

Graduate Student Handbook

Biology Department
Boston College
2024 Edition



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1. Welcome!

1.1 Graduate Program Director's Welcome


Dear Biology Graduate Students:

Welcome to the Boston College Biology Department! The purpose of this handbook is to be a guide for the Ph.D. students of the Biology Department as they progress toward the Ph.D. In this document, you will find an overview of our Ph.D. program including our Learning Outcomes, and descriptions of the necessary components of the Ph.D. However, earning a Ph.D. is ultimately an individual journey. The success of your journey depends not only on meeting the specific requirements, but also on your interests, long-term goals, and personal motivations. While there are several checkpoints along the road, a Ph.D. is a very open-ended process that requires perseverance, resilience, and continual reflection and self-evaluation. Earning a Ph.D. is not just completing a list of tasks, it includes demonstrating the ability to direct your own work to add to the scientific canon, as well as communicate your findings to other scientists. Earning a Ph.D. is a mark of distinction which implies the ability to self-organize, identify scientific questions, and successfully implement strategies to answer these questions.

We, the faculty of the Biology Department, are here to guide you through your Ph.D. journey and it is our goal for all students matriculated to our Ph.D. program to complete the Ph.D. We have developed a program that we hope will help you cultivate the skills necessary to achieve a Ph.D. In addition to the original research required for your dissertation, our program encompasses formal coursework as well as professional development activities that include visiting-scientist seminars, departmental rotation and Data Club presentations, and supplemental workshops targeting specific skill sets such as science communication, networking, and career options.

This document codifies the requirements for the Ph.D. as well as many departmental policies and procedures. It should be a source of information and guidance throughout your Ph.D. process from the day you start our program to the day you are awarded your Ph.D. However, should the policies in this document ever be in conflict with the policies of The Morrissey Graduate School of Arts and Sciences, then the policies of the Morrissey Graduate School will be upheld over those of the Biology Department. Furthermore, all students are subject to any additional policies of the Morrissey Graduate School that may not be outlined here. In closing, welcome to the Boston College Biology Ph.D. program. We hope that you find your time here to be an opportunity for growth and fulfillment.

Sincerely,



Michelle M. Meyer, Ph.D.
Graduate Program Director



1.2 Who's Who of the Biology Graduate Program

There are numerous individuals within the Biology Department that assist and advise graduate students.

Michelle Meyer (m.meyer@bc.edu): Graduate Program Director

The role of the Graduate Program Director is to serve as a coordinator for the graduate curriculum as well as an advisor for all graduate students. The Graduate Program Director should be the first point of contact for all academic concerns including concerns regarding coursework, comprehensive exam policies, potential conflicts with the Research Advisor, or issues with TA assignments. The Graduate Program Director also coordinates the Rotation Talks, Data Club, and collaborates with the Director of Undergraduate Studies to make Teaching Assistant (TA) Assignments.

Dina Goodfriend (dicarlda@bc.edu): Graduate Program Student Services Administrator

The role of the Graduate Program Student Services Administrator is to support the Graduate Program Director, Graduate Admissions Committee and research faculty; and provide student services to graduate students. These include registering for required core and elective courses; assisting with cross-registration with the Consortium; tracking academic progress and guidance committee meeting dates; assisting with the graduate clearance process; and serving as the primary liaison with the Graduate School of Arts & Sciences. The Graduate Program Student Services Administrator also assists graduate students with any financial issues that arise on their student bills or with their monthly stipend, oversees logistics and funding sources for conference travel, manages Proctoring Assignments for students on TA, and guides graduate students to additional BC resources available.

Welkin Johnson (johnsonadf@bc.edu): Biology Department Chairperson

The role of the Department Chairperson is to oversee all aspects of the Biology Department. In cases where the Graduate Program Director has a conflict of interest, the Biology Department Chairperson may mediate graduate student concerns.

Diane Butera (diane.butera@bc.edu): Biology Department Administrative Assistant

The role of the Administrative Assistant is to support the faculty of the Biology Department. She coordinates the Biology Department Seminar Series and provides logistical support to many Biology functions.

Patrick Chatfield (chatfipa@bc.edu): Biology Department Faculty Support Assistant

The role of the Biology Department Faculty Support Assistant is to assist Biology Department students and faculty with logistics including room reservations, and acquisition of office supplies.



2. Ph.D. Program

The Boston College Biology Ph.D. program combines experiential learning, coursework, training in scientific communication, and teaching opportunities to prepare our students for careers in academia, industry, and other related areas that require advanced scientific training.

2.1 Learning Outcomes

Learning outcomes for students who complete a Ph.D. in Biology include being able to:

- Conduct original, publishable research in a field of Biology.
- Formulate a novel research question that advances the field of biology and design well-controlled experiments required to address these questions.
- Demonstrate a broad knowledge of theory and research in several areas of Biology and an in-depth knowledge of a specific area of expertise.
- Display an understanding of the ethical guidelines for biological research and be able to follow such guidelines.
- Communicate the findings of their research both orally and in writing to professional and lay audiences.

2.2 Overview of Ph.D. Program

A schedule and overview of the Ph.D. program schedule is shown below. Each student's Ph.D. plan is tailored to individual scientific career goals. You should speak to the Graduate Program Director, your Research Advisor, and your Thesis Guidance Committee regularly to determine the path that is best for you. The Department Recommends completion of electives prior to the end of the third year.

Semester One:

BIOL 6410 (Contemporary Biological Questions and Critical Analysis)	2 credits
BIOL 6430 (Experimental Methods and Design)	2 credits
Biology-approved Graduate Elective (optional)	2 or 3 credits
Lab Rotation 1	1 credit
Lab Rotation 2	1 credit
Regular attendance at Departmental Seminar and Data Club	
Teaching Assistantship	

Semester Two:

BIOL 6420 (Contemporary Biological Questions and Critical Analysis)	2 credits
BIOL 6440 (Molecular and Cellular Control Mechanisms)	2 credits
Biology-approved Graduate Elective (optional)	2 or 3 credits
Lab Rotation 3	1 credit
Regular attendance at Departmental Seminar and Data Club	



Teaching Assistantship

Summer One:

Thesis Research (Research Assistantship/Teaching Assistantship)

Semester Three:

Thesis Research (Research Assistantship/Teaching Assistantship)
 Biology-approved Graduate Elective (optional) 2 or 3 credits
 Regular attendance at Departmental Seminar and Dataclub

Semester Four:

BIOL 6180 (Scientific Proposal Writing) 2 credits
 Biology-approved Graduate Elective (optional) 2 or 3 credits
 Thesis Research (Research Assistantship/Teaching Assistantship)
 Regular attendance at Departmental Seminar and Dataclub
 Ph.D. Comprehensive Exam

Summer Two:

Thesis Research (Research Assistantship)

Semester Five:

Thesis Research (Research Assistantship/Teaching Assistantship)
 Regular attendance at Departmental Seminar and Dataclub
 Biology-approved Graduate Elective (optional) 2 or 3 credits

Semester Six and Afterward:

Thesis Research (Research Assistantship/Teaching Assistantship)
 Regular attendance at Departmental Seminar and Dataclub
 Departmental Data Club (present annually)
 Thesis Guidance Committee meetings (annually)
 Optional additional courses
 Completion of Ph.D. Dissertation
 Public Presentation of Ph.D. Thesis
 Private Defense of Ph.D. Thesis

2.3 Ph.D. Course Requirements

The minimum curriculum for Ph.D. students consists of five Graduate Core Courses and two additional Biology-approved Graduate Elective Courses. In addition, all students are required to complete the [Research Scholarship and Integrity](#) (RSI) program within their first two years. The RSI program includes attendance at a total of four workshops. Workshops on Rigor & Reproducibility, and Research Misconduct & Case Studies are



required for biology students, the other two workshops may be on topics selected by individual students.

The five Graduate Core Courses are designed to give students a strong knowledge base across the areas of research conducted in the department, encourage proficiency in reading the primary literature, as well as cultivate skills in experimental design, critical analysis, scientific inquiry, and scientific writing. During the first year, all Ph.D. students take a total of four 2-credit courses. These include: Experimental Methods and Design (BIOL 6430), Molecular and Cellular Control Mechanisms (BIOL 6440), and two semesters of Contemporary Biological Questions and Critical Analysis (BIOL 6410 and BIOL 6420). The final core graduate course, Scientific Proposal Writing (BIOL 6180) is taken in the spring of the second year just prior to the comprehensive exam.

The Graduate Elective Courses should be chosen to complement the student's thesis research and should be selected in collaboration with the Graduate Program Director and the Thesis Advisor. Any 5000+ level course in Biology at Boston College may be taken to fulfill this requirement. Selected courses in other departments at Boston College (e.g. Chemistry, Computer Science) may also be used to complete this requirement. In addition, many students find courses available through the [Consortium](#) via cross-registration at Boston University, Brandeis, or Tufts University that apply to their specific area of study. Cross-registration requires additional paperwork and requires approval of the hosting institution. Students may only use Consortium cross-registration for one of their two electives. Courses that are not 5000+ level Biology courses should be pre-approved by the Graduate Program Director to ensure they count toward the Graduate Elective Course requirement.

Students may receive transfer credits for up to one elective they have taken at the graduate level in the past. To transfer courses, complete the [Transfer Credit Request Form](#) and speak to the Graduate Program Director (have syllabi for the course or courses in question). Once approved, the student should meet with the Department Associate Administrator to complete the process. Note, course credits cannot be accepted by the Morrissey Graduate School if they have been applied to a previous degree (e.g. an MA or MS degree awarded elsewhere).

In addition to formal coursework required for a Ph.D. the Boston College Biology Department also offers workshops on Scientific Communication and Statistics/Bioinformatics on a recurring basis depending on departmental needs. Graduate students may be required to participate in such workshops as part of their training. Since these workshops often take place outside the standard semester (e.g. between the two semesters in January, or over the summer) every attempt to communicate timing of the workshops well in advance in order to ensure student availability.



2.4 Laboratory Rotations

All incoming Ph.D. students are expected to complete three rotations in different research groups to identify an appropriate thesis research supervisor. Each laboratory rotation is approximately 6-8 weeks in length and culminates in an 8-10 minutes presentation for the department. Laboratory rotations are an important mechanism for allowing students to develop relationships with several different faculty members, assess for interest and fit with a particular laboratory culture, and gain skills in diverse areas that may be useful during or after the Ph.D. All faculty accepting Ph.D. students will give presentations discussing their research program during the first portion of the Fall semester. Preferences for the first laboratory rotation are submitted to the Graduate Program Director following the presentations and individual assignments are assigned by the Graduate Program Director. Subsequent rotations should be discussed with individual faculty, and communicated to the Graduate Program Director. Each laboratory rotation is graded and counts as a 1-credit course. Typically, there are two laboratory rotation periods in the Fall, and one in the Spring. Students not identifying a thesis laboratory during three rotations may be allowed to complete a fourth rotation during the Spring semester in order to identify a thesis laboratory. Students must identify a thesis laboratory by the end of their first year to continue in the program.

2.5 Teaching Requirement

There is a two-semester teaching requirement that is generally fulfilled in the first year. The two-semester requirement is a key component of the overall graduate training program that allows students to refine science communication skills. Subsequently, Ph.D. students may be supported by Teaching Assistantships beyond the first year in the graduate program at the discretion of their Research Advisor and/or Thesis Guidance Committee. More information regarding Teaching Assistant Expectations can be found in Section 3.3.

2.6 Departmental Professional Development Activities

The department offers numerous venues for professional development outside of formal coursework.

2.6.1 Departmental Seminars

Departmental Research Seminars are held most Tuesdays at 3pm in Higgins 310. Seminar speakers are visiting scientists from other Institutions and occasionally from other Departments at Boston College. Seminar speakers are invited by the faculty, and talks will encompass the full range of scientific disciplines covered by the department. Seminars are an opportunity to learn from scientists outside our institution and also represent a networking opportunity for Graduate Students. Typically, each graduate



student is invited to lunch with the speaker, and there are opportunities for further interaction at the reception following the seminar. Graduate Student attendance at Departmental Seminars is generally expected at Departmental Seminars unless a student has a conflicting TA assignment.

2.6.2 Data Club

Departmental Data Clubs are 20-minute talks presented by Graduate Student and Postdoctoral members of our department typically held on Thursdays in Higgins 310. Graduate students present at Data Club each year starting in their third year. Data Club presentation dates are organized by the Graduate Program Director. Data Clubs represent an opportunity for the presenting trainee to practice science communication skills and gain alternative perspectives on their research. Student attendees also provide each speaker with peer feedback on their presentation. Graduate Students are expected to attend Data Club and provide peer feedback on a regular basis unless the student has a conflicting TA assignment.

2.6.3 Additional Departmental Programming for Graduate Students

There are numerous other groups and individuals that provide professional development activities to our graduate students. Many of these are departmental activities organized by the Diversity, Equity and Inclusion (DEI) committee, or by the faculty for development of specific communication or data analysis skills, or to enhance student access to career options. In addition to activities explicitly organized by the faculty and staff for graduate students, there are many student-organized events including the Graduate Student Association (GSA) activities, the Graduate Student Teaching Focused Committee (TFC) events, or other student groups.

2.7 Comprehensive Exam

To advance to candidacy for the doctoral degree, the student must first pass a Ph.D. Comprehensive Examination. The goal of the Ph.D. Comprehensive Exam Committee is to determine whether or not the student is sufficiently prepared to undertake and evaluate their thesis research. The Comprehensive Exam will take place no later than May 31 of the student's second year. Passing the exam is required for continuation in the Ph.D. program. The composition of the Comprehensive Exam Committee is described in detail in Section 4.3.1. In brief, two members are assigned to the student by the Graduate Program Director, and the third is selected by the student in collaboration with the Research Advisor.

The Comprehensive Examination consists of both a written component and an oral component based on the written component. The written component is a research proposal describing the student's intended thesis project and should be emailed directly



to the examination committee. The written component is due no later than two weeks before the date of the oral examination. The document needs to be no more than 10 pages in length with Arial 11 font, 0.5 inch margins, and normal character spacing. Preparation of the proposal is in the fashion described in BIOL 6180 (Scientific Proposal Writing), which students take during the Spring Semester of the second year. Within the 10-page limit, the proposal shall include a Specific Aims page and Scientific Approach. Students are encouraged, but not required, to have preliminary data in support of their proposals. Students with questions regarding the format of the proposal following the completion of BIOL 6180 should discuss them with the Graduate Program Director.

Additionally, the comprehensive exam proposal is to be completed without direct assistance from the student's Research Advisor. While students should be discussing their research regularly with the Research Advisor, they are required to generate the aims, approaches, and analyses independently. Additionally, the student's Research Advisor should not read or review the written document or formally prepare the student for the oral examination.

Scheduling the oral exam is the responsibility of the student. The student should work with the office staff to reserve a room for 3 hours. In the case that the exam will be held via electronic platform, the Chairperson of the Ph.D. Comprehensive Exam Committee will create and host the meeting. It is the student's responsibility to bring a copy of [the Doctoral Comprehensive Examination Form](#) to the meeting. The Comprehensive Exam Committee Chair will return the completed form to the Graduate Program Student Services Administrator and ensure the student receives a copy.

Before the oral exam begins, the student will be asked to leave the room so that the Ph.D. Comprehensive Exam Committee can discuss the proposal and the expectations for how the Oral Exam will proceed. For the oral exam, students should prepare a slide presentation that would take 20-25 minutes to present if there were no interruptions. However, during the oral presentation, the committee members will interject questions for the student. The questions can focus directly on the proposed work or more general knowledge that is relevant to the proposed research. These questions are aimed at determining whether the student understands previous work on which their proposed research is based, the advantages and disadvantages of their proposed experiments, the statistical analyses to be utilized, has the ability to design proper controls to generate interpretable data, and other details deemed important by the committee. A general suggestion for a presentation is about 5 minutes of background and significance and 13-18 minutes of Aims, Research Plan and Methods, and 2 minutes of timeline and concluding remarks – however, students may use different formats as appropriate.

On the basis of the written proposal presentation, the student's understanding of the proposed project, and relevant background information, the Ph.D. Comprehensive Examination Committee will vote on whether the student is qualified to advance to



Ph.D. candidacy (see committee voting rules in Section 4.3.4). There are three potential outcomes of a Comprehensive Exam: 1) Pass, 2) Conditional Pass, and 3) Fail.

If a student **Passes** the examination and has completed all other requirements for the Ph.D. degree, with the exception of the thesis and its defense, the student will be considered to have formally advanced to candidacy for the degree.

The second outcome of the Comprehensive Exam is a **Conditional Pass** in which students are given a clear description of what conditions must be met to ultimately pass the exam. The chair of the committee will provide in writing what these conditions are, and how they will be evaluated. Possible conditions could include some minor rewriting of the proposal or composing a mini-review of the literature to address a gap in a student's knowledge. If the instructions are not clear to the student, it is the student's responsibility to clarify the instructions with the Ph.D. Comprehensive Exam Committee. Students must complete the conditions within 1 calendar month of the Comprehensive Exam, and the conditional pass must be resolved by the Committee Chair within 2 calendar months of the Comprehensive Exam. A conditionally passed exam not resolved within 2 calendar months of the Comprehensive Exam reverts to a failed Comprehensive Exam.

The third outcome of the comprehensive exam is a **Fail**. Any student who fails the comprehensive exam once is given the opportunity to retake the exam. This may include re-defending the initial proposal, or preparing and defending a new proposal as deemed appropriate by the Ph.D. Comprehensive Examination Committee. The retaking of the exam must take place within six months of the initial exam, and per Morrissey Graduate School regulations may not take place during the same semester as the original exam. If a student does not pass the Ph.D. Comprehensive Examination within the limits outlined above, they will be terminated from the Ph.D. program. The Ph.D. Comprehensive Examination Committee in consultation with the Research Advisor may in such circumstances recommend that the student be offered a transfer into the M.S. Program, with sufficient and stated time limits to allow the student to reasonably complete the requirements for the M.S. degree (generally no more than the end of the following semester).

2.8 Thesis Guidance Committee Meetings

Beginning in the third year, students are required to meet at least annually with a Thesis Guidance Committee (the composition of the TGC is described in Section 4.3.2). This meeting must take place before the end of May in order for students to receive their June stipend. Therefore, it is important to plan these meetings well in advance to be sure that committee members are available to meet. Should a meeting not take place by May 31, the forfeited June stipend will not be retroactively paid once a meeting has been held. Committee meetings can generally be scheduled for two hours unless the



Student or Research Advisor anticipates a longer meeting will be necessary. One week prior to the meeting, students should distribute a summary of their accomplishments since the previous meeting, along with their upcoming goals/plans, to the committee members, and prepare to give a presentation on their research at the meeting. After the first of these meetings, these summaries and presentations should focus on work completed since the last meeting rather than a full recap of the project.

The committee is there to serve the student and act in their best interest. The committee chair is someone other than the Research Advisor. At the beginning of each thesis guidance committee meeting, the student will be asked to leave the room so that the committee can have a private discussion and solicit the Research Advisor's feedback regarding the student's development and critical areas for growth. After that, the Research Advisor will leave the room so that the committee can have a private discussion with the student to determine whether or not there are any issues that concern the student, which may best be discussed in the absence of the Research Advisor. There is no limit on what the student can discuss during this time including any personal difficulties that may be affecting the student and issues of lab dynamics or mentoring that are causing the student difficulty. This discussion is confidential and will not be relayed to the Research Advisor without the permission of the student.

It is the student's responsibility to submit a written progress report to the committee 1 week prior to the meeting, and prepare a draft of the [Thesis Guidance Committee Meeting Form](#), bring it to the meeting (or send the draft electronically to the committee chair). Following the meeting the student will also return the completed form to the Graduate Program Student Services Administrator when it is completed. The TGC Chairperson will review the summary of major accomplishments by the student since the previous meeting (or all accomplishments in the case of the first meeting) and prepare any modifications to the form drafted by the student.

At the end of the meeting, the student will be asked to leave the room again and the committee members will vote as to whether or not the student's progress is satisfactory, determine the goals for the upcoming meeting, and set a minimum time-frame for the next meeting. In the case of a vote of unsatisfactory progress, the student will be given a written list of specific goals to be met before the next meeting which must take place within six months. Should there be two consecutive meetings with a vote of unsatisfactory progress, the student will be given an option of writing up their work for a M.S. degree, but only if the committee determines that there is sufficient material to warrant an M.S. thesis. Students are encouraged to schedule committee meetings more frequently than the annual basis and should feel free to schedule any additional committee meetings, or meet informally with committee members, as they feel would increase research progress. A final committee meeting is required at which the student will be given approval to begin writing their dissertation. Once approval is given,



students should complete the dissertation no later than the following semester (exceptions require a waiver from the Graduate Program Director.)

2.9 Ph.D. Thesis and Defense

In anticipation of defending the thesis, the Student and Research Advisor will create a Ph.D. Defense Committee (See Section 4.3.3). The written dissertation must comply with [Boston College Guidelines](#). Committee members may request either an electronic pdf version of the dissertation or a hard copy, which must be distributed to the Thesis Defense Committee at least 14 days prior to the examination. Defense Committee members are required to notify the Committee Chair at least three days prior to the defense whether there are any insurmountable issues that would prevent a successful defense. If such a concern is raised, the defense will be delayed until the matter is resolved to the satisfaction of the committee members.

The defense of the dissertation will occur in two phases: **1) a public defense, followed by 2) a private defense**. At the public defense, the student will give a seminar describing their research findings (typically 45 minutes) and take questions from the audience. The private defense is only attended by the Thesis Defense Committee and the student and is typically scheduled for 2-3 hours, although not all this time may be utilized.

The private defense will begin with the student leaving the room so that the Ph.D. Defense Committee can discuss their general evaluation of the written thesis and the scope and the approach of the examination. Upon returning, the student will answer the questions of each of the Ph.D. Defense Committee Members. When the Ph.D. Defense Committee has finished asking questions, the student will leave the room again so that the Ph.D. Defense Committee can vote on whether or not the student has passed and/or whether there are any conditions that need to be fulfilled prior to passing. It is common for some final re-writing or editing to be required.

To receive the Ph.D. degree, official approval of the written dissertation by the members of the Ph.D. Defense Committee is required. Official electronically signed forms are preferred by the Morrissey Graduate School. The electronic form ([found here](#)) should be prepared by the student and circulated via official channels (e.g. Adobe e-signing) following the defense.

2.10 M.S. Degree Option for Students in the Ph.D. Program

Depending on circumstances, the student or the Graduate Program Committee may determine that a student should seek a Master of Science degree rather than continue in the Ph.D. program. This can only be done if there is sufficient research completed for the student to write and defend a research thesis within one semester of transferring out of



the Ph.D. program. While there are no specific format requirements, the requirements of the Graduate School of Arts and Sciences must be followed.

The completed M.S. thesis will be submitted to the student's Research Advisor for preliminary approval. Once approved, the thesis will be given to all members of the M.S. Thesis Defense Committee (composed of the Research Advisor and two additional faculty members selected by the student with guidance from the Research Advisor). The Chairperson of this committee will normally be the Research Advisor. The thesis will be given to all committee members no later than 14 days prior to a meeting at which the student will present, and be examined regarding the thesis.

The thesis examination will consist of questions related to the thesis, but should also test the student's general understanding of the area of biology in which the thesis work was completed. Once the examination is completed, the committee chair will communicate the results on the appropriate form to the Graduate Program Director and Graduate Program Student Services Administrator who will liaise with Associate Dean of the Morrissey Graduate School of Arts and Sciences. As stated in the Graduate School of Arts and Sciences regulations, a candidate who fails the thesis examination may take it only one more time. If the outcome is a conditional pass, the student will be instructed on what conditions must be met and the timeframe in order to pass the exam.

3. Academic Procedures and Regulations

All Ph.D. students are responsible for meeting the comprehensive degree requirements contained in the Morrissey Graduate School of Arts and Sciences Bulletin and stated herein. Any questions concerning these regulations should be addressed to the Graduate Program Director or the Department Chairperson.

3.1 Graduate Advising

The Graduate Program Director will provide general advice regarding coursework until a student has identified a Research Advisor. After that, the primary guidance will come from the Research Advisor, with input from the Thesis Guidance Committee (see Section 4.3.2). Approval from the Graduate Program Director is required for coursework outside of the standard 5000+ level offerings of the department.

3.2 Responsibilities of the Graduate Student

1st Year

- Students are encouraged to meet with their Research Advisor or the Graduate Program Director for guidance regarding course registration each semester.
- Students must successfully complete core classes.



- Students must successfully complete those courses that the Graduate Admissions Committee required the student to take to correct deficiencies in their academic record.
- Students must attend Departmental Seminars, normally held Tuesdays at 3 p.m. and Departmental Data Clubs held on Thursdays at 3 p.m.
- Students are also encouraged to sign up for lunches with seminar speakers as a way of networking with people in their scientific community.
- Students are expected to complete three lab rotations by the end of the academic first year. The purpose of lab rotations is to give students the opportunity to experience the research and research environment of a possible thesis lab. Exceptions to the required rotations are rare and must be pre-approved by the Graduate Program Director.

Obtaining a Ph.D. is an endeavor in which students are expected to select their Research Advisor and join a lab during the first year. If a student has not joined a lab by the end of the Spring semester as a full-time student in the graduate program, the student must submit a written statement to the Graduate Program Director describing the specific plans that the student has for selecting a lab. In the rare circumstance where students are admitted mid-year, students entering in the Spring semester are required to have joined a thesis lab before the start of the following Fall semester. The Graduate Program Director may meet with the student to discuss these plans.

2nd Year

- Students are to discuss course selection with their Research Advisor and the Graduate Program Director.
- Students must successfully complete the elective courses in which they enroll.
- Students must successfully complete the Biology Core Course requirements.
- Students should be actively pursuing their scholarship to make progress toward the Ph.D.
- Students must attend Departmental Seminars, normally held Tuesdays at 3 p.m. and attend Departmental Data Clubs held on Thursdays at 3 p.m.
- Students are also encouraged to sign up for lunches with seminar speakers as a way of networking with people in their scientific community.
- Students must pass their Comprehensive Exams (See Section 2.7).

3rd and Subsequent Years

- Students should be actively pursuing their scholarship to make progress toward the Ph.D.
- Students must complete any additionally required elective coursework.
- Students must present at Data Club each academic year to acquire and demonstrate oral communication skills.
- Students must attend Departmental Seminars, normally held Tuesdays at 3 p.m. and attend Departmental Data Clubs held on Thursdays at 3 p.m.
- Students are encouraged to sign up for lunches with seminar speakers as a way of networking with people in their scientific community.



- Students must meet with their Thesis Advisory Committee (See Section 2.8) at least once annually.

3.3 Grade Requirements for Good Standing

University regulations require that graduate students maintain a cumulative GPA of B (3.0) or higher in their lecture, laboratory, and seminar courses as determined at the end of each academic year. First year students are evaluated at the end of the Spring semester, in subsequent years students are evaluated at the end of the summer session.

A student whose GPA falls below a B average (3.0) will be considered to be on probation and must bring their average above 3.0 by the end of the following semester and/or summer session to be considered in good standing in the program. A student who fails to do so will be required to withdraw from the program.

In addition, a student who receives an F in a lecture, laboratory, or seminar course is considered on probation and must repeat the course or an equivalent course approved by the Graduate Program Director, with a passing grade at the next opportunity in order to potentially return to good standing. A student who receives grades of C or lower in more than eight credits of course work or whose cumulative GPA is less than 3.0 at the end of an academic year may be required to withdraw from the Biology Graduate Program.

Records of students on probation will be evaluated each semester by the Graduate Program Director in consultation with the student's Research Advisor to determine how the deficiency may be corrected, whether the student will continue to receive departmental financial support, and whether to recommend continuation in or termination from the program. If a student is not in good standing and does not have a Research Advisor, the Graduate Program Director will evaluate the student in consultation with the Department Chairperson to determine appropriate action.

At the end of the Spring semester of the first year, all first-year Ph.D. students will be reviewed at a meeting of the tenure-track faculty to determine whether their progress in the program is satisfactory (i.e., completion of expected core courses, maintenance of a >3.0 GPA, identification of a Ph.D. lab, suitable effort in their TA assignments, attendance at Departmental Seminars and Data Clubs). If any deficiencies are noted, the student will be either required to leave the program or placed on probation. In instances where the student is placed on probation, they will be provided with oral and written instructions on how to address the deficiencies and return to good standing.



3.4 Teaching Assistant Responsibilities

As outlined in Section 2.5 there is a two-semester teaching requirement for the Ph.D. Teaching assignments are jointly determined by the Director of Undergraduate Programs and the Graduate Program Director. The goal is to announce assignments at least two weeks before the start of the semester, however there are times when individual assignments are delayed. The Department strives to achieve equitable teaching assignments for graduate students during their time at Boston College, therefore requests for specific teaching assignments generally cannot be honored. University requirements state that up to 20 hours/week of departmental service may be required of Ph.D. students supported as a TA. Instructional duties of TA's may include grading, proctoring scheduled exams/quizzes, proctoring make-up exams, holding office hours, and answering student questions via e-mail or other electronic means. In addition to duties to the specific assigned instructor, all Biology Department TAs have additional proctoring responsibilities that are organized by the Biology Office Staff each semester. As in any matter of concern to a graduate student, if an issue arises with regard to the TA assignment and expectations, students should bring the matter to the attention of the Graduate Program Director.

3.5 Research Expectations

Obtaining a Ph.D. is an endeavor that is fundamentally distinct from obtaining an undergraduate degree. The Learning Outcomes of the program are largely acquired not through the formal coursework, but ultimately via apprenticeship within a research group. It is only through conducting research that students can acquire these skills and demonstrate achievement of the Learning Outcomes to graduate. Therefore, it is expected students will dedicate significant effort and time toward acquiring and demonstrating the skills of a scientific researcher via active research. Morrissey Graduate School policies specifically prohibit students from working more than 9 hours/week in addition to the hours required for the full-time stipend.

Time spent in the laboratory constitutes important professional development. Students are provided a stipend that is intended to support the students' full-time commitment to their scholarship. The stipend may be supported by either a Teaching Assistantship (see Section 3.3) or a Research Assistantship. Students supported by Teaching Assistantships have duties to the department to be assigned each semester. Students supported by Research Assistantships may have specific obligations to the funding agency. Morrissey Graduate School of Arts and Sciences policies specifically prohibit students from working more than 9 hours/week at Boston College outside of the department. Students away from the university for a significant time due to immigration restrictions are expected to continue to work with their Research Advisors to maintain active scholarship so that full-time student status can be protected.



3.6 Departmental Limits on Time to Degree

All Ph.D. students are allowed eight years after matriculation into the program (rather than after advancement to candidacy) to complete the requirements for the degree. After seven years, students may no longer be eligible for Teaching Assistantships. Students may be supported by outside funding sources, such as external funding obtained by the Research Advisor, or by independently obtained Fellowships. At the end of the eighth year, a student may petition the Associate Dean of the Morrissey Graduate School of Arts and Sciences for a terminal, one-year extension to complete their degree. As long as a graduate student remains registered and in good standing, they are eligible for tuition remission.

3.7 Leave of Absence Policy

The University provides guidelines and procedures for various types of leaves. Students seeking a leave of absence should refer to the Morrissey College of Arts & Sciences [Policies and Procedures](#) page for guidance. Students anticipating a need for significant time away from their responsibilities should consult with the Graduate Program Advisor and their Research Advisor to assess whether a Leave of Absence is an appropriate reason.

3.8 Withdrawal from the Program

Formal withdrawal from the Ph.D. program requires the completion of a form provided by the Morrissey College of Arts & Sciences Graduate School.

3.9 Additional Morrissey Graduate School of Arts and Sciences Policies

Morrissey Graduate School has many specific academic policies that are not repeated here. These policies are outlined on the Morrissey Graduate School [webpage](#), and include: academic integrity, academic standing and evaluation of progress, academic grievances, childbirth and adoption accommodation policy, dissertation submission, doctoral program policies, grading, graduate student hours, incomplete and deferred grades, leaves of absence, pass/fail options, time to degree, and transfer of credit.

4. Committees Serving the Graduate Program

There are a number of different departmental committees serving the graduate program. The composition and responsibilities of each committee are outlined below.



4.1 Graduate Admissions Committee

A Graduate Admissions Committee, whose membership is determined by the Department Chairperson, is tasked with evaluating, admitting, and recruiting new students into the Biology Department Ph.D. Program. The duties of this committee include:

- Reviewing each entering student's academic record and background, and professional goals.
- Determining if the student has any specific academic deficiencies, which must be corrected as a condition of acceptance.
- Recommending selected entering students for special fellowships and awards.

4.2 Graduate Program Committee

A Graduate Program Committee, whose membership is determined by the Department Chairperson, is tasked with evaluating and updating policies of the Graduate Program. The committee will be composed of the Department Chairperson, the Graduate Program Director, the Associate Director of the Biology Department, at least one additional faculty member in the graduate program, and a graduate student representative elected by their peers to serve as an Academic Liaison. The Academic Liaison will be a graduate student in good standing that has passed the comprehensive exam.

4.3 Individual Student Committees

There are several committees that shepherd a Ph.D. student through the Biology Graduate Program. While the committees have different names to reflect their different functions, there is usually a substantial continuum of faculty membership. The committees are described in detail below. For clarity, they are briefly summarized here in their order of appearance in each student's training.

4.3.1 Ph.D. Comprehensive Exam Committee

The initial committee tasked with guiding the student is the Ph.D. Comprehensive Exam Committee. This committee consists of three individuals, two of whom are assigned by the Department (Graduate Program Director in consultation with the Chairperson). After receiving the assignment, the Student, in consultation with their Research Advisor, will select a third Ph.D. Comprehensive Examination Committee member. Faculty are not obligated to serve on more than four Comprehensive Examination Committees annually.



4.3.2 Thesis Guidance Committee

The role of the Thesis Guidance Committee is to assist and advise the student to define and achieve their goals relative to completing the Ph.D. Students must have their first TGC meeting before the end of the academic third year, and meet at least once annually until their Ph.D. Defense. The TGC is not an examination committee, but rather an advisory committee that students should use as a resource. Students are therefore encouraged to meet with these faculty members regularly, both formally and informally, to gain the most from their time at Boston College. While students are required to meet with the TGC at least once a year, this is a minimum requirement, and additional meetings can be requested. Students can also seek advice or feedback from individual committee members at any time.

The Thesis Guidance Committee consists of three or more faculty members (the student's Research Advisor and at least two other faculty members) who advise the student beginning in the third year. At least one member of the TGC must be of a rank equal to or higher than that of the Research Advisor. At least one member of the committee should be selected that has no obvious conflict of interest that could potentially affect their ability to objectively advise the student (Co-PI on a grant or other financial arrangement involving the Research Advisor, frequent co-authorships, etc.). Faculty members outside of the Biology Department and even the University may serve as members, but in addition to the Research Advisor, two of the members should be Biology Department Faculty.

Members of the TGC can change over the course of a Ph.D. If a Graduate Student in collaboration with their Research Advisor decides that a particular faculty member is no longer a good match for the project, they may be replaced after consultation with the Graduate Program Director and the Department Chair.

The TGC Chairperson is selected at the first meeting and is someone other than the student's Research Advisor. The TGC chairperson responsibilities include:

- Calling all TGC meetings to order.
- Ensuring individual confidential discussions with the Research Advisor and the Student take place at the beginning of the meeting.
- Keeping notes on the meeting and for completing the TGC meeting form.
- In the event that the TGC meeting must be held online, the TGC chairperson should generate the link and act as “host”.

4.3.3 Ph.D. Defense Committee

The Ph.D. Defense Committee is composed of the Thesis Guidance Committee plus additional internal or external faculty members to bring the committee to five members. The Ph.D. candidate will defend the thesis with a public seminar-style presentation,



followed by a private oral examination. The student's Thesis Guidance Committee Chair will serve as the Chair of the Ph.D. Defense Committee.

Duties of the Chairperson include:

- Contacting each of the Ph.D. Defense Committee members 3 days prior to the scheduled defense requesting that any members raise any serious concerns regarding the suitability of the thesis for defense.
- Calling the Defense to order and ensuring that proper protocols regarding private discussions and voting are followed.
- Setting the order by which the questioning of the Student will proceed.
- In the event that the Examination is held remotely, establishing an online meeting and acting as host.

4.3.4 Voting Rules for Student Committees

Voting options, when voting is required, are pass or fail. In some cases, a passing vote may include conditions that must be met by the student. Committees should strive in each case to reach a unanimous decision. However, if this is not possible, the rule shall be that if more than one member of any of the above committees votes fail, then the student will be considered to have failed to complete the requirement being addressed by the committee. In the case of a divided vote, the student may appeal the decision to the Graduate Program Director and Department Chair.

5. Graduate Student Resources

There are numerous resources within both the Biology Department and Boston College to support graduate student scholarship and well-being. The resources below are the

5.1 Graduate Student Life and Student Organizations:

5.1.1 Graduate Student Association

The Graduate Student Association (GSA) is dedicated to cultivating a community among graduate students through engaging events. GSA strives to create a supportive platform that promotes collaboration, professional development, and lasting relationships among graduate students. Two elected positions are the President and Treasurer with duties including in and out of department event planning, with the president focusing on department communication/coordination and treasurer handling financials. President and treasurer are also included in the planning of the incoming graduate student Open House/interview day.



5.1.2 Biology Department Diversity Equity and Inclusion Committee

The Biology Department DEI Committee emphasizes the importance of fostering a diverse and supportive environment for all its students, staff, and faculty. The committee works to create and sustain a community that is not only welcoming and inclusive but also implements strategies to ensure equity in recruiting and treating all members. Throughout the year the committee organizes newsletters, workshops, and panel discussions to provide students with the tools to succeed in academia that are not typically available from in-class or lab instruction. These activities include professional development guidance, tools to address inequity and bias in academia, and strategies to promote mental health. In case of any concerns regarding DEI, students are encouraged to approach the office of Dr. Patricia Lowe (patricia.lowe@bc.edu), Associate Vice President, Office of Institutional Diversity at Boston College. Boston College also provides University Counseling Services for students who need personal counseling and psychotherapy (tel: 617-552-3310).

5.1.3 Departmental Graduate Student Interest Groups

Teaching Forward Cohort

The Teaching Forward Cohort (TFC) is a group of graduate students throughout STEM fields here at Boston College that are encouraging of and passionate towards the promotion of well-rounded and inclusive pedagogical opportunities here at BC for those who see themselves entering a career within teaching-focused areas of higher education. We achieve these goals through the invitation of guest speakers in this field, hosting of research and technical seminars for BC undergraduates, and through the support of the Center for Teaching Excellence, with the greater hope for implementation of versatile, independent teaching opportunities within the BC and Woods College catalog.

Graduate and Postdoctoral Journal Club

The Graduate and Postdoctoral Journal Club is a graduate student lead journal club within the Biology Department at Boston College. Through informal discussions and exploration of cutting-edge research, we aim to cultivate a learning environment that enriches our understanding of a diverse biological community, encourages academic growth, and a community among Biology graduate students and postdoctoral fellows.

Science on Tap!

Science on Tap! is a summer seminar series sponsored by the Biology Department and run by graduate students. This series highlights the work of early-career scientists (graduate students, postdoctoral researchers, and technicians) from institutions in the Greater Boston area with the mission to provide a platform for early-career scientists to present their work and engage with their peers in a relaxed environment. The seminars



help stimulate interdisciplinary discussion and collaboration between attendees and researchers from local institutions. Since 2016, over 60 speakers have presented their work across a broad range of topics, from ecology to biochemistry to cell biology, and more!

5.2 Boston College Offices Supporting Students:

5.2.1 Office of Graduate Student Life

Graduate students are served by the [Office of Graduate Student life](#). This office acts to connect Graduate students with services, support and opportunities at Boston College including information on Health and Wellness, Living in Boston (Shuttle, Parking, Off-campus housing), Career Services, and Academic Support.

5.2.2 Office of International Students and Scholars

International students studying at Boston College are supported by the [Office of International Students and Scholars](#) (OISS). OISS provides important information regarding US immigration policies for students at BC including providing the institutional forms required for International Students

5.2.3 Travel Policies

International Travel

All professional University International Travel for students and faculty must be registered in the Boston College Travel Registry. Information regarding whether a specific trip falls under the University International Travel Policy please see the [Global Engagement Gateway](#).

Graduate Student Conference Travel Funding

The Morrissey College of Arts and Sciences provides funding [toward one conference per year](#) for each graduate student. This funding is typically supplemented with funds from the Research Advisors external grants or departmental funding. Prior to travel, please discuss what expenses are allowed, and what documentation must be provided in order to be reimbursed with the Graduate Program Student Services Administrator.



5.3 Boston College Offices Supporting Research, Scholarship, and Teaching

5.3.1 Environmental Health and Safety:

The office of [Environmental Health and Safety](#) (EH&S) implements environmental and occupational health and safety programs and ensures compliance with governmental regulations. EH&S is responsible for the general laboratory safety training requirements for all students, as well as tracks training for Biological Safety, Radiation Safety, Chemical Safety, and Radiation Safety as needed by individual students. Furthermore, EH&S is an important resource for information regarding chemical storage and disposal, spill cleanup, and safe packaging for shipment.

5.3.2 Research Support at Boston College

There are numerous other entities that support scientific research at Boston College. These are best outlined by the [Vice Provost for Research \(VPR\) Office](#), and include the Office of Sponsored Programs ([OSP](#)), Office of Research Protections ([ORP](#)), Office of Research Security, Integrity and Compliance ([RISC](#)), and the Office of Technology Transfer and Licensing ([OTTL](#)). These offices assist with external grant applications, IRB and IACUC authorizations, import/export controls, and intellectual property management.

5.3.3 Center for Teaching Excellence

The Boston College [Center for Teaching Excellence](#) (CTE) supports Boston College instructors of all career stages, including graduate students. In addition to workshops on specific topics (e.g. digital learning resources), the CTE also provides formal programing geared toward graduate students and postdoctoral fellows. These include the [Apprenticeship in College Teaching](#) (ACT), the [Teaching Assistant and Teaching Fellow Orientation](#), as well as resources for [Teaching Philosophy and Teaching Portfolio Development](#). The CTE also hosts the Graduate Student Teaching Recognition Ceremony which formally recognizes the winners of the Donald J. White Teaching Excellence Awards, as well as graduates from the ACT program.



6. Ph.D. Program Data

6.1 Time to Degree

The average time to degree for 61 students who graduated between 2010 and 2019 was 5.8 years.

6.2 Publications

Although not a strict Program Requirement, there is a very high expectation that all students will publish their thesis work in scientific journals. However, individual Research Advisors may require submission/publication of first-author papers as a requirement of completing the Ph.D. With very few exceptions, all students do author or co-author papers, with an average of 3-5 papers/student. These numbers vary from student to student based on the nature of the projects involved.

6.3 Recent Placements: (2020-2024)

Year	Placement Upon Graduation
2024	Postdoctoral Scholar (Julius Maximilians University of Wurzburg, Germany)
2023	Professor of the Practice (Wheaton College)
2023	Postdoctoral Scholar (Broad Institute of M.I.T. and Harvard)
2022	U.S. Army
2021	Associate Medical Publication Manager (Excerpta Medica BV- Adelphi Group)
2021	Computational Biologist (Day Zero Diagnostics)
2020	Senior Data Engineer (Bristol Myers Squibb)
2020	Technologist Specialist (Clark and Elbing LLP)
2020	Postdoctoral Scholar (Center for Genome Medicine, MGH)
2020	Production Scientist (New England Biolabs)
2020	Postdoctoral Scholar (University of California San Francisco School of Medicine)

