptions can be found in the online Graduate Course Catalog (http://www.unh.edu/grad-catalog/choosescatalog.cfm). If there is a graded option, graduate courses may not be taken Pass/Fail.

Graduate credit for 700-level courses: These are advanced undergraduate courses. Up to 12 graduate credits can be earned in 700-level courses provided such courses are outside the student's major program. A petition for exception to academic policy (http://www.gradschool.unh.edu/pdf/frm_pet_exp_ap.pdf) must be completed and approved by the student’s advisor, graduate program coordinator, and the dean of the Graduate School prior to registration in order to receive graduate credit. Such courses must be taken for a letter grade and are

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4 This wording (from the Graduate School) needs to be better defined: does it mean courses “outside” DBS undergraduate programs (BIOL, SAFS, etc.)? Or does it refer to UNH undergraduates who continue on into the graduate program (and shouldn’t be counting their UG coursework)?
subject to the Graduate School’s failing grade policy. Petitions must include what additional
requirements or expectations will be required of the student to make the course a graduate level
experience. Graduate credit will not be given for any courses (700-level or simultaneous 700/800 level)
that have freshmen or sophomores enrolled.

Undergraduate courses below 700-level: While taking non-graduate classes is generally discouraged, in
some cases, graduate students may need background or training that can best be obtained by taking an
upper-level undergraduate class, if no equivalent course is offered at the graduate level. Undergraduate
level courses taken by graduate students are billed at the graduate rate, must be taken for a letter
grade, and are subject to the Graduate School’s failing grade policy. Courses taken below the 700-level
cannot count as graduate credit.

Audits: Graduate students may audit courses with the approval of their advisor and the instructor.
Credits for an audited course in which a graduate student is formally enrolled may be counted toward
enrollment requirements for appointments and assistantships. (Note that tuition for audited courses is
the same as for credit courses.)

Graduate credit from another institution: Students can request to transfer up to 8 credits of graduate
credit from another school, provided the credits were not counted toward another degree, and the grade
was at least a B. The transfer request form is available at http://www.gradschool.unh.edu/fp.php.

Where to find enrollment policy, course and registration information:
• Graduate School enrollment policies and petition form
• the UNH Course Search Form searches all courses (grad and undergrad)
• descriptions of graduate courses are in the online Graduate Course Catalog
• registration information and deadlines are available at the Graduate School website

Enrollment requirements for appointments and assistantships:

Students must enroll for at least 6 credits in order to hold an appointment (assistantship, fellowship, or
graduate part-time lecturer position) during an academic-year semester. (Course, thesis, and research
credits all count, as do courses students are formally auditing.) Students who have a stipend, an hourly
appointment, or a summer appointment must still be enrolled, but there is no minimum credit
requirement (unless specified by the appointment). Students registered for Continuing Enrollment
(Grad 800) are not eligible to hold an appointment. For details, please see the Graduate School website
information is provided in the Graduate School’s Graduate Assistant Handbook:
https://www.gradschool.unh.edu/pdf/ga_hand.pdf

Designations for research and continuing enrollment credits:

• BIOL 895 (Special Investigations): 1-4 credits. Flexible designation for graduate student research
projects supervised by an individual faculty member (potentially but not necessarily the advisor).

• BIOL 899 (Masters Thesis Research): Master’s students enroll in a total of 6-10 credits during one or
more academic semesters (course may be repeated up to 10 credit maximum).

5 Need to decide/formalize any limit on repetition, and update Graduate Catalog accordingly.
• **BIOL 999 (Doctoral Research):** Doctoral students *at candidacy* must register for BIOL 999 each semester during the academic year, for at least two semesters. While 0 credits, this confers full-time status and makes students eligible for financial aid and the Student Health Benefit Plan. Students who are enrolled only in BIOL 999 and meet other conditions may petition to waive fees (http://www.unh.edu/grad-catalog/gi.cfm?thisid=157&masterid=127&headingid=127).

• **GRAD 900 (Master’s Continuing Research):** Master's students who have completed all course requirements, have previously registered for the maximum 10 thesis research credits (BIOL 899), and are in residence completing their master’s program, must register for GRAD 900. While 0 credits, this confers full-time status and makes students eligible for financial aid and the Student Health Benefit Plan. Students registered for GRAD 900 may not take any “for-credit” course at the same time.

• **GRAD 800 (Continuing Enrollment):** Continuing graduate students who are not enrolled for course credits, thesis credits, Doctoral Research (999), or Master's Continuing Research (GRAD 900), and are *not in residence*, must register for GRAD 800 each semester of the academic year in order to maintain their active status. GRAD 800 is a 0 credit registration, and students registered for this are not eligible for any form of financial aid or the Student Health Benefit plan, nor can they hold an appointment (RA or TA). (New graduate students may not enroll in this course.)

See [http://gradschool.unh.edu/enroll.php#ga](http://gradschool.unh.edu/enroll.php#ga) for policy information from the Graduate School; petition forms are available at [http://www.gradschool.unh.edu/fp.php](http://www.gradschool.unh.edu/fp.php).

### Required courses, competencies, and electives

All students in the Biological Sciences Graduate Program are required to take both core courses and fulfill the two competency requirements.

1. **Core Courses.**

   a. Introductory Graduate Seminar (BIOL 901). This first-semester course focuses on key information and skills for a successful transition into the graduate program, familiarizing students with program requirements and faculty and providing an opportunity to meet others in their cohort.

   b. Graduate Research Techniques (BIOL 903). Normally taken in the second semester, this course introduces students to diverse research approaches, tools, and facilities within the program. Content will vary to align with the needs and specializations of each cohort of graduate students.

2. **Competencies** in (a) experimental design and analysis, and (b) scientific writing/communication. These may be fulfilled by previous graduate coursework (as determined by the student’s advisor and committee), or by taking one graduate-level course in each area.

   a. Two advanced courses in experimental design and analysis are offered, normally in alternate years. The first is Applied Biostatistics II (BIOL 811), and the second is Design, Analysis and Interpretation of Experiments (BIOL 933). Either course, or an equivalent approved by the student’s advisor and committee, can be used to fulfill this competency requirement.
b. Scientific Writing (BIOL 902) is taught fall semester, and open to students at any stage of the program. Scientific Communication (BIOL/LSA 950) is usually taught in spring. Either course, or an equivalent approved by the student’s advisor and committee, can be used to fulfill this competency requirement.

3. Electives. Students will work with their advisor and committee to identify additional courses appropriate for their area of specialization and their career objectives.

Option-specific requirements: if/when the faculty of any of the three Options within the Biological Sciences Program (AS, IOB, MB) decide to implement additional requirements or lists of electives for students in their option, that information will be added here. As of May 2016, none has been specified.

List of graduate courses associated with the program⁶

<table>
<thead>
<tr>
<th>Title</th>
<th>Course number</th>
<th>When offered</th>
<th>Fulfills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introductory Graduate Seminar</td>
<td>BIOL 901</td>
<td>Fall</td>
<td>Core requirement</td>
</tr>
<tr>
<td>Graduate Research Techniques</td>
<td>BIOL 903</td>
<td>Spring</td>
<td>Core requirement</td>
</tr>
<tr>
<td>Applied Biostatistics II</td>
<td>BIOL 811</td>
<td>TBD (alternates with</td>
<td>Experimental</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BIOL 933)</td>
<td>design/analysis competency</td>
</tr>
<tr>
<td>Design, Analysis and Interpretation of Experiments</td>
<td>BIOL 933</td>
<td>TBD (alternates with</td>
<td>Experimental</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BIOL 811)</td>
<td>design/analysis competency</td>
</tr>
<tr>
<td>Scientific Writing</td>
<td>BIOL 902</td>
<td>Fall</td>
<td>Writing/communication competency</td>
</tr>
<tr>
<td>Scientific Communication</td>
<td>BIOL/LSA 950</td>
<td>Spring</td>
<td>Writing/communication competency</td>
</tr>
<tr>
<td>Topical seminars in Biological Sciences; graduate students are encouraged to approach faculty with ideas for topics</td>
<td>BIOL 997</td>
<td>either semester</td>
<td>--</td>
</tr>
<tr>
<td>Research and Continuing Enrollment credits</td>
<td>BIOL 895, 899, 999 GRAD 800, 900</td>
<td>--</td>
<td>See previous section for definitions</td>
</tr>
</tbody>
</table>

In addition to courses listed with the BIOL prefix and/or offered by program faculty, graduate courses in other programs and areas may be of interest to students in the Biological Sciences. Students are not limited to courses within the department or program. Link to Graduate Catalog: http://www.unh.edu/grad-catalog/courselist.cfm⁷

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⁶ Will need to be updated as new courses are launched (e.g. BIOL 813, scientific pedagogy)
⁷ We may want to add a list of some particularly relevant courses, e.g. NR 905 and 935 (Grantwriting), NR 909 (Analysis of Ecological Communities and Complex Data), statistics courses offered in other departments.
Research proposal

An initial draft of the research proposal should be completed during the second semester, and submitted to the Thesis Committee (M.S.) or Guidance Committee (Ph.D.) in time for discussion and feedback at the first committee meeting. The proposal should include a review of the relevant literature, and descriptions of the proposed experimental design, methods, analysis and potential significance of the results. Further details and requirements are determined by the advisor and committee.8

COMPONENTS OF THE PROPOSAL9

Background/Previous Research (Sometimes it makes sense to have two sections, one for “Background” and one for “Previous Research.” Unless your advisor, committee, or funding agency says otherwise, do what makes the most sense to you.) In this section, you demonstrate your knowledge of the relevant literature. Be detailed and specific, but only cite relevant material. Outline the ideas in a compelling, linear fashion so that one thing inevitably leads to another. By the end of this section, your reader should know exactly where you are going. The research question, hypothesis and predictions should be obvious. The most important role of this section is to convince your reader that this is a great idea and the work needs to be done.

Objectives
The background section(s) is followed by a clear statement of your objectives. Proposals for a MS thesis should not have more than three objectives. These can be subdivided but not too much. Keep it simple.

Research Methods
In this section you outline what you will do to meet each of your identified objectives. Numbering the objectives and corresponding methods or giving each its own subheading is a good idea. Identify specifically what question(s) you will address, how you will do so, and what your hypotheses and predictions are. Give enough detail so a non-specialist can understand, but don’t drown your reader in detail. As you outline each method, be sure that your reader always knows why you are doing it (i.e. remembers the question it addresses).

Interpretation/Expected Results/Analysis
Include some information on how you will analyze your data (statistical tests, etc.) and how you will interpret the results in light of your predictions – what results would support your predictions and what would refute them. Will your answer be unambiguous, i.e. are there alternative hypotheses that your design cannot rule out?

Significance
You must include some words (again) on how great the study will be and why it is important to do. This is often the hardest section to write, but it is essential.

8 As suggested, we should have some good examples on file for students to consult.
9 From Prof. Emerita Michelle Scott – who originally got it from someone else.
Approval of the proposal

M.S. students must have their proposal approved by their advisor and Thesis Committee by the end of the second semester. The proposal is presented in seminar form as part of BIOL 903 in the second semester.

Ph.D. students present and defend their formal research proposal to their Guidance Committee in order to be advanced to candidacy, normally in the second or third year. However, a solid draft of the proposal should be shared with the committee by the end of the second semester, and presented in seminar form as part of BIOL 903.\textsuperscript{10}

Seminar presentations

Every graduate student in the Biological Sciences Program is required to present at least one announced, public seminar on the UNH campus about their research, with their advisor and committee present (distant committee members may participate by Skype or other means if necessary). Giving a department seminar qualifies; presenting in the informal graduate student seminar or in a class is encouraged, but does not fulfill this requirement.

M.S. students present their research results as part of their thesis defense in their final year. Ph.D. students should present to an on-campus audience in their third year, and are required to present a public seminar as the first stage of the dissertation defense in their final year.\textsuperscript{11}

Participation in the UNH Graduate Research Conference is strongly recommended. Students should also seek opportunities to present their work at professional meetings.\textsuperscript{12}

\textsuperscript{10} Several people have suggested requiring a formal, public presentation and defense of the Ph.D. proposal, possibly as part of the qualifying exam and advancement to candidacy. That is not included here, since the faculty as a whole did not have time to discuss and vote on it. We can add it in the future.

\textsuperscript{11} We need to clarify whether Ph.D. students present/defend their proposal publicly, as part of advancing to candidacy, in addition to presenting their final research results at the dissertation defense.

\textsuperscript{12} May want to add encouragement to present to public/stakeholder/non-academic audiences as well – though such presentations would not fulfill the formal seminar requirement.
Annual progress report and review meeting

Each student will meet with representatives of the Graduate Program Coordinating Committee in the spring semester to review progress and identify any concerns. The purpose of this meeting is to:

1) Encourage the student to think critically about his/her own progress (or lack thereof) and goals for both the immediate and long-term future.

2) Increase a sense of accountability on behalf of graduate students, and motivate students moving at a slow pace to increase their productivity and involvement in the program.

3) Remind students that to be a truly successful graduate student, one should (ideally) demonstrate success in multiple areas (research, funding, teaching, service), and provide examples for how to do that.

4) Provide a clear paper trail in case situations arise in which there is confusion or disagreement about a student’s progress.

The annual meeting also provides an opportunity for students to raise any concerns, and provide feedback about the program and their graduate experience.

In preparation for progress review meetings,
- **The student** writes a report about their progress, and submits it to their advisor and committee for review and comments. This should occur in the first half of the spring semester. Instructions and template for the student report are available at the program website, or from Diane Lavalliere.
- **The advisor** reviews and signs the student’s report, and then also fills out an evaluation describing his/her view of the student’s progress. Instructions and template for the advisor report are available at the program website, or from Diane Lavalliere. Reports must be submitted at least one week before scheduled meetings, normally by mid-April.
- **Instructors** for whom the student has served as a teaching assistant provide comments on their teaching. (If instructors have previously provided feedback as part of fellowship or other applications, they needn’t do so again.) Comments must be submitted at least one week before scheduled meetings, normally by mid-April.

All reports and comments will be submitted to Diane Lavalliere, who will schedule a review meeting for each student with at least two members of the GPCC (not including the advisor), normally between mid-April and mid-May. Following the meetings, comments and suggestions from the committee will be forwarded to the student and advisor, and all review documents will be shared with the student’s committee.

Students who do not complete the review process by the specified date may have a hold placed on their registration by the Graduate School until they have resolved the situation.
Completing the degree

As a graduate student, you are responsible for knowing what you need to do to get your degree: your advisor and committee should offer guidance, but the primary responsibility is yours. Make sure you are thoroughly familiar with:

- the program’s academic requirements (credits, courses, competencies);
- necessary paperwork (committee nomination, Ph.D. candidacy, etc.);
- thesis/dissertation format and filing requirements;
- format and scheduling procedures for qualifying exams and thesis/dissertation defense; and
- all relevant deadlines.

If you have questions about what you need to do, or how to do it, consult your advisor, the Program Coordinator, and/or the UNH Graduate School. If there is information you think needs to be added or clarified in this handbook, please tell the Program Coordinator.

M.S. thesis defense and exam

The M.S. degree requires a total of 30 credits, up to 10 of which are for thesis research. All required core courses and competencies must be fulfilled.

The MS thesis defense is a public, advertised seminar on the UNH campus, followed by a private examination by the Master’s Thesis Committee, which may require revisions. The Master’s Thesis Committee is responsible for assessing and approving the final version of the thesis.

The Master’s Thesis Committee should be provided with a complete copy of the thesis for review at least two full weeks before the defense.

The student is responsible for transmitting necessary paperwork to the Graduate School, and fulfilling Graduate School requirements for electronic submission of the thesis, by the appropriate deadline.

Ph.D. qualifying exam and advancement to candidacy

Following approval of the research proposal by their committee, students who wish to be admitted to doctoral candidacy must pass a formal qualifying examination that assesses both broad basic knowledge of the student’s field, and topics central to the project. The student is responsible for scheduling both parts of the exam; plan well ahead to account for committee members’ travel plans, sabbaticals, etc. It is best to have all committee members present in person for the exam if possible, but those off campus may participate remotely if necessary.

The written portion of the qualifying exam should be taken no later than the end of the fifth semester, though it may be delayed beyond that point if necessary.\textsuperscript{13} The oral portion of the exam follows successful completion of the written part, usually within a few weeks.

\textsuperscript{13} The outer limit set by the Graduate School is five years.
The qualifying exam comprises written and oral components.

1. Written Exam
Each student chooses three areas of specialization in consultation with their Doctoral Guidance Committee. The advisor will solicit questions from Committee members, administer the exam, and provide copies of the completed exam to all Committee members for evaluation. In the written exam, the student is expected to demonstrate competence in each of the chosen areas, reflected in clear, concise, well-organized synthetic essays. The exam may be “closed book” or “open book” at the discretion of the advisor. Open book exams are held to a higher standard; both types are expected to be detailed and well-referenced. At the discretion of the advisor, the exam may be completed in 24 hours or over several days (e.g. one area per day).

Each area of specialization will be considered passed or failed in the collective judgment of the Guidance Committee. If any portion is failed, the following conditions apply:
   i) If one area is failed, the student is given a "conditional pass". The failed area must be reexamined no sooner than eight weeks after the date of the first exam. If upon reexamination the area is again failed, the collective judgment of the Committee will determine whether the student should continue in the program and, if so, any conditions that must be met.
   ii) If two or more areas are failed, the entire exam is failed. A second exam may be scheduled no sooner than six months after the date of the first exam. One reexamination is allowed. Failing the reexamination normally results in dismissal from the program. Continuation in the program will be permitted only upon approval of a petition to the Graduate Admissions Committee.

2. Comprehensive Oral Exam
The oral exam will last approximately two hours; it will be conducted by the Doctoral Guidance Committee, and chaired by the advisor. The student should demonstrate mastery of fundamental concepts in the designated areas of specialization, draw upon a broad spectrum of information to answer theoretical and practical questions, and be able to “think on her/his feet.” There may be particular focus on any area that was deemed weak in the written exam. Questions based on the research proposal are also appropriate, and the committee should be provided with a complete copy of the proposal for review at least two full weeks before the exam.

Based on the collective decision of the Committee, the student will pass, conditionally pass, or fail the oral exam.

When the student has passed both parts of the qualifying exam, the advisor will inform the Graduate School and recommend that the student be advanced to candidacy in the Ph.D. degree program by submitting the appropriate form (http://www.gradschool.unh.edu/pdf/frm_doct_cand.pdf). At this point, the student’s Doctoral Dissertation Committee will be nominated using the Graduate School form (http://www.gradschool.unh.edu/pdf/frm_doct_diss_comm.pdf).

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14 We may wish to consider, and perhaps limit, the central role of the advisor in this process: there are other models available that we should discuss. Since we have not yet had the chance to do so, no changes have been made in this version of the handbook.
Ph.D. dissertation defense

After completion of research, and substantial completion of the dissertation, the candidate must present the dissertation in a public seminar and successfully defend it to the Dissertation Committee before the degree can be awarded.

The committee should be provided with a complete copy of the dissertation for review at least three full weeks before the defense. It is the student’s responsibility to provide committee members with the lead time they request; it is then their responsibility to read the dissertation before the defense.

The Ph.D. dissertation defense takes the form of a public, advertised seminar given on the UNH campus, followed (usually immediately) by a private examination by the Dissertation Committee. The Dissertation Committee may require revisions to the dissertation following the defense. The Dissertation Committee is responsible for assessing and approving the final version of the dissertation before it is submitted to the Graduate School.

The student is responsible for transmitting necessary paperwork to the Graduate School, and fulfilling Graduate School requirements for electronic submission of the dissertation, by the appropriate deadline (see http://www.gradschool.unh.edu/pdf/td_checklist.pdf).

Graduation

The Graduate School website provides detailed information on graduation procedures, including deadlines, filing “intent to graduate” notification, submitting theses/dissertations to the Graduate School, and Commencement: http://www.gradschool.unh.edu/graduation.php

Awards

Biological Sciences Graduate Program awards

At the end of each year, two graduate student awards are presented. Nominations will be accepted from both students (you can nominate yourself) and faculty. Final decisions will be made by the appropriate faculty committee based on nomination letters, records in the student’s file, student evaluations, and discussions with relevant members of the faculty.

The Excellence in Teaching Award is presented to the graduate student who, in the opinion of the faculty and undergraduate students, exhibits superior teaching ability at the undergraduate level. Evidence of outstanding teaching ability includes (1) exceptional knowledge of the subject matter; (2) effective communication and organizational skills; (3) enthusiasm for the subject; (4) the ability to stimulate student interest, participation, and problem-solving; (5) the use of innovative or original approaches to help develop students’ understanding of the subject; and (6) fair, respectful and understanding interactions with students in, and outside of, the classroom.

We need to settle who this is: Awards Committee? Scholarship Committee? GPCC? What about inclusion of faculty who are members of the Biological Sciences Graduate Program, but not DBS?

STEM Ed faculty (CH, MA) would be particularly well-qualified to judge nominees for this award.

Rev. June 17, 2016/JAB
The Excellence in Research Award is presented to the graduate student who demonstrates superior abilities and success as a research scientist. Evidence of outstanding research ability includes (1) completion of studies and/or experiments of consistently high quality; (2) the ability to communicate the results of the research to the scientific community; (3) enthusiasm for the subject; and (4) the use of innovative or original approaches to the subject or methods of investigation.

UNH Graduate School awards

Students are encouraged to apply for the UNH Graduate School’s Summer TA Fellowship (STAF), Dissertation Year Fellowship (DYF), and other awards, as appropriate. Detailed information about the Graduate School’s various awards is available at http://www.gradschool.unh.edu/pdf/frm_aid.php.

For details about applying for the STAF, see Chapter 4.

4. Financial support

General information

Graduate students in the program normally receive most of their support from a combination of assistantships and fellowships. There are several types of assistantships: Teaching Assistants (TAs) run labs and do grading and other tasks for undergraduate classes; the New Hampshire Agricultural Experiment Station (NHAES) provides Research Assistantships (RAs) that support students working on their advisor’s AES project (20 hours/week, year round, for up to two years); and students may be supported as Project Assistants (PAs) on their advisors’ external grants. See Chapter 5 for more information about assistantships.

Institutional support during the summer is not guaranteed at the time of admission; however, summer support is available from several sources, e.g.

- The NHAES offers summer RA support on a competitive basis for students whose advisors’ projects receive NHAES research funding. Summer assistantships are available for students who have been supported on TA or RA during the academic year, as long as they are working on an NHAES project during the summer. Proposals for these assistantships are submitted by NHAES PIs in the spring semester.

- The Graduate School offers competitive summer fellowships for TAs (see below). Since these fellowships provide only partial support, advisors are strongly encouraged to make up the difference from other sources for their students who win fellowships. (To quote an old Harvard staff union slogan, “you can’t eat prestige.”)

- Advisors often have other sources of funds with which to provide summer support.

Students are strongly encouraged to apply for independent fellowship support, as well as for funding to pay for research expenses, travel, etc. Obtaining independent funding is professionally as well as financially useful. See “useful links” below for some ideas about how to get started.
Program policies and expectations

Subject to satisfactory progress by the student, the Biological Sciences Graduate Program provides financial support up to the limit stated in the admission letter: normally **two years (four semesters) of academic-year support for the M.S.** degree and **four years (eight semesters) of academic-year support for the Ph.D.** A student who completes an M.S. and then continues as a Ph.D. candidate, or who converts from M.S. to Ph.D. enrollment, may anticipate a total of four years of support from the program.

Additional support may be available based on a clear need arising from the nature of the research (e.g. field or agricultural projects that require two summers of data), and evidence of strong progress toward completion. A decision to request additional support must be made by the start of the final semester of guaranteed support. Where there is a compelling reason for an extension, the student’s advisor must present a written request for one additional semester of support from the program, explaining why the student needs more time to complete the degree.\(^\text{17}\) The Admissions Committee and Chair will review and decide on such requests. Approval is not automatic: *students and advisors should not assume that extended support will be available if the degree is not completed on time.*

Since one purpose of limiting the duration of support is to encourage students to complete their degrees on schedule, students initially supported in other ways who later receive a Teaching or Research/Project Assistantship may not be entitled to the full duration of support stated above. All students will be advised of the extent of support they may expect at the time of admission.

Teaching or Research/Project Assistantship appointments (see Chapter 5) are normally for the academic year, but can be terminated at the end of a semester if performance is unsatisfactory. With satisfactory performance in both research and teaching, the student, once appointed to an assistantship, can expect to be reappointed in subsequent years up to the limit specified upon admission.

Students who obtain their own funding (e.g. through a competitive fellowship, or part-time students working for state or federal agencies) are not penalized by a reduction of support from the program: they are still entitled to the full number of semesters stated in their admission letter.

Support for graduate student travel and research expenses

*The program has some funds available to support student travel.* The student needs to submit a formal request to the Chair (via Diane Lavalliere), detailing what meeting they are planning on attending, when and where the meeting will take place, whether they are presenting a poster or giving a talk, and a solid estimate of costs for meals, housing, etc. The Program will help pay for travel only if a student presents a poster or gives a talk -- not if they are just attending the meeting. In 2015, travel grants were up to $250. Students can request this once in a single fiscal year.

*The Graduate School offers travel grants* for graduate students who are presenting papers and posters at professional meetings and conferences. They generally do not support travel to workshops, seminars, and conferences where students are not presenting, but will consider such requests where the nature of the program is directly related to the student’s research agenda at UNH. Travel grants are also available

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\(^{17}\) A form for requests is available online at [https://colsa.unh.edu/dbs/biological-sciences-graduate-program](https://colsa.unh.edu/dbs/biological-sciences-graduate-program).
to students who are attending professional development workshops and seminars that will enhance their research agendas. Travel grants will not exceed $200 per student per conference, or $400 per student per year. [https://www.gradschool.unh.edu/php/travel_grant.php](https://www.gradschool.unh.edu/php/travel_grant.php)

See “Useful links” below for more possibilities.

**UNH Graduate School fellowships**
Students are strongly encouraged to apply for the UNH Graduate School’s Summer TA Fellowship (provides partial support for one summer) and Dissertation Year Fellowship (provides support for the final year of Ph.D. work). Detailed information is available at [http://www.gradschool.unh.edu/pdf/frm_aid.php](http://www.gradschool.unh.edu/pdf/frm_aid.php).

Pre-application for Summer TA Fellowships.18 Summer TA Fellowships are allocated mainly on the basis of merit, but there is also consideration given to distributing them across programs – in fact, the Graduate School already requires each program to rank their students who are applying, before applications are submitted. The likelihood of more than three or four students from the same program receiving awards is extremely low; rather, programs are most successful when they put forward a short list of their strongest applicants. To enable students and letter-writers to focus their time and energy where it will be most likely to pay off, the Biological Sciences Program is instituting a pre-application procedure:

1- If you intend to apply for a STAF you must email the current Graduate Coordinator by the last day of classes in the fall semester stating your intent. Please use the subject line: STAF. PLEASE NOTE: In order to apply for the STAF you must have been a TA the previous fall, and have had teaching evaluations filled out. If you were not evaluated, you are not eligible to apply. The department chair will then request to get your evaluation early from institutional services that compile the evaluations.

2- By the first day of classes in the spring semester, submit to the Graduate Coordinator:
   i. A list of courses (course # and name) that you have taken so far, with grades.
   ii. Your overall GPA.
   iii. Indicate if you are a MS or PhD student and who is your major professor/advisor.
   iv. Indicate the course(s) you have TAed, the semester, and who was the professor
   v. A summary of the activities that you did as part of your TA (grading labs, running a lab, grading exams, etc.). Please be SPECIFIC and DETAILED
   vi. A paragraph about your teaching philosophy and how it has been shaped by your TA experience.
   vii. Any other information that you think would help us evaluate you.

3- The Graduate Program Coordinating Committee will review the materials submitted and come up with the top three candidates.

4- We will notify all candidates of our decision by at least three weeks before the STAF deadline.

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18 Based on NREN procedure provided by Russ Congalton.
5- The top three candidates will then need to get a letter of recommendation from the professor that they TAed for and also from the Graduate Program Coordinator, and then submit their full STAF application by the Graduate School’s deadline.

Useful links

- UNH Graduate School information on Graduate Appointments: dates of appointments, stipend levels, etc.
- UNH Graduate School information on fees and financial support: www.unh.edu/grad-catalog/gi.cfm?thisid=157&masterid=127&headingid=127
- UNH Financial Aid Office: financialaid.unh.edu/
- UNH Graduate School financial aid info www.gradschool.unh.edu/grad_aid.php
- UNH Office of National Fellowships: www.unh.edu/fellowships-office/
- UNH Graduate School Information on Dissertation Year Fellowships, Summer Teaching Assistant Fellowships and Travel Grants: www.gradschool.unh.edu/pdf/frm_aid.php
- UNH Research Office links for grad students (www.unh.edu/research/resources-grad-students-post-docs)
- UNH Research Office general advice about finding funding (http://www.unh.edu/research/finding-funding)
- Funding opportunities available through the School of Marine Sciences and Ocean Engineering: marine.unh.edu/funding-and-opportunities
- Northeast Sustainable Agriculture Research & Education: www.nesare.org/Grants/Get-a-grant/Graduate-student-grant
- National Science Foundation Graduate Research Fellowship Program (www.nsf.gov/funding/pgm_summ.jsp?pims_id=6201&org=NSF) Very prestigious and very competitive; watch for announcements from the Graduate School about information sessions and proposal preparation support. Also track down the current UNH graduate students who’ve won them!

5. Graduate Assistantships: Teaching, Research, and Project

UNH Graduate School Graduate Assistant handbook

The GA Handbook provides detailed information on registration requirements, policies, workload, and other critical topics related to assistantships. https://www.gradschool.unh.edu/pdf/ga_hand.pdf

Teaching Assistantships, Research Assistantships, and Project Assistantships cover a stipend, health insurance, and the technology fee. Students are responsible for other mandatory fees.

Enrollment policy

All graduate students holding appointments must be enrolled as students in order to hold an appointment during the academic year. Assistants, fellows or graduate part-time lecturers must register
for a minimum of 6 course/thesis credits, Master's Continuing Research or Doctoral Research during each semester in which they hold their appointments. Interns/trainees must register according to terms specified in their contracts.

Students holding a stipend only or hourly appointment must register for course/thesis credits (no minimum), Master's Continuing Research, or Doctoral Research. **Students registered for Continuing Enrollment (GRAD 800) are not eligible to hold an appointment.** Students holding summer appointments have no required enrollment unless specified by their appointment.

**Teaching Assistantships**

An opportunity to teach is an important part of every graduate student's education. Most students in the program receive support as Teaching Assistants during at least part of their enrollment. Students not offered a teaching assistantship at the commencement of their enrollment are considered whenever positions become available, but presence in the program is not a guarantee of support.

Teaching Assistants are half-time employees (20 hrs/week), with considerable responsibilities to their students and to the department/program. Teaching Assistantships are awarded by the Department Chair in consultation with the Graduate Admissions Committee. The process is complicated: it involves balancing teaching needs, student expertise, and fair allocation of resources.

A Teaching Assistant's performance is evaluated by the students in the course, who complete a formal course evaluation at the end of the semester. The results are available for the Teaching Assistant and the course supervisor. In addition, the instructor in whose course you serve as a TA should provide written evaluation and feedback at the end of the semester; this information is important for your annual progress review as well as for applications for Summer TA Fellowships (see Chapter 4).

Poor performance as a Teaching Assistant may jeopardize continued funding.

**Research and Project Assistantships**

Research/Project Assistantships may be available on specific research projects supported by external grants or contracts. Responsibility for filling a Research or Project Assistantship rests with the faculty member who administers the grant, with the proviso that any RA/PA appointed must be acceptable for admission as a graduate student. Tuition waivers are usually available for Research Assistants. The duration of support on an Assistantship is determined by the faculty member administering the grant. A student who makes insufficient progress or whose academic performance is unsatisfactory may be dismissed from the program even though RA support remains available.

It is critical that the RA/PA and the project supervisor communicate clearly about expectations and responsibilities. Students owe the project that pays them 20 hours per week, as a condition of their appointment; but if it overlaps their own research (as is often the case), they may well be working on it much more than that.

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19 This may change, since the Biological Sciences Graduate Program extends beyond the Department of Biological Sciences.
6. Information for New Students

Initial advisor meeting

Students should meet with their advisor as soon as possible to discuss research plans, classes to take, training needs, and teaching or assistantship obligations. It’s a good idea to make initial plans in writing, and review and update them as part of the annual (spring) progress review. It is critical for everyone to be clear – and on the same page – about expectations, and agree on how to manage communication, meetings, etc.

The student and advisor should review the student’s educational background, and assess what coursework may be necessary to (1) correct any deficiencies; (2) provide a broad foundation in the student’s research area; (3) focus in on topics central to the intended research; and (4) learn specific tools and skills needed for the thesis project.

This meeting is also a good time to begin discussing possible committee members. Although the committee need not be formally established until the end of the first semester, contacting and involving additional faculty (besides the advisor) as early as possible is helpful for both academic and research planning.

Starting research

Incoming students are expected to begin some research during their first semester. This may be the initial stage of the thesis project, a pilot or exploratory study, or other work that will help the student learn important techniques or skills that will be useful later on. Note that students must have completed the required training and documentation before working with vertebrate animals or in other regulated areas (see Chapter 7).

Registering for classes

Registration information and deadlines: http://gradschool.unh.edu/enroll.php#register

What to take the first semester (assuming a fall start; if starting mid-year, take courses as soon as possible):

i. BIOL 901, Introductory Graduate Seminar (2 credits).
ii. Possibly one of the courses that fulfills a competency requirement in experimental design & analysis, or scientific writing/communication. (See Chapter 3 for details.) BIOL 902 is normally offered in the fall; BIOL 903 and BIOL/LSA 950 are offered in the spring.
iii. Other coursework recommended by your advisor/committee, especially courses needed to make up deficiencies or learn key techniques. Check for interesting graduate seminars being offered (BIOL 997, or in other departments/programs). See Chapter 3 for information about which courses can count for graduate credit.
iv. Research credit, e.g. BIOL 895 or 899.
Students who hold an assistantship appointment (TA, RA, or PA) must register for at least 6 credits. Otherwise, they must register for 9 or more credits to be classified as full-time. (For details about credit requirements, see Chapter 3.)

Other things to take care of as early as possible

• **Any required training**, e.g.
  - Mandatory Graduate Assistant Orientation
  - Responsible Conduct of Research training – online modules and on-campus sessions. Required for all new Ph.Ds. See [http://www.unh.edu/research/rcr-training-unh](http://www.unh.edu/research/rcr-training-unh).

• Discuss with your advisor whether you need to apply for your own, or be added to their, **approval for use of vertebrate animals or human subjects**. If you’re not sure, check with Dr. Julie Simpson (julie.simpson@unh.edu), Director of Research Integrity Services ([www.unh.edu/research/support-units/research-integrity-services](http://www.unh.edu/research/support-units/research-integrity-services)).

• Determine whether you need to obtain **collecting or other permits** for fieldwork.

• **Locate support/resources** you will need to be effective in your research and teaching, e.g.
  - Disability Services for Students: [http://www.unh.edu/disabilityservices](http://www.unh.edu/disabilityservices)
  - Center for Excellence in Teaching and Learning: [http://www.unh.edu/cetl](http://www.unh.edu/cetl)
  - Resources for international students: [http://www.unh.edu/oiss/](http://www.unh.edu/oiss/)

• **Health insurance**
  All full-time degree students are required to have health insurance as a condition of enrollment. Thus, graduate students who are registered for 9 or more credits (6 if on an assistantship) during a semester are required to have health insurance, and will be automatically enrolled and billed in the student health benefit plan (SHBP) unless they waive it due to holding their own health insurance. Students must waive the SHBP annually; the waiver form is available at [http://www.unh.edu/health-services/shbp](http://www.unh.edu/health-services/shbp). This site also includes information on the plan’s cost, coverage, and other important details.

  All grad students supported on a TA or PA/RA are fully insured even if they only have a half TA: the cost is covered under the tuition waiver, which is covered by the department or the PI.

• Sign up for **Campus Alerts** for automatic notification of weather delays/cancellations, power outages, campus safety alerts, and other emergencies. [http://www.unh.edu/upd/campus-alerts](http://www.unh.edu/upd/campus-alerts)

The UNH Graduate School provides helpful **information and links** for new students at [http://gradschool.unh.edu/enroll.php#ga](http://gradschool.unh.edu/enroll.php#ga).
Orientation & welcoming events

There are several orientations and welcomes (mostly in early Fall) for new graduate students; some of these are mandatory, depending on student status.

International Student Orientation: Orientation to help international students find their way around UNH.
Graduate Assistant Orientation: Mandatory for all new graduate assistants.
Graduate Resource Fair: The graduate student resource fair is an event put on by the UNH Commuter Services Office in the Memorial Union Building (MUB) to help graduate students acclimate to the UNH campus by providing information about campus services as well as an opportunity to meet other students. This program focuses on small group activities and provides information from the MUB and Student Activities, Campus Recreation, and Health Services, as well as about the library, academic resources, transportation and parking.
Non-Traditional Student Orientation: Helps non-traditional students get familiar with UNH and transition to academic life.
Commuter & Transfer Survival Day: A way for commuters, transfer, and non-traditional students to get to know UNH (and each other).

7. Responsible Conduct of Research and Other UNH Policies

Graduate students, like all other researchers, must comply with all rules and policies that are relevant to their work. It’s your responsibility to know about, and follow, the rules that may apply to your project. Begin by consulting your advisor, but be aware that you may have to deal with additional issues, if your project extends beyond your advisor’s (e.g. they work on inverts but your project will also involve fish; or they work on crops, but you will also be interviewing farmers). The go-to place for information – for instance, figuring out exactly which rules and policies apply to your research – is Research Integrity Services (http://www.unh.edu/research/support-units/research-integrity-services).

Requirements and training

All new Ph.D. students and students who have changed to a Ph.D. program are required to attend the Responsible Conduct of Research Training. Information is available here.

If you work with vertebrate animals in any aspect of your research or teaching, you need prior approval from the Institutional Animal Care and Use Committee, as well as the required training (online module and in-person session). This includes field and observation studies as well as lab work and research with domesticated animals. If your research supervisor or the person for whom you are TAing already has approval for the activity, you just need to do the training and submit the medical questionnaire – then you can be added to their approval. Details and forms are available at http://www.unh.edu/research/animal-care-use.
If your research will involve **human subjects** in any way (including surveys), you should check if you will need approval from the Institutional Review Board. See [http://www.unh.edu/research/institutional-review-board-protection-human-subjects-research-irb-0](http://www.unh.edu/research/institutional-review-board-protection-human-subjects-research-irb-0).

### Key policies

The following UNH policies can impact student roles (in some cases, particularly as graduate assistants):

**Academic Honesty.** Honesty is a core value at UNH. The academic honesty policy is available here.

**Consensual Amorous Relationship Policy.** This policy provides guidelines designed to prevent conflicts of interest that can occur when two members of the UNH community whose institutional roles place them in an uneven power dynamic engage in a consensual amorous relationship.

**Discriminatory Harassment Policy.** It is the policy of the University of New Hampshire to uphold the constitutional rights of all members of the university community and to abide by all United States and New Hampshire State laws applicable to discrimination and harassment. In accordance with those laws, all members of the UNH community will be responsible for maintaining a university environment that is free of intimidation and harassment. Therefore, no member of UNH may engage in harassing behavior within the jurisdiction of the university that unjustly interferes with any individual’s required tasks, career opportunities, learning, or participation in university life. As employees of the university and as graduate students, graduate students are protected under the policies UNH has put in place to discourage, to investigate, and to address instances of harassment.

Graduate assistants should also take responsibility for conducting themselves professionally, and should be aware of the ways that power dynamics shape their various roles at UNH. If charges against a graduate assistant are brought forward by a fellow graduate or an undergraduate student, the person making the charge may choose between pursuing charges under the policy outlined in the Student Code of Conduct or under the Discriminatory Harassment Policy as enforced by the Office of Affirmative Action. Published by the Affirmative Action Office, this document contains information about UNH’s harassment policy, offers examples of harassment and provides outlines of guidelines and procedures.

**Family Rights and Privacy Act of 1974:** Graduate assistants should be aware of confidentiality issues as they pertain to student records, both their own and those of others, such as students enrolled in a TA-taught course. Social security numbers and grades are protected by federal law under the Family Educational Rights and Privacy Act of 1974, often referred to as the “Buckley Amendment.” The University System Policy relative to the Buckley Amendment is found in the Student Rights, Rules and Responsibilities bulletin published each Fall.

**University Specific Sexual Assault Reporting Requirements:** These requirements are available through UNH’s Sexual Harassment & Rape Prevention Program: [http://www.unh.edu/sharpp/reporting-requirements](http://www.unh.edu/sharpp/reporting-requirements)

**Title IX Prohibiting Sex-based Discrimination in Education:** There are specific rights pertaining to sexual violence and harassment that are covered by federal law. Title IX is a landmark federal civil right that prohibits sex-based discrimination in education. Part of the law addresses sexual harassment, gender-
based discrimination, and sexual violence. Sexual violence includes attempted or completed rape or sexual assault, as well as sexual harassment, stalking, relationship abuse, voyeurism, exhibitionism, and verbal or physical sexuality-based threats or abuse. Inquiries regarding discrimination should be directed to: UNH Director & Title IX Coordinator of Affirmative Action and Equity.

**Health Insurance Requirement:** All full-time degree students are required to have health insurance as a condition of enrollment. Thus, graduate students who are registered for any of the following during a semester are required to have health insurance, and will be automatically enrolled and billed in the student health benefit plan (SHBP) unless they waive it because they already have their own health insurance:
- 9 or more credits (6 credits if on assistantship)
- GRAD 900 (master’s continuing research)
- DEPT 999 (doctoral research)

Students must waive the SHBP annually; the waiver form is available at [http://www.unh.edu/health-services/shbp](http://www.unh.edu/health-services/shbp). This site also includes information on the plan’s cost, coverage, and other important details.

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## 8. Resources for Graduate Students

### Whom to ask

When you need information, ask someone: your advisor, committee members, other faculty, the graduate coordinator, office and technical support staff. Senior graduate students know the local ropes; post-docs can often provide excellent professional and career guidance.

If you are experiencing advisor-related issues, you can discuss the matter with the graduate coordinator and/or with the department chair; you can also meet with the Dean of the Graduate School, Dr. Cari Moorhead ([cari.moorhead@unh.edu](mailto:cari.moorhead@unh.edu); 862-3007).

**Program contacts and Information:**
- Administrative staff: Diane Lavalliere, [diane.lavalliere@unh.edu](mailto:diane.lavalliere@unh.edu), 862-2100
- Graduate Coordinator (2015-2016): Prof. Jessica Bolker, [jbolker@unh.edu](mailto:jbolker@unh.edu)
- Graduate Program Coordinating Committee (2015-2016): Prof. Andre Brito (AS), Prof. Tom Davis (IOB), Prof. Win Watson (MB). The Graduate Coordinator serves as chair.
- Program Faculty – see Chapter 2, and online listing.
- Program web site [https://colsa.unh.edu/dbs/biological-sciences-graduate-program](https://colsa.unh.edu/dbs/biological-sciences-graduate-program) – copies of useful forms, faculty listing, and key links.

**Graduate Program Coordinating Committee (GPCC)**

This committee, chaired by the Graduate Coordinator, oversees all aspects of the graduate program except admissions. There are at least three members of the faculty on this committee, representing the three options within Biological Sciences. When appropriate (for example for Marine Biology), committee members may be from outside the Department of Biological Sciences, though they must be members of the Program faculty.
The GPCC is responsible for establishing universal guidelines for all graduate students in each degree (M.S. and Ph.D.), and brings forth suggestions for changes in policies pertaining to the program. The GPCC welcomes input and suggestions from graduate students as well as faculty and staff.

The GPCC also oversees annual Progress Reviews for graduate students in the program (see Chapter 3).

Graduate students should feel free to approach the Graduate Coordinator or another member of the committee for advice at any time, although ordinarily the student’s faculty advisor and committee serve as the primary contact.

UNH Graduate School
The Graduate School office can help with an array of questions related to graduate student experience, including petitions for exceptions to academic policy, changes to student records, requests for leaves of absence, etc. Students can also use the Graduate School as a resource if they are unable to get answers or responses within their program, or if issues arise that they wish to discuss with someone outside of their program.

Graduate School resources
The Graduate School offers a variety of resources for students, including the following professional development opportunities. Current information, including workshop dates, is available on the Graduate School’s website.

Preparing Future Faculty & Preparing Future Professionals Programs
The Preparing Future Faculty Program (PFF) is a national initiative that transforms the way doctoral programs prepare aspiring faculty members for their careers. It emphasizes an education that is informed by the kinds of responsibilities faculty members actually have at a variety of institutions. The 2014-2015 Preparing Future Faculty Highlights flyer illustrates the types of events commonly hosted as part of our PFF program.

The Preparing Future Professionals Program (PFP) is designed to provide all graduate students with access to workshops, speakers and other events focused on professional skills and preparation for successful job searches and career advancement (workshops on preparing CV’s, interviewing for positions, etc.).

For current PFF and PFP information visit http://gradschool.unh.edu/pff.php or contact the Graduate School office at (603) 862-3009.

UNH Summer Program on College Teaching
The UNH Graduate School and the Center for Excellence in Teaching and Learning co-sponsor the Summer Program on College Teaching. The program features both on-campus courses and electronic, asynchronous courses. Course offerings are available at the Summer Program on College Teaching website.
Thesis and Dissertation Workshops
The Graduate School holds monthly information sessions on the rules and processes for formatting and submitting final theses and dissertations. Dates are posted on the Graduate School homepage (gradschool.unh.edu).

Graduate Research Conference
Each April, over 200 UNH graduate students from all academic disciplines present at the GRC, or during their program’s research symposia. The presentations showcase the results of graduate research at UNH's Durham and Manchester campuses. https://www.gradschool.unh.edu/grc.php

Graduate Student Senate
Graduate students are encouraged to participate in the Graduate Student Senate (GSS), the official voice of UNH’s graduate student body. The GSS advocates for graduate students and meets bi-weekly throughout the academic year. It also fosters community and social engagement among graduate students via an array of activities. Information and the calendar of GSS events is available at http://www.unh.edu/gss/.

UNH and local resources
Graduate students generally have access to most of the campus resources available for undergraduates. There are a few differences, however: for instance, you don’t get free hockey tickets, but you can reserve a private study carrel in the library (see link below). This reflects a fundamental difference between life in college and life in graduate school!

- **Academic Deadlines:** See the [UNH Graduate School Academic Calendar](http://www.unh.edu/gradschool) for registration deadlines, add/drop dates, and refund periods.

- **Business Services Office:** For paying tuition bills, refunds, picking up loan and scholarship payments, and related items. [http://www.unh.edu/business-services/](http://www.unh.edu/business-services/)

- **Campus Maps:** [http://www.unh.edu/main/map](http://www.unh.edu/main/map)

- **Campus Safety:** The [UNH Police Department](http://www.unh.edu/upd) offers resources and classes related to campus safety:
  - How to sign up for campus alerts (students are highly encouraged to do so): [http://www.unh.edu/upd/campus-alerts](http://www.unh.edu/upd/campus-alerts)
  - Protocol for a reported school shooting: [http://www.unh.edu/upd/active-shooter](http://www.unh.edu/upd/active-shooter)
  - Behavioral intervention team to help identify and assess those in crisis: [http://www.unh.edu/upd/behavioral-intervention-team](http://www.unh.edu/upd/behavioral-intervention-team)
  - The University System of New Hampshire’s policy on firearms on campus is available at: [http://www.usnh.edu/olpm/UNH/III.Admin/J.htm](http://www.usnh.edu/olpm/UNH/III.Admin/J.htm)

- **Commuter services:** The [Inside Track](http://www.unhmub.com/involvement-leadership/inside-track-unh) is a listserv, maintained by UNH’s Commuter Services Office, is geared towards helping non-dorm-dwellers (including grads) get acclimated to the University. [http://www.unhmub.com/involvement-leadership/inside-track-unh](http://www.unhmub.com/involvement-leadership/inside-track-unh)
• **Counseling Center**: The Counseling Center is the primary mental health facility on campus. It offers a variety of services that are designed to enhance students' ability to fully benefit from the University environment and academic experience. This includes providing counseling and therapy for students who may be experiencing situational or ongoing psychological difficulties, providing programming to meet the developmental needs of the student population, and encouraging a University atmosphere conducive to personal and intellectual growth as well as psychological well-being. [http://www.unh.edu/counseling-center/](http://www.unh.edu/counseling-center/)

• **Dining and ID Office**: For obtaining UNH ID cards and signing up for meal plans. [https://www.unh.edu/dining/dining-id-office](https://www.unh.edu/dining/dining-id-office)

• **Disability Services**: The Disability Services for Students Office (DSS) serves students with documented disabilities. Their website explains available services and accommodations: [http://www.unh.edu/disabilityservices](http://www.unh.edu/disabilityservices)

• **Durham Directory**: Includes information on Durham-based stores and restaurants. [https://www.ci.durham.nh.us/directory?field_business_categories_value=320](https://www.ci.durham.nh.us/directory?field_business_categories_value=320)

• **Financial Aid Office**: Provides assistance on applying for financial aid. [http://financialaid.unh.edu/](http://financialaid.unh.edu/)

• **Health Services**: Offers medical care and wellness education services to UNH students, faculty and staff. [http://www.unh.edu/health-services/](http://www.unh.edu/health-services/)

• **Housing on and off-campus**: UNH Housing provides two on-campus options for graduate students: Babcock Hall, a traditional residence hall for graduate or non-traditional students, and Forest Park, our family housing complex on campus for those who are arriving with families (married, civil unions, or those with dependent children). For more information, visit the Housing and Residential Life Website. The Memorial Union Building also provides a searchable listing of off-campus housing for the local townships. Other online resources for the seacoast:
  - UNH Classified Ads: [www.unh.edu/ads](http://www.unh.edu/ads)
  - Foster’s Daily Democrat: [www.fosters.com](http://www.fosters.com)
  - Seacoast On-Line: [www.seacoastonline.com](http://www.seacoastonline.com)

• **Information Technology**: Provides IT services for faculty, staff and students. [http://www.unh.edu/it/about](http://www.unh.edu/it/about). They staff a walk-in service on the 3rd floor of Dimond Library.

• **Library**: [https://www.library.unh.edu/](https://www.library.unh.edu/)  
  If you can’t find what you need on the website, go to Dimond Library and ask: at the circulation desk or the reference desk on the main (3rd) floor, or the Natural Sciences Resource Center ([https://www.library.unh.edu/research-support/natural-sciences-resource-center](https://www.library.unh.edu/research-support/natural-sciences-resource-center)) one floor down.

• **Local events** (e.g., Portsmouth, Dover) events, dining, housing options and other items. [http://www.seacoastnh.com/index.php](http://www.seacoastnh.com/index.php)
• **Memorial Union Building**: Provides a vast array of organizations, facilities and events of interest to graduate students. [http://www.unhmub.com/involvement-leadership/inside-track-unh](http://www.unhmub.com/involvement-leadership/inside-track-unh)

• **Recreation**: For information on fitness center options, club and intramural sports, etc. [http://campusrec.unh.edu/](http://campusrec.unh.edu/)

• **Study Carrels**: Quiet study carrels are available for graduate students in Room 441 of Dimond Library. The room has a variety of seating options, WiFi, electrical outlets, and lockers. [https://www.library.unh.edu/services/spaces-study-and-work/graduate-study-carrels](https://www.library.unh.edu/services/spaces-study-and-work/graduate-study-carrels)

• **Transportation**: For information on parking, and transportation to campus locations and surrounding towns: [https://www.unh.edu/transportation/](https://www.unh.edu/transportation/)

• **Train and bus**: Daily Amtrak service runs from the Durham campus to Boston and Portland (and points en route) [http://www.amtrakdowneaster.com/station/durham-unh](http://www.amtrakdowneaster.com/station/durham-unh). The C&J Bus Company goes to Logan Airport and South Station in Boston, as well as directly to New York City [http://www.ridecj.com](http://www.ridecj.com).

• **UNH Mobile**: is available on iOS and Android platforms. The app features individual modules which include a course catalog, directory, dining menus, maps, game schedules, and more. [http://www.unh.edu/nem/mobile.html](http://www.unh.edu/nem/mobile.html)

• **Veterans Services**: Veterans Services is committed to providing support and assistance for veterans, active duty military, Guard/Reserves, and their dependents. The office is staffed by professional student affairs staff and student veterans; we encourage you to contact us or visit (301 Thompson Hall) for assistance with any student or military-related concern: [http://www.unh.edu/veterans/](http://www.unh.edu/veterans/).