

## DISSERTATION COMPOSITION

**Timing.** The decision of when to write the dissertation is a collective one made by you, your advisor, and your committee. The expectation of the Department of Microbiology & Immunology continues to be that all Ph.D. students will conduct sufficient research to result in at least two first-author publications describing original results in high quality, peer reviewed journals. As a minimum standard, to earn the Ph.D. degree we require that (i) a student must make meaningful contributions to and be an author on at least two manuscripts intended for publication in respected, high- quality professional journals or books, (ii) at least one of the two manuscripts must be accepted for publication, and (iii) prior to the private Ph.D. defense, a student must have peer reviews returned for at least one first (or co-first) author primary research manuscript.

**Expectations.** When you are ready to begin writing your dissertation, you must consult with your advisor, committee chair, and committee members regarding the content and format of your dissertation. It is important that you have a clear understanding of the expectations of all committee members for your dissertation. Students who ignore this step have had their defense postponed while they rewrite their dissertation to meet committee expectations.

**Introduction.** Chapter 1 is the Introduction. Typically, the Introduction is a narrowly focused review of the material necessary to understand the main body of the dissertation. However, the expected scope of the Introduction should be explicitly discussed with committee members before writing. If the student has written a review article, a suitably modified version may be utilized for the Introduction.

**Results.** The results chapters are typically published, submitted, or in preparation manuscripts reformatted to meet dissertation guidelines. Note that manuscripts written for journals with severe length restrictions (e.g. *Nature* or *Science*) may be too cryptic for a dissertation in their original form and may require suitable expansion and clarification. A student does not need to be the first author or co-first author to include a manuscript in their dissertation. Depending on circumstances, student preference, and committee advice, non first-author manuscripts may be included in the main body of the dissertation, included in the Appendix, or left out of the dissertation. For incomplete projects, we strongly recommend that students write up all available information (introduction, materials and methods, results, discussion, references, figures and tables) as a dissertation chapter. This will make it as easy as possible for someone else to complete the project and submit the final manuscript. Writing as much as possible before leaving also protects the student's position as a potential author on the eventual manuscript. Each results chapter must include a footnote with actual or planned publication information, a list of all actual or planned authors involved in the described research, and a statement specifying the contributions of the student to the project. Such footnotes should also be provided for the Introduction and/or Conclusion if review articles serve as the basis for these chapters, as well as for any manuscripts included in the Appendix.

**Conclusion.** The final chapter is the Conclusion. The Conclusion typically includes two types of material: (1) putting the results into broader context describing how the student's research has advanced the field, and (2) describing potential future directions to extend the line of investigation. However, the expected scope of the Conclusion should be explicitly discussed with committee members before writing.

**Appendices.** The dissertation serves as a formal record of a student's accomplishments during their Ph.D. studies. Therefore, students can choose to use appendices for material that does not easily fit into the main body of the dissertation (e.g. side projects, publications from time in another lab, intriguing preliminary observations, etc.). Such material can also be left out of the dissertation. What to include or exclude is a subject for conversation with your committee members.

**Advisor approval.** The student is expected to be the primary author of their dissertation, with advice and editing assistance from their research advisor. The advisor should read and approve the dissertation before distribution to the rest of the committee. Be sure to allow enough time for your advisor to approve your dissertation, given that you must deliver the dissertation to your committee at least two weeks prior to your private defense.

**Official guidelines.** For the latest Graduate School guidelines on writing your dissertation, please refer to <https://gradschool.unc.edu/academics/thesis-diss/guide/> and for information about the electronic submission of your dissertation please refer to <https://gradschool.unc.edu/academics/thesis-diss/>.