PH.D. PROGRAM REQUIREMENTS

OVERVIEW & LEARNING OUTCOMES
The Biology PhD program at Clark University trains students to become independent researchers and academic leaders in a broad range of biological subdisciplines. The program is research focused under the mentorship of a faculty member in Biology. This document outlines the timeline for completion of the program, program requirements, and policies regarding good standing in the program. It outlines the responsibilities of students in the program and of faculty.

Given the breadth of research interests in the department, the program’s learning outcomes are general and cross-disciplinary as opposed to content-specific. There are four learning outcomes:
1. Students should be broadly trained, with expertise in a specific biological discipline.
2. Students should be capable of planning and executing independent research.
3. Students should be able to communicate their research effectively to diverse audiences.
4. Students should develop skills as science educators.

The program requirements map on to all of these learning outcomes.

TIMELINE
The basic timeline for the program follows. Each milestone is described in detail in the “PROGRAM REQUIREMENTS” section.

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<th>Item</th>
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<td>Initial Advisory Committee Meeting</td>
<td>Must be completed by end of 1st year in program</td>
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<td>1 or 2</td>
<td>Science Careers Course</td>
<td>Must be taken in first two years of program</td>
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<td>2</td>
<td>Qualifying Exam</td>
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<td>2</td>
<td>Recruit External Member to Advisory Committee</td>
<td>External member not required for Qualifying Exam, but is required for subsequent milestones</td>
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<td>3</td>
<td>Departmental Seminar</td>
<td>Full length departmental seminar</td>
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<td>3</td>
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<td>4-6</td>
<td>Annual Committee Meeting</td>
<td>There should be an annual committee meeting during years when other milestones are not done</td>
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<td>4-6</td>
<td>Dissertation Defense</td>
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<td>7</td>
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<td>Students may petition the department for a one year extension</td>
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PROGRAM REQUIREMENTS
This section lists and describes all program requirements, including the milestones listed in the timeline.

Course Work
1. Students are required to complete at least 16 units of study in residence. The time necessary for the completion of the degree means that students ultimately enroll in excess of this minimum.
2. Students must enroll in four units of study in each of the fall and spring semesters. They must enroll in:
a. One unit of Biol 350 – Research Seminar course. This course comprises departmental seminars held approximately on alternating Wednesdays throughout the academic year. Each seminar is an hour-long talk given by invited researchers, department professors, and graduate students (third-year seminars). Students also participate in the Bumpus Symposium, which is a showcase of Biology graduate student research. Students are required to present either a poster or a ~15 minute oral presentation. The symposium is normally held the first Wednesday of the fall semester.

b. One to three units (as necessary to result in four units total) of one of three PhD courses based on where they are in their program: Biol 317 Research, Biol 385 Proposal Writing or Biol 394 Dissertation Writing. Students should register in the section of these courses attached to their faculty advisor’s name. Contact the program assistant if this section is not available.

c. Students may register for other graduate-level courses, with permission from their faculty advisor.

d. During one of the first two years of their program, student must register for Biol 390 Science Careers & Effective Practice, which is typically offered every other year during the Spring semester. Students with experience in grant writing and/or publication of manuscripts may request that the Biology Graduate Studies Committee waive this requirement.

3. Students must also register in Biol 317 Research during the summer, as an expectation of the program is that they work on their dissertation research during the summer.

4. All courses must be passed with a minimum of a B-. Grades lower than B- will not be counted toward the degree, and students who accumulate more than two grades lower than B- will not be allowed to continue in the program.

Teaching

- Students must teach as a teaching assistant for at least two semesters during their program.

Faculty Advisor & Advisory Committee

- During their first year of study, students must assemble their advisory committee and have their first advisory committee meeting. This must be done by end of the first year (12 months) in the program.

- For their primary advisor, student may elect to work with any member of the full-time, tenure-track Department faculty, excluding adjunct and affiliate faculty.

- The committee must comprise of the student’s advisor (chair), plus two other faculty members in the Biology Department (including adjunct), and an external member (external to the University). The three members of the advisory committee from the Biology Department must have professional standing beyond the postdoctoral level. The external committee member must be beyond the PhD level. The external member should be selected during the second year of the program, does not need to participate in the qualifying exam, but does need to participate in the proposal defense and the dissertation defense. The external member should also attend any annual committee meetings after the second year (this may be done remotely, but attended synchronously). The advisor may invite additional scholars from within or external
to the University to join the advisory committee, but three members of the Biology Department and one external member are a minimum.

- The advisor submits the composition of the proposed Advisory Committee to the Chair of the Biology Graduate Studies Committee, who appoints the committee.
- A doctoral student is unable to continue in the program without a faculty advisor. In the event that a doctoral student lacks a faculty advisor, the period of transition between advisors is expected to last no longer than one month. In the event that the student is unable to find a faculty advisor within one month, the Chair of the Biology Graduate Studies Committee will convene a meeting of the departmental faculty with the purpose of determining whether the student be allowed to continue in the graduate program.

Qualifying Exam
- The qualifying exam must be completed by the end of the second year in the program.
- It consists of a series of written examinations on specific subject areas administered by each individual Advisory Committee member, followed by an oral examination with the Committee members on the same subjects, as well as general subjects in Biology.
- The Advisory Committee will decide whether the student passes or fails. Students who fail the qualifying examination may, at the discretion of the Advisory Committee, be given one additional opportunity to take the examination, or may be required to leave the Ph.D. program. Students who fail the qualifying examination twice will be required to leave the program. Students may complete a master’s thesis at this point, with the approval of the Advisory Committee.

Departmental Seminar
- The departmental seminar must be completed by the end of the third year in the program.
- This is a full length, one hour long seminar, including questions from the audience.
- The subject should be the student’s research. Preliminary data/results are encouraged but not required. The proposal defense may be done in conjunction with the departmental seminar, but this is not required.

Proposal Defense
- The proposal defense must also be completed by the end of the third year in the program.
- It consists of an oral examination by the Advisory Committee after submission of a written research proposal.
- The written proposal must be given to the Advisory Committee at least three weeks prior to the scheduled oral examination.
- There is no requirement to prepare a presentation for the proposal defense, unless it is done in conjunction with the departmental seminar.

Annual Advisory Committee Meetings
- It is expected that the student arranges an annual Advisory Committee meeting to discuss progress toward milestones and completion of the program.
- An annual meeting is not required in years when other milestones are completed. The qualifying exam and proposal defense serve in lieu of the annual meeting.
**Dissertation & Defense**
- A written dissertation and the oral defense, including a departmental seminar, must be completed by the end of the seventh year of the program.
- The dissertation in written under the supervision of the student’s faculty advisor and is based on the student’s original research.
- The departmental seminar is a full-length, one hour (including questions) seminar that is open to the public.
- The oral defense is closed to the public, consisting of the student and their Advisory Committee.
- A copy of the dissertation in final format must be approved by the student’s advisor and submitted to each member of the Advisory Committee at least three weeks before the scheduled defense.
- The dissertation defense must be done at least six months after the proposal defense.

**POLICIES REGARDING ACADEMIC STANDING**

**Maintaining good standing**
- A student will be considered in good academic standing if they pass all their courses (grade of B- or better) AND if all milestones and requirements are completed by August 31 of the specified year in their program.
- If the student does not complete the milestones and requirements by the end of the specified year, the student’s good standing will lapse.

**Evaluation of good standing**
- A letter will be sent to students at the end of each year from when they started, normally at the beginning of September, indicating their standing. If good standing is lapsed, the letter will describe the implications of this and how good standing may be regained.

**Implications for a lapse in good standing**
- The student will be ineligible for spending graduate student research funds from the department.
- The student will also be ineligible for graduate student conference travel awards from the department.
- It is required that the missed milestone be completed by the end of the lapsed year (one year after the original milestone deadline). Note that this does not then extend the timeline on subsequent milestones.
- Students that started the program off-cycle are encouraged to get on the cycle with their cohort, but are given the same amount of time as other students to satisfy milestones.
- A milestone that is not completed by one year after the milestone deadline (when the student is not in good standing) results in dismissal from the Ph.D. program (extension may be granted by a petition, see “Petitions” section below).
- When good standing lapses, students and their faculty mentors must set up a meeting of the advisory committee to formulate a plan for progress towards re-establishing and maintaining good standing within one month of the annual progress letter. Following this meeting, faculty
mentors must send an e-mail to the student, the Chair of the Biology Graduate Studies Committee, and the Program Assistant describing the plan to re-establish good standing.

Petitions
- Students can petition the Biology Graduate Studies Committee in writing to maintain eligibility for departmental funds. The petition must describe extenuating circumstances leading to the lapse of good standing, and a timeline for re-establishing good standing.
- Students can also petition the Biology Graduate Studies Committee in writing to stay in the PhD Program if more than a year of lapse of good standing has elapsed or seven years in the program have elapsed. In this case, the petition must describe the plan formulated with the Advisory Committee for re-establishing and maintaining good standing and completion of milestone(s) after a year of not being in good standing. This petition is then circulated to full time tenure track Biology faculty and a decision about allowing a student to continue in the PhD program is done by majority vote of the faculty.

Dismissal from the PhD Program
- Students whose good standing has lapsed for more than one year, and who have not successfully petitioned the Biology Graduate Studies Committee for an extension, will be dismissed from the program.
- The decision will be made by majority vote of the Biology Faculty.
- Dismissal may include the conferral of a Master’s degree, pending satisfactory completion of work recommended by the Advisory Committee and agreement by the student (such as a dissertation proposal or master’s thesis).
- The advisor/committee are not obligated to accept work for a MA degree. Appeals against dismissal should be addressed to the Dean of the Graduate School, following the procedure as stated in the academic catalog.

TIME LIMITS
- Students must complete the requirements within seven years of active enrollment. Approved leaves of absence do not count against the time limit, but time spent in non-resident status does.
- Students who will not finish the degree requirements within the time allotted may request an extension of time to complete those requirements by petition.
- Such requests normally will be for no more than one academic year.
- Petitions should include a timeline for completion of the degree requirements and must be approved by Faculty Advisor and the department before submission to the Dean of Research and Graduate Studies for final approval.
- Typically, only one extension of time will be granted. In extenuating circumstances, a second extension may be approved following the same procedure as the first.
- Parental, medical, or other personal leave does not negatively impact a student’s standing. If on leave, the timeline for milestone completion is extended accordingly. In these cases, students must be proactive in requesting and taking leave as appropriate. Retroactive leaves will not be granted.
- International students will need to fill out a Graduate Student Program Extension if remaining after five years (see link: https://www.clarku.edu/offices/isko/resources/forms-for-students-scholars/)
FACULTY RESPONSIBILITIES
Faculty play a key role in mentoring PhD students to succeed, and this includes facilitating timely completion of milestones and maintaining transparent communication between the Advisory Committee and both the student and Biology Graduate Studies Committee.

Communicating with student and Graduate Studies Committee
- After each milestone (with the exception of the departmental seminar, which is public) is completed, the faculty advisor should compose an e-mail describing the outcome of the milestone and send it to the student, the Chair of the Biology Graduate Studies Committee, and the Graduate Program Assistant.
- The e-mail should identify the milestone, date of completion, the outcome, and any recommendations made by the Advisory Committee for the student. Recommendations might include conditional passes, requirement to take a course, further assignments, suggestions for succeeding with future milestones, etc.
- Importantly, this e-mail serves as a record for the student, faculty advisor, Advisory Committee and department of expectations, successes and challenges going forward.

Facilitate scheduling of milestones
- Ensuring on-time completion of milestones is a shared responsibility of PhD student and faculty advisor.
- Faculty advisors should facilitate the completion of milestones through effective mentoring and support in scheduling Advisory Committee meetings. Faculty advisors are also expected to mentor the student in finding an external committee member in the student’s second year of the PhD program.
- Faculty serving on Advisory Committees have a responsibility to facilitate completion of milestones by making time for scheduling of milestones.
  - Faculty should reply to student requests within a reasonable amount of time, usually less than a week.
  - Faculty must provide feedback on qualifying exam essays within two weeks of receiving them, including whether any responses need to be revised.
  - Faculty must allow for scheduling of Advisory Committee meetings, qualifying oral exams, proposal defenses, and dissertation defenses within one month of receiving the request, two months in the summer or while on leave if they remain on an Advisory Committee.
  - It is reasonable, based on discussions between the PhD student and faculty advisor, to replace an Advisory Committee member that is on leave or unable to schedule milestone meetings within a reasonable amount of time. In such an event, the Chair of the Biology Graduate Studies Committee and Program Assistant should be notified of the change in Advisory Committee membership.