Biology & Wildlife MS and PhD Degrees: Doctorate

The minimum requirements for a PhD degree include 18 credits of thesis research, written and oral comprehensive exams, and an oral and written defense of the thesis. Although there is no formal minimum number of required course credits, almost all PhD students complete some coursework.

Prior to the start of classes:

- Participate in our New Graduate Student Orientation and TA training (if you are a TA your first semester). Complete required safety trainings.

During your first semester:

- Form an advisory committee consisting of at least 4 people, including the committee chair (major advisor). This is done in consultation with your major advisor. Members of the committee are usually selected based on complementary expertise in areas of direct relevance to your research project.
  - The majority of faculty members, including the major advisor or co-advisor, must have an appointment in Biology and Wildlife.
  - Faculty from other departments or even from outside of UAF may be added as appropriate. Faculty members from other departments within the University of Alaska system (UAF, UAA and UAS) do not require special permission.
  - To add a faculty member from outside of the UA system, the committee chair must submit a letter to the affiliate committee (via Carol Piser) explaining why the expertise is needed, accompanied by a current c.v. of the proposed faculty member.
  - You will need to turn in the form entitled "Appointment of Graduate Advisory Committee".
- Students without an MS Degree: Take the qualifying exam to demonstrate competence in biology.
  - The exam consists of both a written and an oral portion. You will be tested in three of the four following categories (to be selected by you when you take the written exam): 1) genetics and evolution; 2) cellular biology and physiology; 3) ecology and behavior; and 4) research design and statistics.
  - Contact the Graduate Student Coordinator, Carol Piser, at the start of the semester to let her know you intend to take the exam.
  - The written exam will take place on a Saturday morning; the oral exam is conducted the following week. Two members of the Comprehensive Exam committee, your graduate committee chair, and one other committee member will be present.
  - Possible results of the exam are Pass, Conditional Pass, and Fail. A "Report on Comprehensive Exam" form must be completed and signed by the examination committee members present, then submitted to Carol Piser for processing. A conditional pass can require that the student
complete additional course work, obtain lab or teaching experience, or acquire other training. Once conditions are met, a new Report on Comprehensive Exam form must be completed, signed and submitted as above. Students failing the exam must retake and pass the exam the following semester.

- For further details see the "Graduate Student Packet" or the Student Coordinator.

- Start coursework as determined by your graduate committee.

By the end of your second semester:

- Develop a "Graduate Study Plan" (GSP), including a proposal for research.
  - The graduate study plan forms a contract between you and your committee. It outlines what you intend to do in terms of your research, and what courses you intend to take. It is a working document that is expected to change as your work develops and can be amended and resubmitted at any time prior to your advancement to candidacy, as long as you and your committee agree. It must include a preliminary title, a detailed outline of the research proposal (this may be substituted by the actual proposal), and a list of required and recommended courses.
  - Turn in a GSP form at any time during the first year, but no later than the end of your second semester.
- Hold at least one full committee meeting in which the GSP is approved and you get feedback on your proposal.

Second year and beyond:

- Complete the PhD comprehensive exam (usually within the first 2 years, but at least 2 years prior to graduation):
  - Successful completion of this exam demonstrates that you have the general breadth and depth needed to become a professional biologist.
  - This exam consists of a written exam followed by an oral examination administered by your graduate committee. Typically, each member of your committee will provide a reading list several months in advance, and each committee member will set a series of questions (usually approx. 1 day per person). This is followed by an oral examination at which an outside examiner (appointed by the Graduate School) is present.
  - Request an outside examiner two weeks prior to your scheduled exam by completing the "Request for Outside Examiner" form located on the Graduate School's Web site and submitting it to the Graduate School. Following your oral exam, complete the "Report on Comprehensive Exam".
  - A conditional pass can require that the student retake a portion of the exam. Once conditions are met, a new "Report on Comprehensive Exam" form must be completed, signed and submitted as above. Students failing the exam must retake and pass the exam the following semester.
Complete coursework as determined by your committee.

Hold at least one committee meeting per year and submit "Report of Graduate Student Advisory Committee" form. We recommend that you meet with your full committee at least once per semester.

Submit an Annual Report, including substantive comments regarding academic and research progress provided by the committee chair and a research progress report written by the student, at least once per year. This is usually done in conjunction with a committee meeting. If you are within 2 years of completion of the degree this must include a realistic timeline for completion of requirements. Note: If you do not submit an Annual Report, or if progress is unsatisfactory, you will be considered "not in good standing" and may not be eligible for TA and RAships. We will work with you and your committee to get you back on track and in good standing.

Advance to candidacy:
- After completion of the oral and written comprehensive exam, approval of the GSP, and completion of at least 2 years of graduate work (including 9 credits at UAF) you may apply for advancement to candidacy. This makes you eligible for graduation and also increases your rate of pay if you are a TA or RA.

Dissertation production

- A PhD dissertation usually consists of three to four manuscripts of a quality suitable for publication in a scientific journal, along with a general introduction to the topic and a set of general conclusions. Typically, one or several chapters have already been submitted or accepted for publication. This is acceptable provided that the graduate committee approved the chapter prior to submission.
  - The Introduction should provide a rationale for the research, including an appropriate literature review. Journal articles often limit how long an introduction can be; this is your opportunity to show us how broadly you've read about this topic.
  - The Conclusions should synthesize the results across all of the chapters and provide recommendations for future research.
  - The dissertation should follow all the Graduate School guidelines, including formatting; see the Graduate School Web site for these.
  - We highly recommend that you attend a thesis formatting workshop. These are offered by the Graduate School on a regular basis; check here for their calendar.
  - Because chapters are likely submitted to different journals, it is acceptable to have different formatting (even different spelling!) in different chapters.

- Deadlines for submission of the dissertation to the Graduate School are posted here. However, prior to submission to the Graduate School your dissertation will need to be reviewed and approved by all committee members, the Chair of the
department, and the Dean of the College of Natural Science and Mathematics. Plan accordingly to meet the deadline.

**Process**

- Work with your committee chair (major advisor) to produce a full first draft of each chapter. This will normally require several drafts.
- Once your committee chair is satisfied with the draft of each chapter, submit it to the remainder of your committee for comments. Usually all committee members will request further revisions.
- Once the entire committee is satisfied with a chapter, it may be submitted for publication.
- Once your whole committee agrees that the entire dissertation is ready to be defended, set a date for your oral defense.
  - Plan on an hour-long public presentation (including questions) followed by a closed-door oral defense that can take up to three hours. All committee members must be present, either in person or via tele- or videoconference.
  - Request an outside examiner with the "Request for an Outside Examiner" form. Outside examiners are representatives of the Graduate School who ensure that the exam is fair and may participate actively.
  - Defenses should be advertised at least 2 weeks prior to their occurrence. Please work with Carol Piser to schedule your defense and advertise it.
- Following a successful oral defense:
  - Complete and have all committee members sign the "Report on Dissertation Defense" form, and submit to Carol.
  - Incorporate all further changes requested by the committee.
  - Obtain signatures from all committee members on your signature page that is printed on thesis paper. Please include the names of the committee members below the signature lines.
  - Once all committee members have approved, submit your dissertation electronically to the Department Chair (for biology students: Christa Mulder, cpmulder@alaska.edu) or the Wildlife Program Chair (for students selecting a Wildlife concentration: Mark Lindberg, mslindberg@alaska.edu) and the department: fybio@uaf.edu for review. Expect this review to take up to two weeks; please take this into account when planning your defense. The chair will contact you with requests for further changes; once these have been approved, he or she will sign the signature page.
  - Submit a hard copy of the dissertation draft, including the signature page and recommendation from the chair, to the Dean of CNSM.
  - Once the Dean approves your dissertation, submit it to the Graduate School in hard copy and electronically, with your signature pages and thesis submittal form.