

Department of Microbiology & Immunology

Department website address: <http://www.med.unc.edu/microimm/>

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Program Overview

The UNC Department of Microbiology and Immunology is highly regarded in many disciplines, including prokaryotic and eukaryotic molecular and cellular biology, molecular genetics and bioinformatics, infectious disease and pathogenesis, bacteriology, virology, immunology and cancer biology. Our Department consists of ~80 faculty members, ~60 graduate students, ~40 postdoctoral scientists, ~35 research staff, and ~10 administrative staff, who together form a highly interactive, friendly, and collaborative community. Your education in the first year will be under the guidance of the BBSP. Upon subsequently joining our Department, we will provide you with an outstanding learning environment, an opportunity to conduct cutting-edge research, and most importantly, thoroughly prepare you for a successful career in science. Our Ph.D. program is designed to provide a foundation of fundamental knowledge in modern microbiology and immunology, foster critical scientific thinking, develop your written and oral communication skills, allow you to gain teaching experience, and give you opportunities to travel and showcase your work through posters or oral presentations at national meetings. Please come join us!!

Program of Study

The Microbiology & Immunology Ph.D. training program requires students to:

- *Complete* a Research Ethics course in year one through BBSP and refresher training in year five.
- *Pass* six relevant courses, including Mcro795 and two Departmental courses based on critical evaluation of the primary research literature.

Students typically complete four of the six classes while in BBSP.

- *Attend* weekly student and departmental seminars beginning in year two.
- *Act* as a Teaching Assistant for two semesters in department-approved courses.
- *Pass* the Doctoral Written Preliminary Examination (typically at the end of year two).
- *Pass* the Doctoral Oral Preliminary Examination (typically at the start of year three).
- *Form* a dissertation committee and meet annually to discuss research progress.
- *Present* your research annually in the student seminar series after year two.
- *Complete* at least one first author manuscript describing your original research and be an author on at least one other published paper. Most students meet our expectation of at least two published first-author research papers, which is higher than this minimum requirement.
- *Write* a dissertation, pass a final oral examination, and present your research in a public seminar. Students typically complete their Ph.D. in year five or six.

Doctoral Preliminary Examinations

The UNC Graduate School leaves the format of the doctoral preliminary examinations to the discretion of individual departments. We have chosen the following formats:

Our **written preliminary exam** is a non-thesis research proposal similar to a NIH fellowship application and is designed to be a useful learning experience. Students prepare by taking the Mcro795 proposal development class in the Fall semester of year two, which our faculty support through a substantial commitment of time. Exam guidelines and strategies for success are described at an organizational meeting in January of year two. Students choose a published paper from a faculty-generated list to use as the inspiration for an original research proposal. Students work on their proposal during the Spring semester. Students are encouraged to discuss their ideas with others. However, help with writing is limited to consultation with the UNC Writing Center and structured faculty feedback followed by the opportunity to revise. The exam assesses the ability to formulate an original and logical experimental approach and adequately express ideas in writing.

Our **oral preliminary exam** is an oral defense of the thesis research proposal. The oral exam provides an opportunity for students to demonstrate their ability to discuss the fields of science related to their proposal, explain the concepts underlying experimental methods, design logical investigations, and analyze problems.