

RULES, REGULATIONS, AND POLICIES FOR THE BIOLOGY GRADUATE PROGRAM

(ORIGINALLY COMPILED AUGUST 1984, UPDATED FALL 2023)

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This document presents specific rules and regulations of the Biology Graduate Program, supplementing the more general requirements detailed in the UK Graduate Bulletin. It is essential that all students and faculty be familiar with the information contained in each.

I. An Overview of the Requirements

A. Coursework and Degree Specific Requirements

Ph.D.: The essential requirement for the Ph.D. degree is demonstration of the candidate's ability to formulate, carry out, and communicate research in the forefront of an area of biology. This involves execution of a research project under the direction of a member of the Biology Graduate Faculty and a Thesis Committee, completion of coursework deemed necessary by that committee, and completion and final defense of a dissertation on the research project. Great importance accrues to the selection by the student of a major professor early in the student's graduate training. In addition to the above general requirement, a few specific and uniform requirements for the Ph.D. degree include: successful completion of written and oral qualifying examinations (see section IV), a public talk during the fourth year in the graduate program (see section IX), a manuscript under review, in press, or published (see section X), public presentation of the dissertation research and completion of the following coursework requirements (**Approved March 2023, to take effect for the Fall 2023 entering class**):

Completion of 36 credit hours is needed to become eligible to sit for the QE exam.

Required: BIO 600, Biology Graduate Student Orientation

Required: Graduate Level Statistics Course

Required Seminars: Three BIO 770 seminars

*Current Research in Biology (Tuesday Seminar) can only count once for this requirement

Core Courses: Pick at least 3

BIO 520: Bioinformatics

BIO 540: Data Wrangling and Visualization

BIO 602: Practical Microscopy

BIO 507: Sleep and Circadian Rhythms

BIO 610: Advanced Vertebrate Endocrinology

BIO 647: Advanced Sensory Neurobiology

BIO 650: Animal Physiology Lab

BIO 608: Behavioral Ecology

BIO 618: Ecological Genetics

BIO 527: Stem Cells, Tissue Engineering and Regeneration

BIO 604: Advanced Genetics

BIO 629: Developmental Biology

BIO XXX: Macroevolution

BIO XXX: Advanced Ecology

BIO XXX: Advanced Neuroscience

**Petitions for course substitutions can be made to the DGS.

***Students entering the program with a M.S. degree from another regionally-accredited university or the University of Kentucky can apply up to 18 credits to their Ph.D. coursework upon request to and approval by the graduate school.

MSA: The thesis-based M.S. (Plan A) degree (hereupon MSA) in Biology requires the satisfactory completion of a research project, supplemented by at least 30 credits of graduate coursework. Emphasis is placed on preparing the student for subsequent doctoral training, should they decide to continue graduate work.

Coursework requirement (30 credit hours total):

- i. 3 x 770 credits
- ii. 12 credits must be 600-700 level courses (including 3 x 770 credits)
- iii. 16 credits must be regular (non research or residency) courses
- iv. 16 credits must have BIO prefix courses
- v. up to 14 credits of BIO 795

MSB: Non-thesis (Plan B) Master's students in Biology (hereupon MSB) must fulfill the general requirements for the MSB degree as outlined by the Graduate School and current Biology department requirements of all graduate students. Students must take 30 hours with the same distributions as required by the graduate school and must pass an exit oral exam during their final semester.

Coursework requirements (30 credit hours):

- i. 3 x 770 credits
- ii. 15 credits must be 600-700 level courses (including 3 x 770 credits)
- iii. 20 credits must be regular (non research or residency) courses
- iv. 20 credits must have BIO prefix courses

B. Committees

i. PhD Committee: The committee has a core of four members. This core must include three faculty members from the Biology department (with one being the major professor/mentor as chair or co-chair), and one representative from outside the Biology department. Students wanting to form a committee with less than three members of the Biology Department Graduate Faculty may petition the DGS for approval. All members of the core committee must be members of the Graduate Faculty of the University of Kentucky and three (including the major professor) must possess full Graduate Faculty status. Faculty members from other institutions may serve on dissertation committees if they meet the requirements for appointment as associate members of the UK Graduate faculty. This requires a full vote by the Biology Graduate Faculty after review of the potential committee member's CV.

ii. MS Committees: The committee consists of at least three faculty members who are members of the Graduate Faculty, and at least one of the members must be a full member of the Graduate Faculty. At least two members of the committee must be members of the Biology department. Students wanting a non-graduate faculty may petition the DGS for approval which is subject to approval by the graduate school.

*Both the PhD and MS Committees will be referred to as *thesis committees* throughout the rest of the document.

C. Qualifying Exam (Ph.D. Students)

Students must take their qualifying exam during the third year in the PhD program or petition the Director of Graduate Studies in writing for a delay. The qualifying exam is composed of a written and oral exam. The format of the written exam can vary from student to student, which allows for flexibility within the standard norms of the student's subfield of Biology. Students should consult their advisor and dissertation committee in advance of scheduling the qualifying exam to agree upon the format of the written portion of the exam. The graduate school must be notified at least two weeks in advance of the oral examination. If the student fails the qualifying exam (by 2 or more faculty members providing a failing grade) they are given the opportunity for re-examination. The re-examination cannot occur any sooner than 4 months after the first exam and must occur within one year. If the student fails the exam a second time they will be dismissed from the program. Students must take their qualifying exam during the third year in the PhD program or petition the Director of Graduate Studies in writing for a delay.

II. Admissions (Revised May 2019)

A. Ph.D. and MSA

All students admitted to the Ph.D. program are expected to be highly motivated individuals with good communication skills and well-defined career goals focused on biological research.

Students admitted to the Ph.D. and MSA programs must meet the Graduate School's minimum requirements, have evidence of academic achievement based on prior coursework, and favorable research potential as determined from written statements provided with the application and from a minimum of 3 letters of recommendation. Of particular value are reports of completed research projects and/or descriptions of participation in ongoing projects.

B. MSB

Admission into the MSB program is a separate process from the Ph.D. and MSA programs. Students must have:

- i. An undergraduate GPA of 3.0 or higher
- ii. Two letters of reference that attest to their qualities as a student,
- iii. A personal statement that explains how a non-thesis Masters' from our department will fit into the applicant's subsequent career plans.

Accepted students enter into the Plan B program with the following stipulations:

- i. Plan B students are accepted into the program with no offer of financial aid,
- ii. Plan B students may serve as Teaching Assistants in Biology courses if they are qualified but are given a lower priority than Plan A MS and Ph.D. students in good standing (see section V below).

C. Ph.D. Direct Admission or Departmental Rotations

The Biology Graduate Program allows incoming PhD students to enter a faculty member's advisership immediately (direct admission) or to rotate among several potential advisors prior to agreed upon advisor assignment.

It is important that prospective students understand the potential for doing rotations early on but also realize some of the likely restrictions. Students cannot assume that every lab is available to them for a rotation. Faculty members similarly must be explicit with prospective students about the availability of space for doing a rotation as early as possible in the recruiting process.

The following are guidelines that the GAC will follow upon admitting rotation students into the PhD program.

- i. Before a prospect is invited to visit, whether or not they are considering rotating should be determined. The prospect does not have to decide at this point, but if they are considering rotations, then with who (faculty mentor) should be a topic of discussion as early as possible. The goal of such discussions is that a visiting prospective should meet with as many potential rotation advisors as can be arranged. At this point, an expression of interest by a faculty member is not a commitment to that student.
- ii. The issue of rotations will be an important element of the decision to admit. The GAC will not use it per se as a criteria, but it will admit a potentially rotating student only if 2 or more faculty have expressed interest, in writing to the DGS, in being an advisor to said rotation student. Such interest is at this stage a commitment to seriously consider becoming the student's major advisor after they have completed a rotation in the faculty member's lab. Faculty members have a responsibility to be explicit about available space and resources during the admissions process. Faculty members can change their minds based on a change in circumstances in their groups or given interactions with said student, but this must be done with adequate communication with the DGS/GAC and the student in a timely fashion.

III. Good Standing and Progress Towards Degree

Students entering the Biology department will fall into one of the following categories: Ph.D. student: direct admit, Ph.D. student: rotation, MSA student (all direct admits), or MSB student.

Good Standing and Progress Towards the Degree varies between the Biology Graduate Degrees, however there are certain factors common to all degrees. A minimum GPA of 3.0 is required to be in Good Standing in the Biology Department and Graduate School. Regular attendance at Department Seminars (unless there is a conflict with TA assignment or class assignment) is also a consideration for good standing. Specific details for the individual degree programs are outlined below.

All students not previously employed by UK are required to complete a criminal history background check. International students (or others) with proof of recent US criminal background checks do not need to repeat this procedure. Details on this process can be obtained in the Biology office.

International Students from countries where English is not the primary language must complete the International Teaching Assistant (ITA) screen if seeking support as a teaching assistant. The score received may impact the TA duties allowed and failure to achieve sufficient competency may jeopardize future TA awards. ESL classes in English Pronunciation or in the fundamentals of the English language (ENG 098) or other language support services may be recommended to address deficiencies.

A. MSB Students:

BEFORE THE START OF THE FIRST SEMESTER: All MSB students will be assigned a faculty advisor by the Director of Graduate Studies who will advise the student on course selection.

YEAR 1: Take up to 15 credit hours a semester (10 credits max* if the student is awarded a TA).

YEAR 2: Take up to 15 credit hours a semester (10 credits max* if the student is awarded a TA).

*Permission to take more than 10 credits can be granted by the DGS.

SEMESTER OF INTENDED GRADUATION:

- i. Choose a 3 person committee for the Exit Exam (see Committees above).
Note, it is the decision of the student whether or not to include the DGS assigned faculty advisor on the Exit Exam Committee.
- ii. Submit the on-line "Application for Degree" form by the appropriate semester deadline.
- iii. Schedule a time for the Exit Exam. The Graduate School sets a date for the final day an Exit Exam can be conducted each semester. Make sure your exam occurs BEFORE this date.
- ix. Notify the Graduate School AT LEAST TWO WEEKS prior to the Exit Exam by submission of the on-line "Final Masters or Specialist Degree" form.

B. MSA Students:

BEFORE THE START OF THE FIRST SEMESTER: All students should consult with their major advisor regarding the appropriate courses they should enroll in for the Fall semester.

YEAR 1: Fall Semester: Take BIO:770 Biology Graduate Student Orientation I & II and all other appropriate coursework. Begin conducting lab work.

YEAR 1: Spring Semester: Continue taking appropriate coursework and conducting lab work. The student in consultation with their major advisor thesis supervisor nominates members of the faculty, who have expressed willingness to serve on the student's thesis committee, to the Graduate School, which then solicits approval from the Director of Graduate Studies before officially recognizing the committee.

YEAR 2: Fall Semester: Continue taking appropriate coursework and conducting lab work. The student's first meeting with their thesis committee should occur no later than the Fall Semester of Year 2.

YEAR 2: Spring Semester: Continue taking appropriate coursework and conducting lab work.

SEMESTER OF INTENDED GRADUATION (Year 2 or Year 3):

- i. Submit the on-line "Application for Degree" form by the appropriate semester deadline through myuk.
- ii. Schedule a time for the Thesis Defense. The Graduate School sets a date for the final day a thesis defense can be conducted each semester. Make sure your defense occurs BEFORE this date.
- iii. At least TWO WEEKS prior to the thesis defense, send a copy of your finalized thesis to your committee.
- iv. Notify the Graduate School AT LEAST TWO WEEKS prior to the thesis defense by submission of the on-line "Final Masters or Specialist Degree" form. When filling out this form you will be asked to certify that your thesis has been reviewed by your committee.

C. Ph.D. Students:

BEFORE THE START OF THE FIRST SEMESTER: Students should consult with their major advisor or the faculty with whom they will rotate to decide upon the appropriate coursework to register for during the first semester.

FOR ROTATION STUDENT: Between the end of the Spring semester and August, the DGS (with the help of the GAC) will coordinate a rotation schedule between participating faculty and rotating students. At the end of the Spring Semester the entire faculty will be surveyed to determine who is interested in having rotation students in their lab. At that point the faculty will be asked to provide a short description of the research in their lab and their philosophy of

mentorship. The DGS/GAC will then send a list of all faculty participants with their research descriptions to the rotating students. Students are given at least one month to identify the faculty with whom they are interested in rotating. Students are encouraged to talk with potential rotation faculty members, even if they already did so at recruitment. By July 1, rotating students will provide the DGS/GAC with information regarding (A) whether the student wants to do 2 or 3 rotations and (B) rank order list of preferred faculty and 2 back up faculty members. The DGS/GAC will coordinate the rotation schedule for all rotating students and inform all participating faculty and students of the rotation schedule by mid July. Modifications to the rotation plan can be made during the fall semester in consultation with the DGS.

FIRST SEMESTER: All PhD students enroll in BIO:700 Biology Graduate Student Orientation I & II. Students take additional coursework and PhD students doing a direct admission will begin research in their home lab. PhD students who enter as “rotation” students will spend time in at least 2 but not more than 3 potential advisor’s labs during the first semester. Ideally, rotations are completed within the first semester of the program. The goal of the rotation is NOT for the student to work on a specific project, rather develop an understanding of the research being conducted in that lab, the lab culture, and the advisor’s training/mentoring style.

SELECTION OF A MAJOR ADVISOR (ROTATION STUDENTS): In mid-December, the rotating students will meet individually with the DGS to discuss how the rotations went and what lab the student would like to join. After discussions with the DGS, the student will ask their identified major advisor if in fact the student can join the lab. Ideally, students will have already had informal discussions with the rotating faculty members regarding the likelihood of acceptance by that advisor. If their first choice advisor says no, the student should meet with the DGS to discuss joining the lab of another faculty member whom they rotated in during the Fall semester. If necessary, the student can do another rotation or two in the Spring semester. Ideally, all rotation students are matched with a major advisor by January of their first year.

A student must find a permanent advisor by the end of the first year (12 calendar months). If the normal process described above is not leading toward that goal, the DGS and GAC will begin discussions with the student about why. Depending on the reasons, either an extension of the process or a Plan B Master’s may be in the best interest of the student. The decision about a Plan B MS should be made before the start of year 2 so appropriate decisions about coursework can occur. If a rotation student does not wish to switch to the MS Plan B program but cannot find a major advisor, they will be dismissed from the program.

YEAR 1 SPRING SEMESTER OR BEFORE THE BEGINNING OF THE THIRD SEMESTER FOR ROTATION STUDENTS: The student in consultation with their major advisor nominates members of the faculty, who have expressed willingness to serve on the student’s thesis committee, to the Graduate School, which then solicits approval from the Director of Graduate Studies before officially recognizing the committee.

BY THE END OF THE THIRD SEMESTER: Ph.D. students are required to meet with their Thesis Committees. Meetings of annual (12 months) or greater frequency are required

thereafter. After each meeting a copy of the meeting report is placed in the student's file and is available to the student and the thesis committee.

YEAR 3: Ph.D. students must take the qualifying examination (See Section IV below) or, with the supervisor's approval, petition the Director of Graduate Studies in writing for a delay. If the examination is failed, the student, with advice from the graduate committee, may request a retake or a change of status to MSA or MSB degree. Students should register for 9 credits during the semester they take the qualifying exam. In subsequent semesters after passing their qualifying exam, students should only register for 2 credits of residency (BIO 767). Additional coursework may be allowed to be covered by the tuition scholarship during this time, but permission from the graduate school must be obtained.

YEAR 4: If a student did not take (or pass) their qualifying exam in Year 3, it should be taken during Year 4. During Year 4, students continue their thesis research. Students are also required to present their research in a department wide forum (see 4th Year Talk below).

YEARS 5 & 6: Continue dissertation research, submit a dissertation chapter for publication (see Publication Requirement below), prepare for dissertation defense. Students are to have a penultimate committee meeting where the committee and student agree that the dissertation projects are largely completed and the student can "formally" begin the process of writing their dissertation and scheduling their defense. The penultimate committee meeting checklist should be completed and turned into the Biology Graduate Program. It is highly recommended that this happens the semester before the dissertation defense, but must occur before step ii below. Students are eligible to sit for the Ph.D. defense after completion of two semesters of post-qualifying residence.

SEMESTER OF INTENDED GRADUATION:

- i. Submit the on-line "Application for Degree" form by the appropriate semester deadline.
- ii. At least EIGHT WEEKS prior to the PhD Defense fill out the "Notification of Intent to Schedule a Final Doctoral Examination" form with the Graduate School. This form is required so that an outside examiner can be assigned to your committee.
- iii. Schedule a time for the Ph.D. Defense. The Graduate School sets a date for the final day a thesis defense can be conducted each semester. Make sure your defense occurs BEFORE this date.
- iv. At least FOUR WEEKS prior to the thesis defense, send a copy of your finalized thesis to your committee.
- v. Notify the Graduate School AT LEAST TWO WEEKS prior to the thesis defense by submission of the on-line "Request for Final Doctoral Examination" form. The outside examiner should be provided with a final copy of the dissertation at this time.

Occasionally, students need more than 6 years to complete their Ph.D. Keep in mind the graduate school's rule that students must graduate within 5 years from their qualifying exam

unless the DGS petitions the graduate school for an extension. The qualifying exam may need to be retaken if a student is beyond 5 years post candidacy.

ON JULY 1ST OF EVERY YEAR: Each student, in consultation with their major advisor, submits to the Director of Graduate Studies a progress report of research and coursework conducted over the past year. The GAC will review the Progress Report and notification of Good Standing (or not Good Standing) will be sent by September 1st. Failure to provide this yearly update within the specified time (and without justified explanation) will be interpreted as failing to meet the standards of adequate progress.

IV. Qualifying Exam (adopted February 2023 in effect for the Fall 2021 entering class and all classes after)

1. All doctoral students will complete a three-step qualifying exam:

- Step 1: (Thesis Proposal) – The student will write and submit a thesis proposal to their committee. This can (and should) occur with input from their mentor and committee members. The proposal will be due at a prescribed time prior to the Written Exam.
- Step 2: (Written Exam Questions) – The committee will provide question(s) that will be answered independently by the student and submitted to the qualifying exam Chair. The format (e.g., open book, closed book) and duration to complete answers will be determined by the committee and communicated to the student at least one month prior to the written exam.
- Step 3: (Oral qualifying exam) – An oral examination will be scheduled with the graduate school. The scope and content of the oral examination will be determined by the committee and communicated to the student at least one month prior to the oral exam.

2. Committee members must approve the written documents before proceeding to the oral exam during a minimum two-week waiting period between Step 2 and Step 3.

3. The oral qualifying exam will be scheduled for a duration of no more than 3 hours.

4. A committee member other than the student's primary mentor will serve as the "unofficial" Chair of the qualifying exam committee. The student in consultation with either their committee or the DGS chooses the "unofficial" Chair prior to Step 1. By unofficial, we mean this information will not be communicated to the Graduate School.

Roles of the unofficial chair include: (i) Administering the written question(s) to the student and relaying the answers to the committee members; (ii) Coordinating the decision to proceed with the oral examination; (iii) Presiding over the oral examination; (iv) Communicating the committee decision to the student after the oral exam is complete.

5. Once the committee has agreed that the oral exam is over, the primary mentor will leave the room to provide the committee an opportunity to have an initial discussion about the student's performance on the qualifying exam. Following this discussion, the primary mentor

will return to the room for a full discussion and then the committee will vote to pass or fail the student.

V. Switching Degree Programs

Occasionally, PhD students may decide that a MSA is sufficient for their long term career goals. Under these circumstances, the student should discuss their desire to switch degrees with their major advisor and thesis committee. Upon agreement between the student and their major advisor, the Director of Graduate Studies should be consulted for assistance in requesting a change of status from the Graduate School.

Occasionally, MSA students decide they would like to continue their thesis work and complete a Ph.D. dissertation in lieu of completing the Master's degree. Foregoing the MSA degree can be beneficial to the student's timeline because the Graduate School rules indicate that work done for a completed MSA cannot be included in a PhD dissertation. Under these circumstances, the student should discuss their desire to switch degrees with their major advisor and thesis committee. Upon agreement between the student, the major advisor, and their committee, the following will be sent to the GAC for consideration: a letter from the student explaining their desire to switch degrees, a letter of support from the major advisor, the student's CV, and the student's transcript. The GAC will then make a decision to "admit" the student into the PhD program. If yes, the DGS will work with the student to switch programs (which requires reapplying to the graduate program).

When circumstances beyond the student's control prevent the carrying out of a thesis project, the student may request the Director of Graduate Studies for assistance in requesting a change of status from Ph.D. or MSA to MSB.

VI. Foreign Language

There is no foreign language requirement for the Biology graduate program. If the student's committee feels that language is an essential skill, they may require the student to demonstrate competence in an individual case, but this is extremely unusual.

For international students who are non-native English speakers, the Graduate Affairs Committee recommends that the Biology Graduate Program accept a TOEFL score of at least 550 on paper based test or 213 on CBT or 79 on Internet-based test (IBT) as fulfilling the foreign language requirement deemed necessary by a Biology student committee.

VII. Policy Guidelines for awarding Teaching Assistantships (updated April 15, 2022)

T.A. funding is guaranteed for a minimum of 5 years for Ph.D students if (A) they are in good standing academically and (B) have demonstrated acceptable past performance of T.A. duties. Good standing will be determined annually by the Graduate Affairs Committee via a review of the student's progress reports and the Associate Chair of Biology will determine acceptable past

performance of T.A. duties (including any assigned instructional, lab preparative, grading or proctoring responsibilities). MSA students typically receive 2 years of T.A. funding with the same requirements related to good standing and past T.A. performance.

In the rare cases where there is a shortfall of T.A. lines, the following order of priority will be used:

- A. Incoming Ph.D. students and Ph.D. students in good standing during the first five* years following admission to the Biology Graduate Program (BGP). Students who switch from the MS program to the Ph.D. program in mid-course will be considered to have been in the latter program from the time of their initial entry to the BGP.
- B. Incoming MSA students and MSA students in good standing during the first two years following admission to the BGP.
- C. Ph.D. students in good standing beyond their fifth year.
- D. MSA students in good standing beyond their second year following admission to the BGP.
- E. Any Biology MSB students, or MSA/PhD student in another department with relevant expertise, at the discretion of the Associate Chair.

*For students considered having 1 year of Ph.D. training on the basis of having previously earned a Master's degree in Biology at the University of Kentucky, this is 4 years rather than 5 years. A student may petition the Department of Biology Committee on Graduate Affairs prior to taking the qualifying examination to waive this rule, if he/she feels that the prior Master's experience was not suitable training towards fulfillment of Ph.D. requirements.

VIII. Termination Procedures (updated April 15, 2022)

In rare cases, even after multiple attempts to remedy problems, a situation may arise where the student can no longer stay in the program. The Director of Graduate Studies may recommend to the Graduate School to terminate a graduate student for the following reasons:

- A. Academic probation (GPA below 3.0) for 2 consecutive semesters.
- B. Failure to pass either the Masters Final Examination or the Ph.D. Qualifying Examination after a second attempt.
- C. In response to a recommendation for termination from the student's Thesis Committee, as indicated below.
- D. If a student is without an advisor in the Biology Department and a new advisor in the Biology Department (or co-advisor if there is an appropriate co-advisor in a different department) cannot be found.*

*If either the student or major advisor terminates the student-advisor relationship, the student's Thesis Committee will meet as soon as possible (within 3 weeks) to review the situation. If appropriate, the Thesis Committee and the Director of Graduate Studies will try to arrange for the student to be accepted into the laboratory of another member of the Biology Program. If no Thesis Committee has been formed (in the case the student is within the first year of study), the Director of Graduate Studies will work with the GAC to try to arrange for the student to be

accepted into the laboratory of another member of the Biology Program. If no advisor (or co-advisor) within the Biology Department can be found, the student will either need to switch to a MSB degree track or leave the program.

Steps of termination in response to a recommendation from the student's Thesis Committee:

The Thesis Committee may recommend termination after the student has failed to pass the Qualifying Examination or the Final Examination (M.S.) or after the Qualifying Examination has been passed but no progress is being made. The recommendation of the Thesis Committee must be in writing to the Director of Graduate Studies with a copy provided to the student. The letter should clearly document the reasons for the recommendation. In the event of a recommendation for termination from the Thesis Committee, the following procedure will be followed.

- A. The GAC (members of the GAC who are on the student's thesis committee or are the student's major advisor will recuse themselves) will prepare a report and recommendation which will be presented to the Chair of the Department of Biology, along with the original recommendation from the student's Thesis Committee. If the Chair of the Department of Biology has a conflict of interest (either on the thesis committee or is the major advisor) the case will be presented to the Associate Chair of the Department of Biology. If both the Associate Chair and Chair of the Department of Biology have conflicts of interest, the DGS will identify another Full Member of the Graduate Faculty to serve this role. In preparing the report, the GAC will:
 - a. Meet with the student to understand the nature of the issues from their point of view.
 - b. Consider the recommendation from the student's Thesis Committee and meet with them if necessary.
 - c. Prepare a written report with their recommendation.
- B. If the Biology Department Chair, DGS, and GAC approves the recommendation for termination and the student dissents, the student will have an opportunity to meet with the GAC, DGS, and Biology Department Chair to appeal the decision. At this point the Associate Chair for Graduate Studies will be brought into the discussion so that the appeal is not brought to the exact same group of faculty.
- C. Based on the recommendation of the student's Thesis Committee, the report and recommendation of the GAC, and the recommendation of the Department Chair, the Director of Graduate Studies will either retain the student or recommend termination to the Graduate School. The DGS will provide the student, the student's Advisor and the Dean of the Graduate School with written notice of the decision.

IX. Seminars (Originally adopted January, 1979)

- A. Graduate students will be expected to formally enroll and complete the following number of hours of graduate seminar (BIO 770 series):
 - a. MSB: 3 hours
 - b. MSA: 3 hours
 - c. Ph.D.: 3 hours

- d. All first-semester MSA and Ph.D. Biology graduate students must enroll in the Biology Graduate Student Orientation I and II to fulfill two of the BIO 770 requirements.
- B. Ph.D. students in their 4th year are required to present their thesis research in an approximately 30 min public talk scheduled and advertised to enable students and faculty across the whole department to attend. The format for these talks will be determined by the Graduate Affairs Committee at the start of each year. (Adopted 11/7/2014).
- C. Graduating students (Ph.D.) are required to present an exit seminar to the Department prior to the dissertation defense. Graduating Master's students are encouraged to present a seminar on their research.
- D. Seminars presented in other programs (e.g., Microbiology, Plant Physiology, etc.) may be used to satisfy the requirements as outlined in paragraph #1 (above), provided the student is formally enrolled in the seminar course and this meets approval of the Thesis Committee.
- E. All graduate students in the Biology Graduate Program are required to attend all regular weekly Department Ribble seminars during every semester they are enrolled as a graduate student at UK. Exceptions include students whose class meetings, instructional obligations, approved professional travel conflict, are away on fieldwork, or other conflicts (such as childcare) that have been approved by the DGS. Attendance at 70% of Biology Ribble Seminars within the past 12 months is required for students to be eligible to receive departmental financial support (excluding T.A./R.A.), including travel funds, Ribble mini-grants, and departmental fellowships. The GAC will be responsible for recording attendance.

X. Publication Requirement (adopted May 29, 2015)

The central requirement of a Ph.D. is to generate original scholarship, which in Biology constitutes new scientific information. The value of research is realized only after it is shared with the broader scientific community, and publication is the primary way we communicate original findings. Multiple publications are often necessary for entry into the most desirable career paths post-graduation. As a program, we expect students to be scientifically ambitious and prolific in the publication of their research findings, and we will support them in doing so in a variety of ways.

Prior to scheduling the dissertation defense date, Ph.D. students in the Biology graduate program are expected to have one or more manuscripts at the review stage or beyond in a peer-reviewed journal. The publication(s) must be based on original research conducted during the course of the student's Ph.D. studies at UK and contain novel empirical observations, methods development or theoretical work. Publications of other types (e.g. review articles, textbooks, patents, most book chapters, meeting proceedings) can be of benefit to the student but do not satisfy this publication requirement. Since many complex problems require team efforts, co-authorships with other students, postdocs or faculty are acceptable when significant independent student contribution is documented in writing to the DGS by the student's advisor.

The publication(s) need not be part of the dissertation. The student's advisor should be co-author on the publication(s) or the advisor should provide the DGS with written approval regarding the student's contribution if not an author.

The DGS will confirm compliance with the publication requirement prior to approval of the student's request to set their dissertation date.

XI. Policy on Oral Graduate Committee-Based Defenses and Exams (adopted September 16, 2023)

All members of a student's graduate committee are expected to attend and participate in any oral examination as part of the student's graduate (Master's or Doctoral) degree program (including the qualifying exam). Traditionally, oral examinations are conducted with the student meeting with their committee while gathered in one physical location on campus. However, the need occasionally arises for virtual participation in the oral examination.

Oral examinations in the Biology Department will be held in person. In keeping with past rules, if one committee member needs to attend the meeting virtually, that is allowed and does not need approval. If more than one member needs to attend virtually, a hybrid or exclusively virtual format can be approved by the Director of Graduate Studies in the case of medical issues or family emergencies. A hybrid or exclusively virtual format can be requested for additional purposes and will be determined at the discretion of the Director of Graduate Studies in consultation with the Graduate Affairs Committee. The department remains committed to the in-person modality for oral examination as we believe those are best for student success, therefore, requests beyond medical issues/family emergencies are unlikely to be granted.

In the cases of virtual participation in oral examinations, in addition to the exam policy guidelines described under the degree requirement sections, the exam must also adhere to the administrative and technical requirements outlined below.

Administrative Requirements

It is the responsibility of the Director of Graduate Studies to ensure that the student and their full committee all agree on any type of exam format other than the standard in-person exam. The Graduate School must be notified of the modality by which the oral exam will be conducted: in-person, virtual or hybrid. This information must be included in the Comment field of the request for the QE or Final exam form and does not need to be approved in advance of the exam.

Technical Requirements

In cases where departments or programs allow any level of virtual participation, from one virtual member to a fully virtual event, they must adhere to the following requirements:

1. Prior to any oral exam, the student and Committee Chair coordinate with other committee members regarding the protocol for the exam.
2. All participants must join using university-adopted video conferencing tools that allow for fully interactive audio and video communications along with screen-sharing capabilities, which must be maintained throughout the examination and any related discussion.
3. The use of audio-only communications is not permitted.

4. Participation merely by viewing a recording of the oral examination is specifically prohibited.
5. All members of the committee, on- or off-site, must participate in the final evaluation of the examination or defense; provisions must be made to record their votes and collect their signatures as necessary using the system approved by the Graduate School. This must be submitted to the Graduate School as soon as possible, but within 7 days of the exam.
6. The Committee Chair, or another non-student designee, shall be the host of the virtual meeting. A co-host may be assigned so that the event will not be interrupted by technical difficulties. The host should mute all participants (or ask participants to mute themselves) and ask the student to share their screen, if a presentation is involved, in order to make the presentation visible to all attendees. The host must also ensure that appropriate security precautions are taken to prevent any interruptions of the event.
7. Following any public portion of the defense, the host shall ask all non-committee members to leave the meeting, or the host may manually remove them. In programs where the defense has both a public and a private portion, the committee may then continue the event as outlined in their program protocols.
8. Once the committee has completed the examination of the student, the host shall place the student into the waiting room (or have the committee members use a breakout room) so the committee can conduct their deliberations in private.

The Committee Chair must have a secondary videoconferencing system available as a back-up in the case of technical difficulties. Cancellation of the examination should only occur in the case where both the primary and secondary back-up systems fail. If an examination must be rescheduled, it will be done without prejudice to the student. Since committee deliberations are an essential aspect of the examination, completing the examination and final discussion via email or other non-audiovisual means is not an option.

If the student or any committee member(s) have a disability that will be impacted by virtual participation, accommodations for participation must be provided.

XII. Training Groups

The Graduate Program in Biology follows the requirements of the Graduate School and adds some specific requirements as described in subsequent sections. The committee has the primary responsibility for guiding students through their training and determines, after discussion with the student, the activities involved in their training.

Within Biology there can be additional training guidelines followed by **Training Groups**. Training groups are self-organized groups of faculty that may form to assist in recruitment and training in a variety of ways to the benefit of graduate students in the Department. The specific program cannot omit requirements of the Graduate School or Biology but can recommend additional activities related to training. Graduate students are free to choose a training group in consultation with their faculty advisor but can chart their own academic path with approval of their advisor and committee.

To foster department-wide understanding and increased communication about training programs, training groups must be officially recognized by the Biology Graduate Faculty. Such

recognition occurs with a majority vote on a proposal for a specific training group after there has been sufficient discussion and feedback of the details of the proposed program. Recognition brings integration into the Graduate Program with respect to administration of the program, web pages, and other forms of advertising.

A training group seeking recognition should prepare a proposal to be distributed to the faculty at least 1 week before a meeting of the graduate faculty. The proposal should address:

- A. A general statement of the added value of the training group to the training of students and to the graduate program in Biology,
- B. Any special requirements for accepting students into the program,
- C. The training program, including:
 - 1. How students will pick advisors,
 - 2. Lab rotations if any and how they are managed,
 - 3. Curriculum requirements or recommendations,
 - 4. Add-on activities (seminars, workshops, side projects, etc)
 - 5. A description of the format for written and oral exams,
 - 6. Specific expectations of post-qualifying students,
 - 7. Any special requirements for exit exam and the nature of the dissertation
- D. A list of Faculty participants and an indication of their commitment to the program (e.g., courses offered and involvement in other activities).

Training groups should renew their departmental recognition every 5 years.

XII. Bulletin

The Bulletin is now available only in electronic format. See: <http://bulletin.uky.edu/>. This document contains the official University policies and procedures concerning admission and advancement in graduate school.