

M&I
Microbiology
and Immunology

Guide to Graduate Studies



The Department of Microbiology and Immunology
804 Mary Ellen Jones Building, CB# 7290
University of North Carolina at Chapel Hill
Chapel Hill, NC 27599-7290
919-966-9005
dflann@med.unc.edu

PREFACE

The Department of Microbiology and Immunology is part of the School of Medicine and is also a unit of the Graduate School. Currently there are 45 primary faculty members and 30 joint faculty members in the department. The Department and its personnel are nationally and internationally recognized for significant contributions to science and to the University.

This guide is designed to provide information to our graduate students about the department, the graduate program, and specific degree requirements, including the preliminary written and oral examinations ("Prelims"). We are also interested in trying to improve the utility of this document so please make suggestions for improving its contents and its clarity.

In order to jump the University's hurdles more easily, please familiarize yourself with the Graduate School Handbook located on-line at <http://handbook.unc.edu/>; it contains most of the rules, regulations, policies, and procedures of the Graduate School and it takes precedence over any discrepancies in this guide. Also familiarize yourself with the Department of Microbiology and Immunology's degree requirements found in this guide. It is your responsibility to make sure that you fulfill all of these requirements as you go through the program.

We encourage each of you to discuss all aspects of academic life at this University with the Graduate Student Advisor, your preceptor, and other members of your Committee. Frequent discussions with all of these individuals will make your progress through the program much smoother and more rapid.

TABLE OF CONTENTS

	Page
Preface	ii
Table of Contents	iii
The Department of Microbiology and Immunology	1
Guide to the Ph.D. Degree	2-4
Registration	2-4
Requirements	2-4
Timeline of Events	2-4
Summary and Timetable for Degree Completion	5-6
General Information and Descriptions	7
Committee Meetings and Progress Report	7
Committee Meeting Forms	7
Dissertation Committee Selection	7-8
Dissertation Project Approval	8
Dissertation Composition	8-9
Dissertation Defense – Final Exam	9
Ethics	9
Grading	9-10
Graduation Requirements	10
Graduate School Guidebooks	10
Health Insurance	10
Information Request for Awards, Presentations & Publications	10
Laboratory Rotations	11
MD/Ph.D. Students	11
North Carolina Residency for Tuition Purposes	11
Outside Employment	11
Preliminary Examinations	11
Seminars	11-12
Teaching Assistantship	12
Travel Award	12
Tuition and Fees	12
Upon Degree Completion	13

APPENDIX

Appendix A: Guidelines for Preliminary Exam	
Appendix B: Report of Doctoral Committee Composition and Approved Dissertation Project	
Appendix C: Committee Meeting Report Form (departmental)	
Appendix D: Doctoral Exam Reporting Form – Writtens, Oral, and Final	
Appendix E: Application for Admission to Candidacy Form	
Appendix F: Application for Graduation	
Appendix G: Payroll deduction form for tuition and/or fees	
Appendix H: Guidelines for Ph.D. Dissertations	

THE DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY

The three intertwined missions of the Department of Microbiology & Immunology in the School of Medicine at the University of North Carolina, Chapel Hill are to:

- Conduct research that significantly advances the science of microbiology and immunology, broadly defined and with emphasis on topics that could contribute to improved human health;
- Educate diverse graduate, professional, and pre-professional students as well as postdoctoral scholars in the aspects of microbiology and immunology appropriate for their careers; and
- Serve the people of North Carolina and the United States, whose support enables our research and teaching missions, as well as the international community of scholars, who provide the framework in which to conduct high-quality peer-reviewed microbiology and immunology research.

Research programs in our department form a continuum of studies ranging from immunology to the DNA sequence organization; from bioinformatics to epidemiology; from pathogenic mechanisms to vaccine development. Our faculty is unified through their interest in the host-pathogen interface, and the desire to understand the complex nature of normal and disease processes in both man and model organisms. Molecular biology is the common language that unites our various studies. Students pursuing the Ph.D. degree in our department are trained in this atmosphere and become extremely competent and comfortable using the paradigms of molecular biology and genetics to probe significant biological issues relevant to prokaryotes, eukaryotes and their viruses.

The research interests of the Department overlap significantly with other programs on campus, and many of our faculty are affiliated with these programs. We have important and close interactions with the Lineberger Comprehensive Cancer Center, the Curriculum in Genetics and Molecular biology, Cystic Fibrosis Research Center, Thurston Arthritis Center, the Neuroscience Center, the Center for AIDS Research and perhaps most importantly the Center for Infectious Disease. These various levels of integration provide an extraordinarily stimulating environment for the Ph.D. student.

We are at an exciting time in the field of Microbiology and Immunology. We have powerful tools provided by modern molecular biology, and we are acquiring and assimilating new tools from bioinformatics. We have a broad biological scope in which to operate and the ability to intensively investigate and solve many fundamental problems.

It is, indeed, an exciting time to begin a career in the biomedical sciences.

GUIDE TO THE PH.D. DEGREE IN MICROBIOLOGY AND IMMUNOLOGY

I. REGISTRATION

After year 1 with the BBSP, if you commit to a Faculty member of our Department, please contact the Student Services Manager, Dixie Flannery or the Director of Graduate Studies, Bob Bourret.

II. REQUIREMENTS

A. Required by the Graduate School:

1. 4 Full Semesters of Credit (9 hrs each)
2. Written Preliminary Examination
3. Oral Preliminary Examination
4. Submit a progress report of your research to each member of the committee at least once a year.
5. Dissertation and public presentation of research results at a seminar

B. Additional Requirements Imposed by this Department:

1. **Six Courses including at least two seminar/tutorial courses**
One of the seminar tutorials may be outside the department but requires:
 - it must be a 700 level course or higher on a relevant topic.
 - it holds discussions on primary journal-based literature.
 - approval by the Director of Graduate Studies after reviewing a course syllabus. (The student is responsible for obtaining the class syllabus)
2. **Two semesters of TAs assigned by our Department.**
3. **Participation in Department seminars and student seminars (MCRO 701/702).**

III. TIMELINE OF EVENTS

A. During the First Year

1. **During the First Year – BBSP will advise you**
 - Meet with the BBSP Graduate Student Advisor (GSA) to choose courses.
 - Recommend no more than 2 didactic or seminar courses per semester.
 - Three Laboratory Rotations: Choose labs of your interest and contact the Faculty.
 - Choose Research Preceptor later in the year (who can support you and your research).
 - Complete training in Scientific Ethics

B. During the Second Year

1. Departmental Courses: **No more than 2 didactic or seminar courses per semester.** These courses are chosen in consultation with your research advisor or with the departmental Director of Graduate Studies. In addition, students are required to **attend two-thirds** of the Departmental seminars and student seminars (MCRO 701/702).
2. **Once during the year act as a T.A.** for a departmentally approved course. (Microbiology 251, Microbiology 255, or Microbiology 515)
3. Take the **qualifying (prelim) written examination.**
Our departmental qualifying exam format is a research proposal patterned in the format of an NIH grant proposal. Specific guidelines will be discussed in detail when the students meet as a group with the Prelim Exam Advisor

during the Spring semester. A specific list of DO's and DON'Ts will be distributed at that time. The exam is understood to be an expression of each student's independent ability to formulate an experimental approach and adequately express it on paper. The exam is scheduled once each year -- it immediately follows the end of the second semester with 5 weeks given to complete the document.

4. With your preceptor's assistance, select a research topic and begin your dissertation research.

C. During the Third Year

1. Oral Examination:

You should take the oral prelim exam as soon as possible but not later than 3 months after receiving notification that you have passed the written exam.

The oral exam centers on the topic of the written prelim, and provides an opportunity for you to demonstrate your ability to discuss the fields of science related to your proposal, as well as your ability to analyze problems and design experiments.

2. Departmental Course Requirements:

Required to attend two-thirds of the Departmental seminars and student seminars (MCRO 701/702).

Appropriate seminar tutorial courses may be taken in consultation with your research advisor.

3. Once during the year act as a T.A. for a departmentally approved course (Microbiology 251, Microbiology 255, or Microbiology 515)

4. Student Seminars:

Graduate students are expected to participate and attend student presentations held weekly during the academic year. Students are required to attend two-thirds of the presentations.

All graduate students who are Year 3 and above will be scheduled to give a formal presentation of their research (typically in PowerPoint). Year 3 students are expected to provide a short presentation approximately 20-25 minutes in length.

5. Form a Dissertation Committee and choose a thesis committee chair:

Committee Members: According to Graduate School rules the dissertation committee must consist of at least five persons: the dissertation advisor and at least 4 members of the Graduate faculty. One must be chosen as your thesis chair. Our department requires that the four members of the dissertation committee be faculty (primary or joint appointees) in our department. The names of the Faculty should be listed on the 'Report of Doctoral Committee Composition' form. The committee and chair must be selected by the end of the Fall semester.

6. Dissertation Research Project and Topic Approval: Each student should have developed a dissertation research project with his or her research advisor in year 2-year 3. The proposed dissertation project must be approved by your dissertation research committee. The committee must meet to consider approval of your proposed dissertation project by March 31 of the third year. Prior to your project approval meeting, please obtain the 'Report of Approved Dissertation Project' form from departmental Student Services Manager. You will present to the committee members a written prospectus of the dissertation research problem and methodology, at least

one week in advance of the committee meeting. The prospectus should be two pages or less and describe hypotheses, specific aims and a brief overview of research design, including which parts of the project have been completed. You will then present (orally) at the meeting, the dissertation research proposal to the committee and any experimental data. The committee determines the soundness of the problem and its feasibility. If a topic requires additional experimentation to determine feasibility, then topic approval may be deferred to subsequent meetings within the year. When your topic is approved, the Graduate School will be notified in writing that the dissertation project has been approved and that you are advised to proceed. **You must meet at least once every year with your dissertation committee to review your progress on your dissertation research project.** See *Committee Meetings and Progress Reports*. Be sure to pick up your progress report form prior to each meeting. This meeting is typically held in conjunction with the annual Student Seminar.

D. Fourth and Fifth Years

1. Register for three credit hours of MCRO 994 (dissertation in progress) and MCRO 701/702.
2. Provide a full (45-50 minute) presentation at the Student Seminars annually
3. Conduct Research and hold committee meetings.
Monitor your research progress, work hard, tabulate results, publish papers, write your dissertation. Dissertations are largely a collection of your manuscripts unified with a comprehensive Introduction and an overall Discussion.
4. Dissertation: The decision of when to write the dissertation is a collective one made by you, your advisor and your committee. When you're ready to begin writing your dissertation, you must consult with your committee advisor and committee members regarding content and format of the document. The goal for a dissertation is for the student to have carried out sufficient research for at least two first-author publications in high-quality refereed journals, either published or submitted for publication.

For Ph.D. defenses held in 2013 and beyond, 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 be an author on at least two manuscripts (one of which must be accepted for publication), and (ii) prior to scheduling the Ph.D. defense, a student must have peer reviews returned for at least one first-author or co-first-author primary research manuscript."

Summary of Requirements for a Ph.D.

First Year Student - BBSP

Second Year Student – Year 1 in Microbiology & Immunology

Take MCRO 701/702. Enough courses to total six (yr 1-2), two of which must be seminar/tutorials	Teaching Assistant 1	Written Preliminary Exam	Research in Progress
---	----------------------	---------------------------------	----------------------

Third Year Student – Year 2 in Microbiology & Immunology

MCRO 701/702 Oral Prelim Examination (Fall term)	Dissertation Committee & Chair selection and approval by the end of the Fall semester.	Present Student Seminar. Have your thesis project approval meeting by March 31 .	Teaching Assistant 2	Research in Progress
--	--	--	----------------------	----------------------

Fourth Year Student – Year 3 in Microbiology & Immunology

MCRO 701/702	Present Student Seminar and have a committee meeting	Research in Progress
--------------	--	----------------------

Fifth Year and above – Years 4 and above in Microbiology & Immunology

MCRO 701/702	Present Student Seminar and have a committee meeting	Research in Progress until final defense and graduation	Apply for graduation by appropriate deadline.
--------------	--	--	---

Bold indicates a Graduate School requirement as well as departmental.

Department of Microbiology & Immunology

Timeline of Key Steps in Typical Progression to Ph.D. Degree

Before Joining Department (in either BBSP or M.D./Ph.D. program)

Take classroom courses
Lab rotations
Choose thesis lab and join department

First Year in Department (2nd year Ph.D. students, 1st year M.D./Ph.D.)

Finish classroom course requirements
Act as TA for one semester

Fall - Begin attending at least 2/3 of department and student seminars each semester. Take Mcro795 proposal writing & logic class (recommended)

Spring - Topic selection for written preliminary exam
Summer - Written preliminary exam

Second Year in Department (3rd year Ph.D. students, 2nd year M.D./Ph.D.)

Begin annual presentations in student seminar series
Act as TA for one semester to complete requirement

Fall - Oral preliminary exam. Choose thesis committee by end of semester

Spring (by March 31) - Meet with committee to approve thesis project. At least one week prior to meeting, provide thesis committee with a written document of two pages or less describing hypotheses, Specific Aims, and a brief overview of research design, including which parts of research design have been completed

Third Year in Department (\geq 4th year Ph.D. students, \geq 3rd year M.D./Ph.D.)

Meet at least annually with thesis committee. Provide your committee with a progress report at least one week prior to each meeting following approval of the thesis topic. The document will consist of a Specific Aims page followed by a description of progress to date organized by Aim. The progress report should include any changes in Aims, a summary of key results, and plans for future experiments. The report should also communicate the student's vision for how results could be organized into publications, and the current status of progress toward publications."

One goal is to conduct sufficient research for at least two first author publications in high-quality refereed journals, either published or submitted. When ready to graduate, submit thesis to committee at least two weeks prior to defense. Defend thesis in private meeting with committee. Give public seminar of thesis research two weeks after private defense

Students typically graduate in their fourth or fifth year in the department (5th or 6th year Ph.D. students, 4th or 5th year M.D./Ph.D. students)

IV. GENERAL INFORMATION and DESCRIPTIONS

COMMITTEE MEETINGS & PROGRESS REPORTS

Students should form their thesis committee by the end of the Fall semester of the second year in the department, have their thesis topic approval meeting by March 31 of their second year in the department and have annual progress meetings thereafter.

Note: Your second year in the Dept. is your third year in graduate school.

Students will provide their committee with a progress report at least one week prior to each meeting following approval of the thesis topic. The document will consist of a Specific Aims page followed by a description of progress to date organized by Aim. The progress report should include any changes in Aims, a summary of key results, and plans for future experiments. The report should also communicate the student's vision for how results could be organized into publications, and the current status of progress toward publications.

To assist you with scheduling your meetings, you may want to try doodle.com or another on-line meeting scheduler.

COMMITTEE MEETING FORMS

There are two forms that you will need, one is for the Graduate School and is required for graduation. Part I is the Report of Doctoral Committee Composition, which must be completed during your third year; and part II is for your Report of Approved Dissertation Project and it should be completed no later than March 31 of your second year in the department.. Always let Dixie know in advance when you have a meeting so that she may prepare the appropriate form for you to pick up prior to your meeting. She will need the working title of your dissertation prior to your project approval meeting. See Appendix B.

The second one is a departmental form that helps us keep track of your committee meetings and of your progress. You will pick up this form from Dixie before each meeting, give it to your committee chair to complete, keep a copy for yourself and return the original to Dixie. See Appendix C.

DISSERTATION COMMITTEE SELECTION

The doctoral dissertation committee should consist of no fewer than five people, at least one of whom shall be named the dissertation advisor and one your committee chair. A majority of each dissertation committee must be regular members of the graduate faculty. At least four of the committee members must be members of the Department (either primary or joint faculty). After your committee is recorded, please let Dixie know of any subsequent additions or substitutions of a Faculty member on your committee.

The thesis committee chair will be a department faculty member different than the research advisor. The duties of the thesis committee chair are as follows:

- Chair leads all thesis committee meetings, including final defense
- Chair opens each thesis committee meeting by separately asking the student and the research advisor, in each other's absence, to briefly describe for the committee (i) their perception of the student's progress toward their degree, and (ii) any problems or challenges that may benefit from the advice or intervention of the committee.

- Chair signs departmental form indicating thesis committee meeting was held
- Chair signs final approval of thesis defense, after public seminar is completed
- Chair acts as an impartial mediator in any disputes that may arise between the research advisor and the student related to the student's research or thesis. The student will choose the thesis committee chair in consultation with the research advisor. In order to enhance the independence of the chair, it is suggested that the chair not be a close collaborator of the research advisor. The thesis committee chair cannot be the spouse or "significant other" of the research advisor.

Note: (1) The thesis committee chair cannot be the spouse or "significant other" of the research advisor; however, such individuals are allowed to serve on the thesis committee.

DISSERTATION PROJECT APPROVAL

Students will hold a thesis project approval meeting with their thesis committee by March 31 of their second year in the department. At least one week prior to the meeting, students will provide their thesis committee with a written document of two pages or less describing their hypotheses, Specific Aims, and a brief overview of their research design, including which parts of their research design have been completed.

Notes: Second year in the department corresponds to third year Ph.D. students (because the first year is in BBSP) and second year M.D./Ph.D. students. Students typically take their oral preliminary exam in the fall of their second year, and choose their thesis committee by the end of the fall semester of their second year. The March 31 deadline was chosen to avoid faculty scheduling conflicts at the peak time of prelim topic selection by second year students. Thus, students will have about five months following their oral exam in which to hold their project approval meeting.

DISSERTATION COMPOSITION

The decision of when to write the dissertation is a collective one made by you, your advisor and your committee. When you're ready to begin writing your dissertation, you must consult with your committee advisor, chair and committee members regarding content and format of the document. The current goal for a dissertation is for the student to have carried out sufficient research for at least two first-author publications in high-quality refereed journals, either published or submitted for publication.

Beginning in 2013, 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 be an author on at least two manuscripts (one of which must be accepted for publication), and (ii) prior to scheduling the Ph.D. defense, a student must have peer reviews returned for at least one first-author or co-first-author primary research manuscript.

Typically, the dissertation is organized into chapters. Chapter 1 is the Introduction and background. Chapters 2-4 (or more) are for each project and the last chapter is for Discussion in which the graduate student is asked to speculate on the immediate and long-term direction of the science. For the latest Graduate School guidelines on writing your dissertation, please refer to <http://gradschool.unc.edu/etdguide/> and for information

about the electronic submission of your dissertation please refer to <http://gradschool.unc.edu/student/etd/>. See Appendix H.

DISSERTATION DEFENSE – FINAL EXAM

The final defense of your dissertation will take place in two stages: (1) First, a private oral exam in front of the thesis committee, without a seminar-style presentation of results. If the student passes the oral exam, then all committee members except the chair will sign the appropriate graduate school document. (2) The student will present a formal public seminar of their research results no sooner than two weeks after their successful private defense. Thesis committee members are encouraged but not required to attend the public seminar. The thesis committee chair will sign approval of the defense following the required public seminar.

Schedule a date and location that works for you and all of your committee members for your private oral exam. All committee members are expected be present at your final oral defense meeting. If a common date cannot be determined, substitution of a committee member is an alternative after approval by the committee and the advisor. Please notify the Student Services Manager for formal substitution of a committee member. At least two weeks prior to the final oral exam, give your committee a draft of your dissertation. (If the thesis is not provided to the committee at least two weeks prior to the defense, then the thesis committee may, at their discretion, postpone the defense.

Pick-up the *Report of Final Oral Examination* form the day before, or the day of the meeting and give it to your committee chair and committee members for their approval and signatures in sections III and IV. A majority of the committee members must approve and sign the final dissertation.

The Student Services Manager will need your abstract, seminar title and seminar logistics at least one week prior to your seminar.

For the latest information on writing your dissertation, please see the ***Thesis and Dissertation*** Guide available on-line at <http://gradschool.unc.edu/etdguide/> For information about the electronic submission of your dissertation visit <http://gradschool.unc.edu/student/etd/>

ETHICS

All first year Ph.D. students in the BBSP and School of Medicine are required to participate in formal training discussions on the subject of Scientific Ethics that are held annually.

ALL MCRO students are required to attend the annual ethics seminar presented by the School of Medicine and the Graduate School.

GRADING

As described in the *The Graduate School Handbook*, grades for graduate students are H (High Pass), P (Pass), L (Low pass), F (Fail), S (Satisfactory progress), IN (Incomplete), AB (Absent from final exam), and NG (No grade). Students who fail to complete satisfactorily the work in any course ordinarily receive the grade of F. However, if the faculty member teaching the course is satisfied that exceptional

circumstances warrant extending the time for completion of course work, the grade of IN may be given and a date set, **in writing**, for completing the work. A grade of IN indicates that the student has failed to meet the requirements and will turn to an F after the set date, or one year after the IN was received if no date was set. A Graduate Student who receives one grade of F, or nine or more semester hours of L, is ineligible for continued graduate study.

GRADUATION REQUIREMENTS

Four semesters in residence, at least six hours of MCRO 994, writings, orals, committee approval, dissertation topic approval, final orals, seminar and dissertation. There are official Graduate School forms for each of these milestones so please notify the Student Services Manager, in advance, of each one. You must apply for graduation. See Appendix F.

GRADUATE SCHOOL GUIDEBOOKS

The Graduate School no longer gives you copies of *The Graduate School Handbook*, *The Policy and Procedures Guide* or *The Guide to Dissertation and Theses*. It is strongly recommend that you review the first two mentioned and look them over and review the third before you start writing your dissertation.
<http://gradschool.unc.edu/publications/>.

HEALTH INSURANCE

A part of your student fees goes towards Campus Health Services (CHS); however, not everything is covered at 100%. Therefore, the department pays for you to have a 12-month comprehensive plan underwritten by Blue Cross and Blue Shield, and administered by Hill, Chesson, and Associates. After the initial sign-up period, you will receive policy information and an insurance card. You will be asked prior to each sign-up period if you do, or do not want this coverage.

Because you are not registered during the summer and therefore do not pay the student fees, there will be additional funds in your stipend to cover your summer fees. This means you may cover either your Campus Health Services (CHS) fee for each summer session, and/or your student registration fee if you are defending your dissertation and have to be registered for MCRO 994. You are responsible for paying these fees with funds that have been provided for this purpose.

INFORMATION REQUEST

Awards: Please remember to inform the Student Services Manager anytime that you receive a fellowship, award, honor or distinction from inside or outside of the university. It would be very helpful to have this information soon after it happens so that it can be included in the graduate student database and extracted when needed.

Presentations: Please remember to inform the Student Services Manager of when, what and where you've presented your research outside of the department.

Publications: Please inform the Student Services Manager when your manuscript(s) have been accepted and where they have been accepted.

Post Graduate Work: Please notify the Student Services Manager about your plans of employment or post-doctoral fellowship and contact information.

LABORATORY ROTATIONS

Rotations into laboratories in year one are meant to acquaint the graduate student with the mentor, the field of research and scientific environment. The object is to determine after year one, which particular laboratory will be your field of research for your dissertation. Rotations are arranged with the BBSP. At the end of your rotations, the BBSP will help formalize your designated lab and transfer your name to our department.

MD/PHD. STUDENTS

MD/Ph.D. students are required to take three courses, at least one must be a seminar/tutorial, and to TA once. The timing of the other activities (prelim exams, committee formation, etc.) is usually accelerated by one year for MD/Ph.D students compared to regular Ph.D. students.

NC RESIDENCY FOR TUITION PURPOSES & TUITION REMISSION

Upon arrival in NC, all out of state students need to begin the steps to become NC Residents for Tuition Purposes. After you have lived here for 12-months, you are required by the department to apply for NC Residency for Tuition Purposes every Fall and Spring semester until you are granted in-state residency. Students who do not provide their paperwork showing that they applied may NOT be eligible to receive a department tuition remission; therefore it is imperative that you take steps to become a NC Residency for Tuition. Tuition remissions are allocated funds from the Legislature to pay the out-of-state portion of tuition, offsetting the tuition cost for your PI and/or the department, and are limited.

OUTSIDE EMPLOYMENT

If you are receiving a stipend from the department, outside employment is not allowed, this includes teaching assistantships in other departments. However, in certain instances an exception may be made for TA'ing with prior approval from the Director of Graduate Studies and your advisor. A reduction in stipend will occur. Please contact the Director of Graduate Studies for information.

PRELIMINARY EXAMINATIONS

Written Exam

The written preliminary exam consists of a research proposal, written in the style of an NIH grant proposal. Students are required to submit two suggested topics to a committee chosen for the prelims. The committee makes the ultimate choice of topic. The proposal is written during a five-week period that begins shortly after the end of the second spring semester each year. See Appendix A.

Oral Exam

Within three months after passing the written portion of the exam, students take the preliminary oral exam. This exam centers on the same topic as the written proposal, although questions may also concern related areas and disciplines. The oral exam is given during your third fall semester.

SEMINARS

Tuesday Departmental Seminars: On most Tuesdays throughout the Fall and Spring semesters, a guest speaker from other universities, research institutes or industry visits

the department, meets with faculty, postdoctoral fellows and students, and presents a seminar. This provides excellent opportunities for students to meet outstanding scientists from outside the University of North Carolina scientific community. **All students are required to attend at least two-thirds of the Tuesday Seminars throughout their tenure in the department. All students should be enrolled in MCRO 701 or MCRO 702. Students will be graded for their attendance at both the departmental seminars and student seminars.**

Thursday Student Seminars: Beginning in your third year you will be required to give a seminar once a year in the Thursday Seminar series for graduate students. You will be assigned a seminar date beginning in your third year. These seminars are meant to be a formal short (20-25 min.) or a full (45-50 min.) PowerPoint presentation describing the goals and progress of your dissertation research. Currently, two 3rd year students from the same area of study (virology, immunology, etc.) are assigned to present a short seminar on the same date.

This seminar is intended to be a progress report. It is also an opportunity for feedback/critique from fellow graduate students. Another objective is to practice the task of relating your detailed research topic to an audience of peers whose own interests and expertise may not be identical to your own. **All students are required to attend at least two-thirds of the Thursday Student Seminars.**

TEACHING ASSISTANTSHIP

You are required to be a teaching assistant in a lab of one of our courses, MCRO 251, 255, or 515, for one semester during your second year and during your third year. Bruce Alexander, Coordinator of Teaching Labs, is in charge of making these assignments and overseeing all TA's.

TRAVEL AWARD

There is a one-time \$300 travel award available from the department. To apply for it please send your request and attach an abstract or conference invitation to the Student Services Manager. We will reimburse you or pay in advance for air, registration, etc. You must submit \$300 worth of travel receipts, or we can pre-pay your registration fee and/or travel up to \$300 if it's booked with our agency using a travel authorization number.

Other funding resources visit the Grant Source Library at <http://research.unc.edu/offices/grantsource/index.htm>:

TUITION AND FEES

The Department of Microbiology and Immunology will pay your tuition directly to the University Cashier's Office via the Student Tuition and Reporting System StARS. However, your stipend has been increased to include your fees and you will be responsible for paying them to the Cashier's Office via payroll deduction or by paying 100% to the Cashier at the start of each semester. You will receive information about the process, including the payroll deduction (see appendix G) form prior to the start of each semester. When you receive your tuition and fee bill from the Cashier's Office, check it over for anything that you are responsible for paying. (i.e., library fines, Campus Health charges, parking tickets, etc.) and take care of it prior to the start of registration so a hold is not placed on your account, or your registration gets cancelled. You will receive several bills before your tuition is actually electronically paid. Rest assured that your tuition will be paid.

UPON DEGREE COMPLETION

- **Turn in all keys and your key card and ask to be removed from the departmental network after transferring your files to another lab member or PI.**
- Change your address in MyUNC so that you will receive your W-2, diploma, etc. Go to <http://www.unc.edu/myunc/> and link to your Student Center.
- **Request a transcript from the Registrar's Office or print off your grade summary from MyUNC. More than likely you'll need this information in the future when you're completing Fellowship applications and the department cannot provide you with a copy.**
- Give a copy of your current curriculum vitae to the Student Services Manager to close out your file.
- **Leave your forwarding address with the Student Services Manager and change your current & permanent address at MyUNC.**
- Let the Student Services Manager know where and what position you will be going to and each subsequent position thereafter. We won't hit you up for money, we just like to know what our alum are "doing now". It is also a frequently asked question of prospective students and of training grant reports.
- **Complete the exit interview survey sent to you from the Graduate School or they will not release your diploma.**

TABLE OF CONTENTS

APPENDIX

- Appendix A: Guidelines for Preliminary Exam
- Appendix B: Report of Doctoral Committee Composition and Approved Dissertation Project Form
- Appendix C: Committee Meeting Report Form (departmental)
- Appendix D: Doctoral Exam Report Form – Written, Oral, Final Oral, and Dissertation
- Appendix E: Application for Admission to Candidacy Form
- Appendix F: Application for Graduation
- Appendix G: Payroll Deduction of Tuition and/or Fees form
- Appendix H: Guidelines for Ph.D. Dissertations

Revised by RBB 2/11/12

REVISED
GUIDELINES FOR THE MICROBIOLOGY & IMMUNOLOGY DEPARTMENT
2012 WRITTEN PRELIMINARY EXAM

The written preliminary exam (also known as the doctoral written examination) consists of a research proposal, written in a format similar to a NIH grant proposal. The proposal is written during a five week period that begins shortly after the end of the Spring semester each year. Within three months after passing the written portion of the exam, students take the oral preliminary exam. The oral exam centers on the same topic as the written proposal, although questions may also concern related areas and disciplines.

1. **Prelim Exam Advisor.** If you have questions or concerns about any aspect of the preliminary exam process, please contact the Prelim Exam Advisor (Bob Bourret, bourret@med.unc.edu, 966-2679)

2. **Topic selection.** You should develop two potential topics for the prelim exam.

Committee. For each potential topic, you are responsible for finding faculty members who agree to be the primary and secondary reviewers for the proposal if that topic is chosen. The same faculty member can be a reviewer for more than one topic. It would be prudent to include at least one faculty member for each topic who has substantial experience with prelim exams in our department. It is permissible to recruit a reviewer from another department. Be sure to provide the Prelim Exam Advisor with the name and email address of any non-departmental reviewers, to ensure they receive information about the examination that is otherwise distributed by the departmental faculty listserv. **The potential primary reviewer for each topic must be a member of the Microbiology and Immunology Department. Ideally, he or she should be able to attend the Prelim Study Section meeting in mid-July.** Faculty reviewers must be an Assistant, Associate, or full Professor (either tenure-track or research-track faculty are allowed, but Instructors, Lecturers, etc. are not eligible). The spouse or significant other of your research advisor cannot be on your committee.

Permissible topics. Because we want to evaluate a potential line of investigation that is generated by you and not by your mentor, you may not choose a topic that involves projects from the laboratory where you are carrying out your dissertation research, whether that research is past, present, or future:

- A prelim topic cannot build on data collected in your lab, even if the project was discontinued or there are no plans to follow up on the observation, because the project was originally initiated by your lab.
- Overlap with current projects should be straightforward to evaluate.
- The prohibition against future projects means that a prelim topic cannot be under serious discussion as a thesis topic or as part of a grant proposal by anyone in your lab.

- A prelim topic can apply a method developed or used in your lab to investigate a different topic. The restriction applies to the topic, not to the method of investigation (unless the method is the topic).

Nevertheless, at least one topic must be something your lab might plausibly work on in the future, i.e. in the same general area as the actual or planned research of your lab. The reason for this constraint is to gain a deeper understanding of background material relevant to the research in your lab. A simple way to meet the requirement is for the prelim topic to involve the same biological entity (microorganism, cell type, organ, etc.) that is used in your lab, but investigates a different biological process. If your lab studies X process in Y biological entity, then the prelim topic cannot be to characterize a different version of X process in Y biological entity, or to characterize X process in Z biological entity. Both situations are too close in intellectual origin to your mentor's research. However, discussion of a topic at a lab meeting, lab journal club, by the lab PI, etc. does not preclude you from using that topic for prelims. Furthermore, if your prelim topic is such a good idea that after passing the prelim it becomes your thesis project or the subject of active investigation in your lab, then your passing status will not be revoked.

The second topic can also be within the general field of your lab or something completely different. You are strongly urged to consult with your advisor and with other members of the faculty during the process of developing potential topics. If you are unsure whether a potential topic is too close or too far from the research being done in your own lab, consult with the Prelim Exam Advisor.

Topic description. At least two weeks before the scheduled start of the exam (or by the specific deadline that is announced each year; in 2012, the deadline will be **Monday, April 23**), you should have a topic selection meeting with a committee consisting of all of the potential primary and secondary reviewers and your research mentor. **In preparation for this meeting, write a brief (1-2 page) description of each of the two potential topics and distribute them to all committee members at least two days before the meeting.** For each topic, this document should include a title for the project, a paragraph or two of critical information about background and significance, a listing of the questions that the proposal will address, and an indication of the general experimental approaches that will be used. It's not necessary to have every detail worked out for both topics before this meeting. It is necessary, however, to have a good idea of the likely Specific Aims and of the type of experiments that you would propose for each Aim.

Note that because parts of the topic description document may end up in your final proposal, the prohibition described in item #4 below against receiving any help with writing applies to this document as well as the final proposal. Your committee can see and comment only on the final version of your topic description documents. Therefore, do not show or email drafts of parts or all of your topic selection document to your reviewers. However, it is permissible to share brief written outlines of your ideas with others during topic selection. The key here is "brief". Line entries should be a few words or a phrase, not complete sentences. Simple outlines have the

potential to help communicate your ideas and facilitate discussion, but are far enough from the final text that the integrity of the writing process is not in doubt.

Topic verification by mentor. Mentors are not always aware of the details of the student's proposed prelim topics. Conversely, students are not always aware of all future anticipated research activities in their lab. **To verify that the proposed topics are permissible, the documents describing a student's two proposed prelim topics must each contain the following statement to be signed and dated by the student's mentor prior to distribution to topic selection committee members.** If the student's mentor is not physically available to sign the documents, then an equivalent email message sent directly from the mentor to the primary reviewer is an acceptable substitute:

"Prelim topics are subject to two constraints. Please verify that this proposed prelim topic is permissible by reading the project description provided by your student and then signing the following statement:

- *The topic of this research proposal is NOT currently being explored in my laboratory nor is this topic the subject of an existing or planned grant application written by myself or anyone in my lab.*
- *This topic IS/IS NOT (circle one) something my lab might plausibly work on in the future, i.e. in the same general area as the actual or planned research of my lab.*

The "IS" option must be chosen for at least one of a student's two topics. The purpose of this constraint is for the student to benefit from a deeper understanding of background material that is reasonably relevant to research in their lab.

Mentor Signature _____ Date _____"

The topic verification statement is for the benefit of the topic selection committee only and does not have to be submitted to the Prelim Exam Advisor or the Student Services Manager.

Topic selection meeting. All reviewers must be present at your topic selection meeting. Your research advisor is welcome to attend but may not speak, and his or her presence is not required. At the topic selection meeting, you should be prepared to give a short (10-15 minutes) presentation about each of the topics. The committee members will ask questions to help them understand the plans for each topic. The final choice of a topic resides with the committee. The exact topic approved for each student, plus the names of the primary and secondary reviewers, will be submitted to the Student Services Manager (Dixie Flannery) by the primary reviewer immediately after the meeting. On the first day of the exam period, you will be told which topic has been assigned to you.

A potential outcome of a topic selection meeting is that one or both of your topics may not be approved as suitable. If so, the topic selection committee will advise you on steps to take to develop a suitable topic. Note that the five week exam period will begin whether or not you have two approved topics, but you cannot start your exam until your

topics are approved. It is therefore prudent to have your first topic selection committee meeting well before the April 23 deadline, in case you need more time to work on your topics.

3. Exam period. The prelim will start after Spring semester final exams and is due in the Student Services Manager's (Dixie Flannery's) office on a specified date five weeks later. Late proposals will **NOT** be accepted. **In 2012, the prelim will begin when topics are distributed by e-mail at 8:00 am on Monday, May 7. Completed exams must be submitted by 12:00 noon on Monday, June 11.**

4. Obtaining advice and information from others. You must work independently in preparing the proposal. However, you are allowed (and strongly encouraged) to seek advice from colleagues and experts, either at UNC or elsewhere, concerning specific techniques or experimental approaches, or the feasibility of your scientific ideas. **You should inform each potential consultant that a question relates to the prelim exam. However, you may not receive review or correction of the written proposal by anyone. This rule includes everything: the scientific content of the proposal as well as the grammar and writing style. Once you have written down your ideas, you may not have anyone read the document and give you advice based on that reading. This prohibition applies to your faculty reviewers, as well as to anyone else. If you violate this rule, you will receive a grade of Fail for the exam.**

5. Avoid plagiarism. **The proposal must be written in your own words; use of sentences (even with a word or two changed) or ideas from another's work, without attribution, is unacceptable.** If it is necessary to use someone else's words, they must be indicated as such by quotation marks, with the appropriate source cited. Violations of acceptable citation practices will be pursued through the Honor System of the University.

6. Format rules. The proposal is to be written in the following format. The length of the proposal is not to exceed 12 pages of text (single-spaced, at least one-half inch margins on all sides), excluding the abstract and references. Note that the Specific Aims page is included in the page limit, in contrast to NIH applications. Tables and figures are included within the 12 page limit; be sure to make them large enough to be legible. Use Arial font, 11 point or larger, for the text, tables, and for figure legends. A symbol font may be used for Greek letter or other special characters. Pages should be numbered. Include your name in a header on each page. Page numbers and names can go within the margins. The proposal should include the following sections:

Abstract. A concise description of the content of the proposal, including long term objectives, Specific Aims, experimental design, and methods for attaining the goals. One-half of one page is the recommended length. The abstract does not count against the overall 12 page limit. **The abstract should serve as a free-standing description of the entire proposal, not as an introduction to it.** Thus, after a few sentences in which you describe the topic and key information that provides the basis for your hypothesis, you should give the overall hypothesis. The hypothesis should be

followed by a sentence or two about each of the Aims, describing the Aim and the general experimental approach that you will use to pursue each Aim.

Specific Aims. What are you going to do? This section usually opens with an introduction to the topic and its significance, and then defines the broad, long-term objectives of the project and states the major hypothesis that you have formulated. Then, list the Specific Aims, which may be presented as goals to be reached or as questions to be answered. One page is recommended. This section will inevitably repeat some of the contents of the Abstract, which is OK. For those of you who have taken Mcro795, starting with the Specific Aims page template used in class is a good way to help organize your thoughts and the description of your project. Note that the Specific Aims page counts against the 12 page limit.

Significance. Explain the importance of the topic addressed by your proposed project. Explain how the proposed project will improve scientific knowledge, technical capability, and/or clinical practice. Describe how the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field will be changed if the proposed Specific Aims are achieved. (Paraphrased from NIH instructions.)

The proposal format does not contain a "Background" section, so it is up to the author to decide where to best provide the information necessary for the reader to understand the proposal. Some will undoubtedly go in the Significance section. Other background information will go in the Innovation and Approach sections. Wherever you put background information, be sure to **critically** evaluate existing knowledge and evaluate the conclusions that have been made in previous studies.

Innovation. Explain how your proposal challenges and seeks to shift current research or clinical practice paradigms. Describe any novel theoretical concepts, approaches, methodologies, instrumentation, or interventions to be developed or used, and any advantages over existing strategies. Explain any improvements or new applications of existing theoretical concepts, approaches, methodologies, instrumentation, or interventions. (Paraphrased from NIH instructions.)

Approach. Describe the overall research strategy and the procedures you will use to accomplish the Specific Aims of the project. Include the means by which you will collect, analyze, and interpret data. Describe any new methodology and its advantage over existing methodologies. **Discuss the potential difficulties and limitations of the proposed procedures and alternative approaches to achieve the Aims.** For each set of experiments, include a consideration of possible outcomes and how you will interpret those different possibilities. Indicate how you will establish priorities. Point out particular hazards (beyond routine laboratory activities) associated with the planned research and the appropriate precautions to be taken, including institutional approval. **The scope of the investigation should be appropriate for a three-year project for one investigator and one technician (total of six person-years of work).** The Approach section should constitute most of the proposal (at least eight pages).

Bibliography and References Cited. Provide complete references, **including all authors and titles**. If you get information from Web sites, include the URL in this section. Use of bibliographic software such as EndNote is strongly encouraged. Also, if you refer to DNA sequences or protein structures, you should include the GenBank accession numbers or the PDB file numbers respectively in the text. The reference list does not count against the 12 page limit.

7. Examples of successful proposals. The Prelim Exam Advisor will distribute at least one example of a successful proposal from a previous year.

8. Avoid computer problems. Be sure to make a backup copy of all your relevant files (text, figures, references, etc.) on a separate memory device at least once a day. Loss or damage to your files for any reason (hardware or software problems, virus, theft) will not be accepted as a reason to extend the deadline for exam completion. Get in the habit of making backups while you are developing topics; don't wait for the exam itself.

9. The due date for the completed exam is 12:00 noon on Monday, June 11, 2012. This is a firm deadline; late proposals will NOT be accepted and you will receive a grade of Fail for the exam. **If there is some reason why you cannot make the deadline, contact the Prelim Exam Advisor as soon as you know there is a problem.** Turn in **five paper copies and a .pdf computer file of the complete exam** to Dixie Flannery by 12:00 noon on the due date. The .pdf file may be submitted by e-mail or on a CD.

10. Lifting of exam embargo. After 12:00 noon on Monday, June 11, 2012 anyone may read your proposal. You certainly should give a copy to your research mentor.

COMMITTEE MEETING PROGRESS REPORT

Student: _____ Committee Chair: _____
 Advisor: _____

Directions: Take this form to each of your committee meetings and have your committee Chair complete his or her assessment and include comments. Return the original form to the Dixie after each meeting and keep a copy for yourself. **You are required to have at least one committee meeting every twelve months**, however, it is in your own best interest to have them more frequently.

The committee has reviewed the student's academic research progress and makes the following assessment and recommendation(s):

Committee Meeting 1 Date: _____ Assessment: _____
 Recommendations:

Next meeting in: 6 months _____ or 12 months _____

Committee Meeting 2 Date: _____ Assessment: _____
 Recommendations:

Next meeting in: 6 months _____ or 12 months _____

Assessment Categories

- #1 Exceptional Performance— Dissertation on schedule and/or manuscripts in press or publication.
- #2 Good Performance—Student is making satisfactory progress, dissertation is on schedule.
- #3 Potential Problems—Student is not meeting our expectations and should be encouraged to improve.
- #4 Unsatisfactory—Student is making unsatisfactory progress
- #5 Unknown—I do not have enough information to evaluate at this time

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

The Graduate School

DOCTORAL EXAM REPORT FORM

NOTE: The Committee Composition form should be on file with the Graduate School **before** exam results are reported.

Student's Name _____ PID# _____
 Department/Curriculum/School: _____

PART I: REPORT OF PRELIMINARY WRITTEN EXAMINATION

On behalf of a majority of the examining committee, I certify that the above named student:

_____ successfully passed the examination _____
 _____ failed to pass the examination _____ *signature of committee chair* _____ *date*

Check here if student previously failed exam. Date(s): _____

By initialing, the committee chair certifies that this student was registered as required during the term this work was completed.

PART II: REPORT OF ORAL EXAMINATION

On behalf of a majority of the examining committee, I certify that the above named student:

_____ successfully passed the examination _____
 _____ failed to pass the examination _____ *signature of committee chair* _____ *date*

Check here if student previously failed exam. Date(s): _____

By initialing, the committee chair certifies that this student was registered as required during the term this work was completed.

PART III: REPORT OF THE FINAL ORAL EXAMINATION (defense of dissertation)

A majority of the committee for the above named student has judged the dissertation defense to be:

_____ acceptable _____
 _____ unacceptable _____ *signature of committee chair* _____ *date*

Committee member signature/date	Pass/Fail	Committee member signature/date	Pass/Fail
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Check here if student previously failed exam. Date(s): _____

By initialing, the committee chair certifies that this student was registered as required during the term this work was completed.

PART IV: REPORT OF THE FINAL DISSERTATION (can be completed at the same time as Part III as appropriate)

A majority of the committee for the above named student has judged the dissertation to be:

_____ acceptable _____
 _____ unacceptable _____ *signature of committee chair* _____ *date*

Committee member signature/date	Pass/Fail	Committee member signature/date	Pass/Fail
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

By initialing, the committee chair certifies that the required edits were made and the final document is approved for electronic submission.

- Submit to the Graduate School after all activities have been successfully completed
- Keep copies for your files

THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
The Graduate School

APPLICATION FOR ADMISSION TO CANDIDACY* FOR A DOCTORAL DEGREE

Candidate's Name: _____ PID# _____ <div style="display: flex; justify-content: space-around; width: 80%; margin: 0 auto;"> (first) (middle) (last) </div> in the Department, Curriculum or School of _____ hereby applies for admission to candidacy for the degree Doctor of _____.

Is a foreign language required of this student? _____ If so, list below the language required and how the requirement has been satisfied:

Language _____ Satisfied by _____

Is there a substitute requirement in lieu of a foreign language for this student? _____ If so, list the substitute requirement and specify how it has been satisfied:

Signed _____
Department Chair or Director of Graduate Studies

Date _____

*Admission to candidacy requires that both the doctoral and written examinations have been passed, all course work required by the programs of the major and minor(s) has been completed, and that any foreign language or language substitute requirements have been met.

FOR GRADUATE SCHOOL USE ONLY

Provisions:	Committee:	Admitted to Candidacy:
Courses: /394:	Prospectus:	Degree:
Language:	Residence:	Department:
Written:	Final Oral:	
Doctoral Oral:	Dissertation:	

Application for Graduation

The Application for Graduation is now completed and submitted electronically and located at http://cfx.research.unc.edu/grad_appOnline/index.cfm.

Example:

The Graduate School - Application For Graduation

Form must be received by the OFFICIAL APPLICATION DEADLINE posted by semester on the University Registration Calendar available at regweb.unc.edu

NAME:

Last

First

Middle

All diplomas contain the name as it appears on your official UNC transcript, and are mailed by the University Registrar to the permanent address on your official UNC record. Please visit the Office of the University Registrar for official name changes and studentcentral.unc.edu for official address changes

EMAIL ADDRESS:

COMMENCEMENT YEAR

MAJOR Microbiology and Immunology PID#

MAY

[] PHD MA MS DPRH OTHER

AUGUST

DECEMBER

DOCTORAL DEGREE CANDIDATES ONLY: *The commencement program and archive databases will contain the information indicated below. Please type carefully using accurate spelling and if using a foreign language or special characters in the title, please identify the language or explain the special characters for typesetting on a separate attached sheet.*

DISSERTATION TITLE:

DISSERTATION ADVISOR

All requirements for the degree must be satisfied and properly documented to award the degree for the term above. In the event requirements are not met, a new application to graduate for a future term is required. Please work closely with your program to insure that all requirements are met and submitted by the deadlines for this term.

Submitted:

The University of North Carolina at Chapel Hill
GRADUATE STUDENT PAYROLL DEDUCTION AUTHORIZATION
 (For Payment of Tuition and/or Fees)

Student Information															
Name:															
	Last			First			MI								
PID (Student ID)															
Campus Address															
Phone Number:															
	Home						Cell								
Department Information															
Dept. Number															
					Dept. Name										
Dept Personnel Representative:					Phone:										
Appointment Information															
Type:	<input type="checkbox"/> Graduate Assistant <input type="checkbox"/> Research Assistant <input type="checkbox"/> Teaching Assistant				Payroll Cycle:	<input type="checkbox"/> Biweekly <input type="checkbox"/> Monthly									
					Semester Amount										
Registration Information															
Term	__	Fall	__	Spring	Year				Expected Hours:						
Residency Status:	<input type="checkbox"/> NC Resident <input type="checkbox"/> Non-Resident				I will be granted tuition remission:	<input type="checkbox"/> Yes <input type="checkbox"/> No									
<p>How to compute the amount to deduct: Estimate the total amount of tuition and fees and reduce it by any departmental funding expected, including remission. <i>If you will receive financial aid that will cover your total tuition and fees, you may NOT choose payroll deduction.</i> The amount you write in the box below will be divided by the number of pay cycles in the payroll deduction period, depending upon whether you are paid monthly (3) or biweekly (6) per semester.</p>															
You are hereby authorized to deduct this total amount from my UNC-Chapel Hill paycheck(s):															
_____ Graduate Student Signature										_____ Date					
I understand that Payroll Services will compute the amount to be deducted each pay period per the total amount above and based on SIX payments per semester for biweekly and THREE payments per semester for monthly.															
Termination of this authorization must be made in writing and sent to Cashier.										Distribution: 1. Original to Cashier 2. Copy to Student 3. Copy to Department files					

Guidelines for Ph.D. Dissertations
Department of Microbiology & Immunology

Always refer to UNC Graduate School Handbook

(<http://gradschool.unc.edu/etdguide/index.html>) for formatting guidelines for each specific page and the body of the dissertation. Samples are given online. Below is a typical ordering of sections in a dissertation. In this example there are three chapters containing results or manuscripts: the actual number of chapters will vary from one student to another.

Face Page: Title
Candidate's name
Purpose of the Document:
Place:
Date:
Dissertation Committee Member's Signatures

Copyright page

Abstract (General hypothesis, overview of results and conclusion/significance)

Dedication and Acknowledgements

Table of Contents:

List of Tables
List of Figures
List of Abbreviations
Chapters
References

Chapter 1: Introduction (General and specific background literature, hypothesis)

Chapter 2: Result 1

Chapter 3: Result 2

Chapter 4: Result 3

Chapter 5: Summary (Significance of the work) and Future Directions (speculations)

References: (Authors, year, title, journal, volume, full pages)

Note: Use of Publications as Chapters. The use of published papers as part of the dissertation is permitted upon consultation with the Dissertation Committee and Advisor. As stated from the UNC Graduate School Handbook, the Chapter using published material should be reformatted consistent with the body of the dissertation (Abstract, Introduction, Methods and Materials, Results, Discussion, Tables/Figures, References at the end of the Dissertation is recommended). If references are used at the end of the chapter, it should be placed at the end for each chapter within the dissertation. Written permission must be obtained from the publisher that holds the copyrights (see below).

In some cases, the dissertation committee may ask one to include in the chapter data not in the published material but relevant to the development of the chapter (titrations, tables, tangent data sets). Usually, these supplemental data are easily incorporated within this format.

Taken from the Handbook:

1. The material, if included in the body of your text, must be rendered in a typeface and citation form consistent with the body of the text.
2. If the material is co-authored, the department must approve its inclusion in your thesis/dissertation.
3. If the material is copyrighted (if you are the sole author but the copyright is held by the publisher), you must fulfill the conditions specified in Section III above. The date on the title page should be the year in which your committee approves the thesis/dissertation.

Using Copyrighted Materials

Any copyrighted materials used in your work, beyond brief excerpts, may be used only with the written permission of the copyright owner. Book and journal publishers normally hold the copyright for all materials they publish. Therefore, even if you are the sole or one of several authors of material in a published book or journal, you must obtain written permission from the copyright holder if you are including this material in your thesis. Remember that use of reproductions or excerpts of other media, such as music, graphic images or computer software may also require permissions. You are responsible for securing all necessary permissions and paying any permission fees.

Your letter to the copyright holder should make clear that you seek permission to microfilm and publish your dissertation through UMI and that UMI may sell, on demand, for scholarly purposes, single copies of your dissertation, which includes the copyright holder's material. Your letter should also seek permission to submit the copyrighted material electronically to be posted and made available to UNC-Chapel Hill Library database where it will be made available to the general public at no charge.

For additional guidance, please visit:

http://www.umi.com/products_umi/dissertations/copyright/