

Guidelines for the Dissertation Proposal in Ecology and Evolution - 2012

We recommend that students follow this format of sections in the preparation of their dissertation plan and that faculty committees use it as a jumping off for the oral exam. In terms of length and organization, the format is roughly based in NSF proposal structure.

Format:

The proposal should not exceed 15 pages in length. Text should be single spaced, not including figures, figure legends, tables and literature cited. Use 1 inch margins, and 12 point Times New Roman or a font with equivalent line/page and character/line count.

Sections:

Introduction and Background.

(NOTE: This section should be ~ 5 pages. Other sections should be as long as needed)

This section should state the general problem that you will be addressing and its intellectual relevance. The background should involve a succinct review of the relevant literature that sets up the entire proposal by defining key concepts related to the general topic, describing important patterns and generalities, outlining intellectual and detailing relevant methodological concerns that are relevant to the proposed work. The relative emphasis on these different elements will depend on the field and topic of interest. By the end of this section, the reader should have a clear sense of why the questions you will be asking are in some way interesting and feasible.

Questions, Rational, and Significance

This section should introduce the specific questions and hypotheses to be addressed in the dissertation. It should provide a concise statement of the goals of the dissertation work. The intellectual merit of the proposed questions and goals should be related to the information provided in the Background section. You should state what you expect the general expected or alternative outcomes will be. Discuss the logical interpretation of these outcomes to make it clear how they relate to your initial questions/hypotheses. Finally address the significance of these outcomes in light of the background material. NOTE: If this dissertation is part of a larger collaborative effort in a lab *you need to define your role in the group effort.*

The Research Plan and Design

The Research Plan should discuss the general plan of effort. You must provide a clear explanation and sketch of experimental methods, forms of analysis, and technical procedures that will be used along with supporting references. You need to explain and justify these approaches. Among things that should also be addressed are:

- What is the time-line for completion of the various tasks outlined in the research plan.
- Do you need further training? Are these methods and expertise currently available in the department or university? How will you gain access to needed expertise and resources not present at Stony Brook?
- It is very important to point out early on any potential problems, or alternative strategies. By definition one can't always anticipate what will happen in research. Identify benchmarks that will indicate success of specific approaches and may serve as signposts for possible "forks in the road" where different directions or emphasis may be entertained.
- You should be clear when advice from experts has shaped your decisions, so these decisions can be properly evaluated.
- If your research is in the early stages, describe any steps required to establish feasibility. What are the high risk aspects of the dissertation? Are they essential to success of the project and your career goals?

Support for Dissertation Work

What support are presently available or likely to emerge? How might failure to garner support affect success in completing your dissertation? Discuss any needs for travel, materials, etc.

Literature Cited.

By this stage you should have established a reference management system (e.g. Mendeley, Endnote, or Reference Manager). Several are provided free of charge on the university's Department of Information Technology website. Provide an informative bibliography of all references cited in the proposal, including those used in figures and tables. Recognize that in the oral exam you may be asked to elaborate on any of the cited work. Do not use numbered in-text citation formats in the proposal; rather, use name & date formats common in scientific society journals like Ecology or Evolution. In the bibliography, use reference formats that include names of all authors (in the same sequence in which they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication (not necessarily in that order).