2019-2020 Information

Biology Department Chair
Susan Fahrbach

Biology Graduate Committee:
Miriam Ashley-Ross, Director of the Graduate Program
Sarah McDonald
Michael Anderson (Fall only)
James Pease (Spring only)
Sheri Floge
Graduate Student Representative: Mackenzie Brown

URLs

Graduate School – Current Graduate Student Resources
http://internal.graduate.wfu.edu/students/

Graduate School Bulletin – Graduate School:
http://internal.graduate.wfu.edu/bulletin.html

Graduate Student Handbook – Graduate School:
http://internal.graduate.wfu.edu/docs/academics/GradStudentHandbook.pdf

Graduate Student Grievance Procedures
http://internal.graduate.wfu.edu/docs/academics/GradStudentHandbook.pdf

Graduate Student Association
http://www.gsa.graduate.wfu.edu/

Graduate School Thesis and Dissertation Instructions
http://internal.graduate.wfu.edu/students/graduationrequirements.html

Graduate School Mentoring Relationship Between Graduate Students and Advisors Statement
http://internal.graduate.wfu.edu/students/documents/MentoringPhilosophy_statement0809.pdf

WFU Biology Department
http://college.wfu.edu/biology/

Graduate Student Handbook – WFU Biology Department
http://college.wfu.edu/biology/graduate/graduate-handbook/
# Table of Contents

Guide to M.S. and Ph.D. Programs in Biology at Wake Forest University

2019-2020 Information.................................................................................................................. 2
Table of Contents .......................................................................................................................... 3
Guide to M.S. and Ph.D. Programs in Biology at Wake Forest University ................................. 4

A. The Graduate Committee ........................................................................................................ 4

B. General Graduate Program Requirements and Features ...................................................... 4
   1. Graduate Advisor .................................................................................................................. 4
   2. Graduate Advisory Committee .......................................................................................... 5
   3. Graduate Examination Committee .................................................................................... 5
   4. WFU Graduate Faculty Status .......................................................................................... 6
   5. Minimum GPA Required to Maintain Financial Support .................................................. 6
   6. Participation in the Departmental Seminar Programs ....................................................... 6
   7. The First-Year Prospectus .................................................................................................... 7
   8. Teaching and Teacher Training ........................................................................................ 7
   9. Responsible Conduct of Research Requirements ............................................................. 8
  10. Safety Training .................................................................................................................. 8
  11. Funding Opportunities ....................................................................................................... 8
  12. Biology Graduate Student Information Form .................................................................... 9
  13. Biology Graduate Student Annual Evaluation .................................................................. 9

C. Switching Advisors, Switching Degree Programs and Additional Support ............................ 9
   1. Switching Advisors ............................................................................................................ 9
   2. Switching Degree Programs ............................................................................................. 9
   3. Additional Funding .......................................................................................................... 10

D. M.S. Degree Program: Additional Requirements and Schedule .......................................... 10
   1. Course work ...................................................................................................................... 10
   2. Departmental Seminar ..................................................................................................... 10
   3. M.S. Degree Candidacy .................................................................................................... 10
   4. Thesis Preparation and Final Examination ...................................................................... 11
   5. M.S. Final Examination ................................................................................................... 11
   6. Scheduled Deadlines for M.S. Students .......................................................................... 11

E. Ph.D. Degree Program: Additional Requirements and Schedule ......................................... 12
   1. Coursework ...................................................................................................................... 12
   2. Seminars .......................................................................................................................... 13
   3. Teaching Requirement for the Ph.D. .............................................................................. 13
   4. Ph.D. Qualifying Exams and Advancement to Candidacy ................................................ 13
   5. Dissertation Preparation and Final Examination ............................................................. 15
   6. Final Examination .......................................................................................................... 15
   7. Scheduled Deadlines for Ph.D. Students ....................................................................... 16

Advisory Committee Meeting Form .......................................................................................... 19
Welcome to the Graduate Program in Biology at Wake Forest University. It is our sincere hope that together we can make your experiences in the department personally rewarding and provide an atmosphere conducive to your continued growth as professional biologists. To help you understand how these programs function, and to serve as a useful reference for deadlines and requirements, we have prepared this document describing the essential features of our M.S. and Ph.D. programs. Other documents that contain important information are the Graduate School Bulletin, the Graduate School’s Graduate Student Handbook, and Dissertation and Thesis Instructions. Links to these documents and other important resources can be found on page 2 of this Handbook.

**NOTE**: Biology Graduate Students are bound to the deadlines and requirements set out in the Graduate School Bulletin for their year of entry and to those in the Department of Biology’s Graduate Student Handbook for their year of entry. In case of conflict, deadlines given in the Graduate School Bulletin and website supersede those given in this Handbook.

### A. The Graduate Committee

The Graduate Committee is a departmental committee consisting of the Chair of the Committee, three to four other faculty members, a graduate student member, and the Chair of the Department of Biology (ex-officio). It is the responsibility of the Committee to evaluate all applications for admission to the graduate program, make recommendations for financial aid to the Dean of the Graduate School, and monitor the progress of graduate students. In addition, this Committee is responsible for making recommendations concerning continuing improvement in the graduate programs. To this end, the Committee actively solicits suggestions from students and staff. Any student should also feel free to consult the Committee or its Chair for assistance in dealing with any problems that cannot be resolved through other means.

### B. General Graduate Program Requirements and Features

Requirements by the University for the M.S. and Ph.D. are described in the Graduate School Bulletin. Included are minimum requirements for course work, residency in the program, admission to degree candidacy, etc. It is the student’s responsibility to make sure that all requirements in both the Graduate School Bulletin and the Department of Biology Graduate Student Handbook are met.

1. **Graduate Advisor**

   The Graduate Advisor (hereafter referred to as the Advisor) is a member of the graduate faculty and is the primary mentor who guides the student’s research. During the process of choosing an Advisor, students should familiarize themselves with the research interests and philosophies of the various faculty members. The faculty member must indicate their willingness to assume the role of Advisor by sending an email stating such to the student, with copy to the Graduate Program Director; the arrangement is subject to the approval of the Chair of the Department of Biology.

   **Timeline for selecting the Graduate Advisor**

   a. Most students enter the graduate program already knowing which lab they will enter. In those cases, students entering in the Fall semester must select an Advisor by October 15. Students entering the program in the Spring semester must select an Advisor by February 28.
b. Some students may wish to do a short rotation through 2-3 labs before selecting an Advisor. All rotations must take place during the first semester of graduate study. Intention to rotate through multiple labs, and willingness of potential mentors to host the student, must be indicated (via email) to the Graduate Program Director by September 30 (for students entering in Fall semester), or February 10 (for students entering in Spring semester).

A student may subsequently switch Advisors if unusual circumstances warrant such a change. A link to the University’s Statement of Philosophy of the Mentoring Relationship between Graduate Students and Advisors can be found on page 2. Both graduate students and mentors are strongly encouraged to read it before making a formal commitment to each other.

2. Graduate Advisory Committee

Committee members should be chosen by the student in consultation with their Graduate Advisor, and will consist of the following individuals:

**Master’s Advisory Committee**
- Graduate Advisor
- 1 Biology Faculty Member
- 1 Biology or other WFU Faculty
  Minimum total: 3 faculty members

**Ph.D. Advisory Committee**
- Graduate Advisor
- 3 Biology Faculty Members
- 1 Graduate Faculty not in WFU Biology*
  Minimum Total: 5 faculty members
  *May be a non-WFU Faculty Member as approved by the Graduate School

Once constituted, the Advisory Committee assumes the responsibility for overseeing the successful completion of the degree program. The entire committee, in consultation with the student, will be responsible for advising the student in the completion of his/her degree program. These responsibilities include setting requirements for specific course work; drafting, administering, and evaluating the preliminary examination (for Ph.D. only); critically evaluating the research prospectus; providing regular review of the student’s progress toward the completion of the degree; and providing editorial input to the drafting of the student’s thesis or dissertation.

The student should freely consult members of their Advisory Committee for advice and assistance in research and other appropriate aspects of the student’s degree program. To ensure that the Advisory Committee is kept well informed of the student’s progress toward the completion of his/her degree program, the Advisory Committee should be convened as specified in the Scheduled Deadlines for the M.S and Ph.D. degrees (see below).

3. Graduate Examination Committee

As indicated in the Graduate School Bulletin, the Advisory Committee and the Examination Committee are independently appointed. In the vast majority of cases, the Advisory Committee members will be appointed as the Examination Committee.
M.S. Examination Committee
- Graduate Advisor (First Reader)
- Biology Faculty Member (designated as Second Reader)
- WFU Faculty Member from Biology or other department

Ph.D. Examination Committee
- Graduate Program Director of the Biology department or a graduate faculty member chosen by the Director
- Graduate Advisor
- Another member of the Biology department*
- Representative from the field within or outside the Department*
- WFU faculty from outside the major department**
  *usually a member of the student’s advisory Committee
  **Must be a member of the WFU Graduate Faculty; can be Reynolda campus faculty in another department, WFU School of Medicine faculty, or from a different institution. If from a different institution, the Graduate Advisor must send a letter to the Dean of the Graduate School (Reynolda campus) requesting the external member’s temporary appointment to the WFU Graduate Faculty. Note that the external member’s role is to represent the Graduate Council, and as such, they act as Chair of the Examination Committee.

4. WFU Graduate Faculty Status
All members of the M.S. and Ph.D. Examination Committees must be members of the WFU Graduate Faculty. Most WFU faculty members in the relevant departments are members of the Graduate Faculty. Non-graduate faculty WFU Faculty members and faculty members from outside of Wake Forest can be granted Temporary Graduate Faculty Status.

To obtain Graduate Faculty Status for a non-WFU faculty member, send the committee member’s CV to the Biology Graduate Program Director along with a written justification as to the importance this committee member to the student’s academic progress. These items will be forwarded to the Dean of the Graduate School who will grant Temporary Graduate Faculty status.

Students are required to maintain a GPA of at least 3.0 (B average). Students who earn a grade below “B” in their first semester must meet with the Graduate Committee for counseling. Beginning with the grade report at the end of their second semester, students whose GPA falls below 3.0 will be placed on academic probation for a one-semester period in which the GPA must be brought back up to 3.0 or higher. Failure to do so will result in dismissal from the Graduate School.

6. Participation in the Departmental Seminar Programs
There are two arms of the seminar program in the Department of Biology: (1) Frontiers in Biology (FIB) seminars – these bring high-profile scientists from outside the University to share their research. Attendance by graduate students is required; (2) Other special seminars – these may be internal speakers (such as graduate students presenting their thesis/dissertation research) or external guests. Attendance at these seminars is strongly encouraged, but not required. A schedule of seminars for the upcoming semester is sent via email at the beginning of the term. Graduate students are encouraged
to suggest potential seminar speakers for future semesters. See the Chair of the Seminar Committee for details.

7. The First-Year Prospectus

For graduate students in the WFU Department of Biology, a prospectus is a formal document that describes the plan for the research, including an appropriate review of the current literature, distributed to the student’s advisory committee. Before the end of the second semester, a brief prospectus (4-5 pages) that focuses on the questions to be examined during the student’s dissertation/thesis work, and the background/significance of the proposed research is required to be submitted to, and approved by, the Advisory Committee. The document is not intended to be at the level of detail of proposing specific experimental design or methods to be used, but rather is to ensure that the student has identified a promising area of research and understands the current state of the field sufficiently to make progress in developing the specifics of the dissertation/thesis. If extenuating circumstances arise, the advisory committee can recommend an extension to the third semester, subject to approval by the Graduate Committee, at least one month before the end of the second semester. Failure to have a completed and approved prospectus by the end of the second semester (or end of the third semester in the case of an extension) may result in dismissal from the program.

8. Teaching and Teacher Training

All students that will be teaching (M.S. students supported by a TA and all Ph.D. students) must complete the WFU Graduate School and the Biology department TA training when they arrive on campus. Students must complete training before entering the classroom. The standard work load for a TA is an average of 15-20 hours per week during the academic year. This translates to two core lab sections (~16 students each) in a semester.

Ph.D. students are required to have two semesters of teaching experience as part of their degree, generally as a teaching assistant in one of the core laboratories in the WFU Department of Biology. To fulfill the Ph.D. teaching requirement, students must be enrolled as Ph.D. students. Teaching as a Master’s degree student does not satisfy the Ph.D. requirement (an exception is made for students who switch degree programs from the M.S. to the Ph.D.; see section C.2., below). The Graduate Committee might waive the teaching requirement in exceptional circumstances.

If the student wishes to use a different teaching experience to fulfill the requirement, they must obtain prior approval of their advisory committee and of the Graduate Committee. Adequate documentation must be provided prior to the beginning of teaching to the Advisory Committee and the Graduate Committee (a syllabus, a letter from the professor running the class detailing the duties of the TA, etc.).

A student’s advisory committee can request that a student teach a specific class in the Wake Department of Biology, consistent with furthering the student’s career. These requests can be made of the Core Coordinator, although there are no guarantees of specific placements.

A student can lose their stipend and their TA position if they do not perform adequately in the classroom. The Core Coordinator will provide feedback to the Graduate Committee and the student’s Advisory Committee about a TA’s performance. The Core Coordinator’s assessment will be based on data obtained from undergraduate students, from other TAs, and from professors, and may include direct classroom observations, end-of-course student evaluations, the graduate student’s behavior during lab prep meetings, and other sources.
As a reminder, the current award letters read:

*New student:* “The University reserves the right to withdraw this award for unsatisfactory academic work, or for unsatisfactory performance of your assigned duties.”

*Continuing Aid:* “Support will be discontinued if you leave, graduate, or fail to meet academic or work standards.”

### 9. Responsible Conduct of Research Requirements

The National Institutes of Health and National Science Foundation have established formal requirements for Responsible Conduct of Research (RCR) training and certification. Graduate students who are not certified or in the process of completing it cannot be supported as Research Assistants (RAs) and cannot work on any project supported with federal funds. To comply with these requirements, **all** incoming M.S. and Ph.D. graduate students in biology, chemistry, physics, and selected other departments must take a 700 level RCR course in the Fall Semester. Ph.D. students are required to take an additional course in the Spring semester. More details will be provided during departmental Orientation, as the requirements for certification change often.

Master’s students who are coming back for the Ph.D. are NOT exempt from RCR certification; they must enroll in the appropriate courses.

### 10. Safety Training

The WFU Office of Environmental Health and Safety conducts annual safety training each August at the start of the Fall semester. This is a required meeting for ALL graduate students (RAs, TAs, GAs, and scholars/fellows) and post-docs. Further details will be provided during Orientation.

### 11. Funding Opportunities

The Biology Department allocates **funds for research** each academic year to the Graduate Advisor for each graduate student. These funds are available for research costs (e.g., consumable laboratory supplies, chemical reagents, small equipment etc.). Consult with your Graduate Advisor about these funds. These funds are not for travel, or for any item that benefits solely the student and not the overall research mission of the lab. When in doubt, consult the Chair of Biology. Note that any equipment purchased using these funds is the property of the Department, not the property of the student.

Other funding sources are available to biology graduate students. All awards are subject to taxes. Guidance is available online from the IRS: [https://www.irs.gov/taxtopics/tc421.html](https://www.irs.gov/taxtopics/tc421.html).

- **The Elton C. Cocke Travel Fund** is an endowed fund maintained by the Department to help defray student costs for traveling to regional, national, or international meetings to present a paper or poster. Funding requests go to the Director of the Graduate Program in Biology in the form of a letter (email is acceptable). The following information must be supplied with the request: 1) Date, location, and name of meetings; 2) Title of poster or paper student will present; and 3) Budget. The Budget must include estimated travel costs, hotel costs, registration fees, and any other pertinent information. Awards are made as a lump sum that is deposited directly into the student’s bank account. Awards from this fund are subject to taxes. Most awards are partial, and students are advised to seek other sources of funding in addition to the Cocke Award (such as the Graduate School Alumni Travel Fund). Students may only receive one Cocke Award per fiscal year (the fiscal year runs from July 1 through June 30).
Please note that endowment income varies from year-to-year, and that you should apply for funds as soon as you have submitted your abstract.

- The **Grady Britt Fund** is maintained by the Department to assist students in the area of parasitology (symbiosis). Funds may be used for a student’s research project, for travel associated with a student’s project, or for travel to scientific meetings. Students in parasitology or a related discipline must submit a request to the Department Chair (email is fine). Awards from this fund are subject to taxes.

**12. Biology Graduate Student Information Form**

One or more times annually the Graduate Program director will request all graduate students submit an updated electronic Biology Graduate Student Information Form. Please fill out this form in a timely manner. The information is crucial in assessing the Biology department’s training of graduate students. The information is also necessary to supply to the Graduate School and accreditation organizations. A link will be sent to all graduate students at the appropriate time.

**13. Biology Graduate Student Annual Evaluation**

To ensure that all graduate students are making consistent and timely progress toward their degrees, the Graduate Committee and Department Chair review yearly accomplishments, teaching, and advisory committee evaluations. Students update their information using the department’s online information system, and committee members submit anonymous assessments. It is essential that information is kept current to ensure accurate evaluation. It is our expectation that in the vast majority of cases, evaluation will show adequate progress. However, if there is a problem, this system allows for early intervention and correction. The information is also necessary to supply to the Graduate School and accreditation organizations. A link will be sent at the appropriate time.

**C. Switching Advisors, Switching Degree Programs and Additional Support**

**1. Switching Advisors**

A student may switch Advisors if circumstances warrant such a change and all parties are in agreement. If you have questions or concerns, consult the Graduate Program Director. A student who switches advisors does not receive any additional departmental support, but may request an extension of certain departmental deadlines. It is the responsibility of the Graduate Committee to evaluate such requests on a case-by-case basis.

**2. Switching Degree Programs**

Infrequently, a current M.S. student in Biology may wish to switch to the Ph.D. program (without completing the M.S. degree). The request for change in degree program must be discussed with the student’s Advisory Committee and subsequently sent, in writing, to the Graduate Committee for review, evaluation, and possible approval. The following documents must be furnished to the Graduate Committee for consideration:

1. A letter from the student containing the formal request for the switch in degree programs, including justification for the change;
2. The student’s current CV;
3. A statement of research, teaching, and academic accomplishments that augments the original application to the Wake Forest Biology graduate program;
4. A letter of support, signed by the student’s advisor and thesis committee, addressing academic progress while at Wake Forest.

Such requests must be made by the December priority deadline for new student applications, because switching programs affects the awarding of TAs and scholarships. Requests to switch programs will be considered along with new applications. Requests submitted after the deadline will not be considered until the next year. If approved, the total number of semesters of departmental support the student is entitled to is the same as if the student originally entered the program as a Ph.D. student (10 total semesters).

3. Additional Funding

It is expected that M.S. and Ph.D. students will complete their degrees during the time they are supported by the Graduate School (currently four semesters for the M.S. and 10 semesters for the Ph.D.) with or without additional support (RA) from their advisers. It is rare that a student is awarded additional TA support beyond the 4/10 semesters.

Requests for additional support are due by the priority application deadlines for the following semester (consult the Graduate School website for these deadlines). These requests will be considered along with new applications. Requests for additional support should include letters of support from the advisor and from the advisory committee. Requests should indicate why additional support is needed and include a clear timetable for finishing the degree. Requests made after the deadlines may not be considered.

D. M.S. Degree Program: Additional Requirements and Schedule

1. Course work

As a part of their degree program, M.S. students will complete a minimum of 24 hours of coursework. This includes a minimum of 12 hours at the 700 level, with the remainder at the 600 or 700 level. Choices of coursework should be made in consultation with the Graduate Advisor and the Advisory Committee.

2. Departmental Seminar

Each M.S. student will present at least one departmental seminar. This seminar normally covers the thesis research prior to the thesis defense and is given in the second Spring semester of residency. Students must consult with the Chair of the Seminar Committee at the beginning of the semester to schedule their seminar.

3. M.S. Degree Candidacy

M.S. Students may petition the graduate school for candidacy to the M.S. degree when (1) coursework is within one semester of completion, and (2) the prospectus has been approved by the Graduate Committee. Application to Candidacy forms may be obtained from the Graduate School’s web page link, Current Students.
4. Thesis Preparation and Final Examination

M.S. students must write and successfully defend a thesis. Guidelines for preparation of this document are available from the Graduate School. Prior to the oral examination and defense of the thesis, students must allow **at least five working days** for the review of the completed thesis by members of their Examination Committee. Examination Committee members must also be given sufficient time for review of preliminary drafts of a thesis.

5. M.S. Final Examination

For the M.S., the thesis defense constitutes the final examination. The Examination Committee is appointed by the Dean of the Graduate School (see the Graduate Bulletin). In practice, however, the Advisory Committee is usually appointed to be the Examination Committee. For the M.S., one member of the Examination Committee is designated as the First Reader of the thesis and he/she, along with the Graduate Advisor, has editorial approval of the thesis. Most students elect to give all members of the committee opportunity to provide editorial input to the thesis.

Master’s candidates must notify the Biology Department Faculty of their final examination date at least one week prior to the exam. Notice must include the abstract of the thesis, and the time and location of the oral defense.

6. Scheduled Deadlines for M.S. Students

**First year**

**Orientation week (mid to late August).**
- Orientation program from the Graduate School
- Orientation program from the Department of Biology
- Consult with Director of the Graduate Program for course registration
- Receive instruction in animal care and use and in occupational safety
- Receive teacher training

**October 15.** Choose Graduate Advisor.

**December 1.** Choose Advisory Committee. You must convene the Committee prior to registration for the Spring semester. In this meeting, you should establish your course plan and discuss your research project. Please complete the Advisory Committee meeting form at the end of this document and submit it to the Director of the Graduate Program.

**December 1.** Priority application deadline for the Graduate School: Deadline for requests to change degree program from M.S. to Ph.D.

**December 4.** Graduate Program Director submits Continuing Aid Form to the Graduate School to establish support for the following academic year. While you do not need to do anything, consult with your Graduate Advisor if there are any changes in support.

**January 12.** Receive Continuing Aid Letter from the Graduate School. Notify Graduate Director if there are any problems or issues with support for the following academic year or if you do not receive a letter.
March 1. Present Research Prospectus to Advisory Committee.

March 15. Meet with Advisory Committee to review Prospectus. As soon as the Prospectus is approved, submit a copy of the Prospectus to the Director of the Graduate Program.

Second year

October 1. Meet with Advisory Committee to review progress. Complete and submit the Advisory Committee meeting form. Schedule departmental seminar for the Spring semester with the Chair of the Seminar Committee.

December 1. Priority application deadline for the Graduate School: Deadline for requests to change degree program from M.S. to Ph.D. Deadline for requests for additional support beyond the standard four semesters.

February 1. Meet with Advisory Committee to review progress. Complete and submit the Advisory Committee meeting form.

February 15. File statement of intent to graduate (Degree Candidacy) with the Dean of the Graduate School.

April 10. Last day to submit chapter of thesis to Graduate School for format review.

April 15. Schedule oral defense of thesis.

Late April. Oral defense of thesis. See specific deadlines at https://graduate.wfu.edu/graduation-requirement-checklist-reynolda-campus/

Early May. Final copies of thesis due at Graduate School. See specific deadlines at https://graduate.wfu.edu/graduation-requirement-checklist-reynolda-campus/

M.S. students continuing beyond a second year must convene their Advisory Committee at least every semester. After each meeting, submit Advisory Committee meeting form to the Director of the Graduate Program.

If you cannot meet a deadline, please seek advice immediately from the Director of the Graduate Program.

E. Ph.D. Degree Program: Additional Requirements and Schedule

1. Coursework
   There is no minimum requirement for coursework for Ph.D. students. Any necessary coursework is determined in consultation with the Advisory Committee.
2. Seminars

Each Ph.D. student must give at least two seminars during their tenure. One must be the public presentation of their dissertation work on the Wake Forest campus in advance of the dissertation defense. The other may be a second presentation to the department or the presentation of research work in oral form at a national, international, or regional meeting. Talks given to lab groups, informal research groups, and in graduate courses do not fulfill this requirement.

3. Teaching Requirement for the Ph.D.

Ph.D. students are required to have two semesters of teaching experience as part of their degree, generally as a teaching assistant in one of the core laboratories in the WFU Department of Biology. To fulfill the Ph.D. teaching requirement, students must be enrolled as Ph.D. students. Teaching as a WFU Biology Master’s degree student does not satisfy the teaching requirement for the Ph.D. (an exception is made for students who switch degree programs from the M.S. to the Ph.D.; see section C.2.).

The standard work load for a TA should average 15-20 hours per week during the academic semester. This translates to teaching 2 sections (~16 students each) of core laboratory courses each semester.

4. Ph.D. Qualifying Exams and Advancement to Candidacy

Advancing to the status of Ph.D. Candidate is done in two steps:

1. The qualifying exams, which consist of both written and oral parts. Qualifying exams are normally taken before the end of the fourth semester. Students who are unable to take their preliminary examination at this time should notify the Graduate Program Director and indicate the reasons for the delay. Regardless of when the examination is administered, it must be passed at least twelve months prior to the date of the awarding of the degree.

Subject matter to be encompassed by the qualifying exams should be decided at least thirty days before the exam is to take place. The student must select five topic areas (listed below) in consultation with his/her advisor and committee:

Focal area (1; required)
Student’s research topic – a “deep dive” into the specific intellectual area of the dissertation.

Core disciplines (select 3-4)
Ecology
Evolution
Behavior
Physiology
Molecular Biology
Biochemistry
Neurobiology
Biomechanics/Functional Morphology
Genetics
Microbiology

Virology
Parasitology
Immunology
Cell Biology
Oceanography
Earth Sciences
Plant Biology
Development
Other areas are possible, based on student’s area of interest
Technical areas (select 0-1)
- Microscopy
- Biostatistics
- Molecular Genetics
- Biochemical assays
Other areas are possible, based on student’s area of interest

**The written exams.** After the areas of study are identified, the student is expected to meet with each committee member to refine the scope of the question. The student is given the questions (5–one from each committee member. If there are more than 5 committee members, then two members may collaborate on a question. In no case should the number of questions exceed 5) 4-6 weeks in advance. Written responses require engaging with the literature, but are 2-3 pages in length (excluding references, 6-8 of which are required). *The written responses should not be read, commented on or edited by anyone else prior to their submission for evaluation.* The student turns in the responses, and these are read and commented on by committee members. Comments are given to the student, and he/she has 2-4 weeks to revise the answers and re-submit them for final evaluation. The process of writing and revising is intended to mimic the process of writing and submitting papers for publication, and thus will be of substantial benefit to the student. Three outcomes of the written exams are possible: (1) all topics passed; (2) some, but not all, topics passed; and (3) no topics passed. In the case of (2) or (3), the advisory committee may recommend that the student be dismissed from the Department’s graduate program, or the committee may choose to re-examine the student in some or all of the topics. Re-examinations must be scheduled no earlier than six months after the date of the first examination. A student may be re-examined for the written exams only once.

**The oral exam.** Students cannot schedule the oral portion of their examination until they have passed the written portion. Except in extraordinary circumstances, the oral portion of the examination will take place within 30 days of completing and passing the written portion. The subject matter of the oral examination is the same suite of topics that formed the written portion of the qualifying exams. As guidance, whatever papers the student cites as references for his/her answers to the written questions are fair game on the oral exam. As the written responses require 6-8 references each, this means that the student is expected to be sufficiently conversant with 30-40 references to be able to discuss their findings, experimental design and methodology, and implications at a deep level. The oral exam is intended to satisfy the committee that the student has an understanding of relevant areas of biology sufficient to enable him/her to carry out high-quality dissertation research with a firm intellectual grounding. As with the written exams, the same three outcomes are possible: (1) all topics passed; (2) some, but not all, topics passed; and (3) no topics passed. The same options are available to the advisory committee in the case of (2) or (3): recommend dismissal, or re-examine the student not earlier than six months after the first attempt. A student may be re-examined for the oral exam only once.

2. **The third-year prospectus/dissertation plan.** No later than the sixth semester, the student must submit to their advisory committee a more extensive document that covers the specific plan for their dissertation. The student and committee may choose one of two formats for this document, either:

   a. **Grant proposal format:** in the format of a grant-funding agency of the student and committee’s mutual designation (e.g., NSF, NIH, USDA), the student presents the plan for their dissertation, including extensive background, specific aims, experimental plan, and broader impacts.
b. Completed dissertation chapter plus outlines for other chapters: the student is expected to have at least one study within their dissertation completed, and sufficient description of subsequent chapters that the committee is assured that the whole can be completed in a timely fashion.

Whichever format is chosen, the student is expected to make a formal oral presentation of their dissertation proposal to their committee and answer detailed questions.

Upon approval of the dissertation plan by the advisory committee, the student will be accorded the status of Ph.D. Candidate.

Failure to meet any of the above deadlines may result in dismissal from the program. Delay of any of the steps described above requires unanimous approval from the advisory committee and the graduate program director.

5. Dissertation Preparation and Final Examination

Students must write a dissertation and defend it successfully during an oral examination. Guidelines for preparation of this document are available from the Graduate School. Students must:

1. Submit a preliminary draft of their dissertation to their Examination Committee at least 3 weeks before the end of the semester of graduation. The Examination Committee must agree that the dissertation is defendable in order to proceed.
2. Schedule the defense (see the Graduate School website for deadlines each semester) and notify the Biology office and the Graduate School office of the particulars of the defense so that it may be advertised to the university community.
3. Submit the final version of the dissertation to the Examination Committee at least five working days in advance of the oral examination. Two Examination Committee members will serve as first and second dissertation readers. The Graduate Advisor and first and second readers will have final editorial approval of the dissertation. Most students elect to give all members of the committee opportunity to provide editorial input for the dissertation.

6. Final Examination

The final examination of the Ph.D. candidate includes both a defense of their dissertation and a broader examination of the candidate’s area of concentration. The Examination Committee is appointed by the Dean of the Graduate School. In practice, however, the members of the Advisory Committee are usually appointed to the Examination committee. The Examination Committee determines whether the student passes. For details, see the “Requirements for the Doctor of Philosophy” in the Graduate School Bulletin.

**Examination Committee:**
- Graduate Program Director of the Biology department or a graduate faculty member chosen by the Director
- Graduate Advisor
- Another member of the Biology department*
- Representative from a related field within or outside the department*
- WFU faculty from outside the major department**
  *usually a member of the student’s Advisory Committee
  ** Must be a member of the WFU Graduate Faculty; can be Reynolda campus faculty in another department, WFU School of Medicine faculty, or from a different institution. If
from a different institution, the Graduate Advisor must send a letter to the Dean of the Graduate School (Reynolda campus) requesting the external member’s temporary appointment to the WFU Graduate Faculty. **Note that the external member’s role is to represent the Graduate Council, and as such, they act as Chair of the Examination Committee.**

7. Scheduled Deadlines for Ph.D. Students

**First Year**

**Orientation week (mid to late August).**
- Orientation program from the Graduate School
- Orientation program from the Department of Biology
- Consult with Director of the Graduate Program for course registration
- Receive instruction in animal care and use and in occupational safety
- Receive teacher training

**October 15.** Select Graduate Advisor or submit a schedule of lab rotations to the Chair of the Graduate Committee (if this option is selected, the student will work out a schedule for the following tasks that allows for the completion of rotations prior to selection of a Graduate Advisor).

**November 15.** Convene Advisory Committee. In this meeting, you should establish your course plan, and discuss your research project. Complete an Advisory Committee Meeting form (found in this document) and submit it to the Director of the Graduate Program.

**December 1.** Priority application deadline for the Graduate School: Deadline for requests to change degree program from Ph.D. to M.S.

**December 4.** Graduate Program Director submits Continuing Aid Form to the Graduate School to establish support for the following academic year. While you do not need to do anything, consult with your Graduate Advisor if there are any changes in support.

“**January 12.** Receive Continuing Aid Letter from the Graduate School. Notify Graduate Director if there are any problems or issues with support for the following academic year or if you do not receive a letter from the Graduate School.

“**March 1.** Present Research Prospectus to Advisory Committee.

“**March 15.** Meet with Advisory Committee to review prospectus. As soon as the prospectus is approved, submit a final copy of the prospectus to the Director of the Graduate Program (by the end of the third semester).

**Second year**

**December 4.** Graduate Program Director submits Continuing Aid Form to the Graduate School to establish support for the following academic year. While you do not need to do anything, consult with your Graduate Advisor if there are any changes in support.
~January 12. Receive Continuing Aid Letter from the Graduate School. Notify Graduate Director if there are any problems or issues with support for the following academic year.

Both semesters. Convene Advisory Committee each semester to review progress. Submit an Advisory Committee meeting form to the Director of the Graduate Program.

Toward end of second year. Take Qualifying Exam.

Third year

Before the end of the sixth semester. Submit third-year prospectus/dissertation plan to Advisory committee for approval.

December 4. Graduate Program Director submits Continuing Aid Form to the Graduate School to establish support for the following academic year. While you do not need to do anything, consult with your Graduate Advisor if there are any changes in support.

~January 12. Receive Continuing Aid Letter from the Graduate School. Notify Graduate Director if there are any problems or issues with support for the following academic year.

Both semesters. Convene Advisory Committee each semester to review progress. Submit an Advisory Committee meeting form to the Director of the Graduate Program.

Subsequent years

December 4. Graduate Program Director submits Continuing Aid Form to the Graduate School to establish support for the following academic year. While you do not need to do anything, consult with your Graduate Advisor if there are any changes in support.

~January 12. Receive Continuing Aid Letter from the Graduate School. Notify Graduate Director if there are any problems or issues with support for the following academic year.

Both semesters. Convene Advisory Committee each semester to review progress. Submit an Advisory Committee meeting form to the Director of the Graduate Program.

Final Year

As before, but in addition:

Both semesters. Convene Advisory Committee each semester to review progress. Submit an Advisory Committee meeting form to the Director of the Graduate Program.

December 1. Deadline for requests for additional support.

Usually second semester: Present second Departmental seminar.
February 15. File statement of intent to graduate (Degree Candidacy) with the Dean of the Graduate School.

Early April. Submit preliminary draft of dissertation to Examination Committee. Must be submitted at least 3 weeks prior to the end of the semester of graduation.

April 10. Last day to submit chapter of these to Graduate School for format review.

April 15 Schedule oral Final Examination of dissertation.

Late April. Complete oral Final Examination of dissertation. See specific deadlines at https://graduate.wfu.edu/graduation-requirement-checklist-reynolda-campus/

Early May. Final copies of dissertation are due to Graduate School. See specific deadlines at https://graduate.wfu.edu/graduation-requirement-checklist-reynolda-campus/

If you cannot meet one of these deadlines please seek advice from the Director of the Graduate Program immediately.
Advisory Committee Meeting Form

Date:____________________

Student’s name ______________________ Program: M.S. ___ Ph.D. ___

Subject area of thesis/dissertation research:
______________________________________________________________

Meeting summary including plan for completion of remaining degree requirements. The student and all Committee members are encouraged to contribute to this summary (continue on additional sheets if necessary):

Endorsements of summary by Advisory Committee members:

Graduate Student __________________ Graduate Advisor________________________

Committee member ________________ Committee member ______________________

Committee member ________________ Committee member ______________________

Committee member ________________ Committee member ______________________

Received by Director of the Graduate Program ______________________