

GRADUATE PROGRAM IN MICROBIOLOGY AND IMMUNOLOGY

Ph.D. Candidacy Evaluation

Objectives

1. To assess the candidate's potential to conduct independent research leading to a Ph.D. thesis.
2. To assess the candidate's ability to defend the proposed research in terms of experimental design according to standard scientific methodology.
3. To evaluate the candidate's intellectual capabilities, commitment, and perseverance, as well as the candidate's general knowledge in relation to the area of research and in relation to general background knowledge.

Process

M.Sc. Students

Students enrolled in the M.Sc. program "who have demonstrated outstanding academic qualities" (quotation from the Faculty of Graduate Studies) may be permitted to enter the Ph.D. program prior to completion of the M.Sc. degree, providing they successfully pass the Ph.D. Candidacy Evaluation.

- 1) Masters students switching to the Ph.D. program must have a performance in MICROIMM 9000A of equal to or greater than 80%. Students not meeting this criterion will require special permission from the Graduate Committee to proceed to the Ph.D. Candidacy Exam. This entails completing the form "REQUEST FOR SPECIAL PERMISSION TO UNDERTAKE THE Ph.D. CANDIDACY EVALUATION". This form must be signed by the student's Chief Advisor(s) and Advisory Committee Members. The form, and accompanying attachments, should be submitted to the Graduate Assistant no later than the beginning of the student's 5th term of graduate enrollment. A decision by the Graduate Committee will be made within 3 weeks of submission of the request. **Special permission is not guaranteed.**
- 2) The Evaluation must occur prior to the end of the 5th term after enrollment. (See Important Considerations below for additional details on the timing of the evaluation process).
- 3) The student will prepare a written Ph.D. research proposal of up to 10 typewritten pages in 12 point Times New Roman or 11 point Helvetica font. This page limit includes tables and figures but does not include summary and references. The proposal should include background information, a summary of progress to date, as well as an outline, significance, rationale for the proposed Ph.D. research work, references, figures and tables (For additional information on format see Important Considerations below).
- 4) The Advisory Committee **must** first approve the proposal before being considered by the Graduate Program. A complete submission form with the required signatures **must** be provided to the Graduate Assistant by the deadline date. Proposals submitted without these approval signatures are considered incomplete and will not go forward to examination. (See Important Considerations

below for additional details on the appropriate process leading up to submission in order to avoid the serious consequences of not handing in a complete submission).

5) The Graduate Studies Committee is responsible for identifying three examiners and a date for which proposed examiners are available for their students' M.Sc. candidacy evaluations. Examiners may be members of Microbiology & Immunology or another graduate program if their expertise is suitable. Once the identity of the examiners and the date of the evaluation is set, the graduate assistant will work with the Graduate Studies Chair to select a chair for the exam and an examination location will be booked by the graduate assistant. Examiners should be "arms-length" with the exception that one member of the students advisory committee is permitted to serve as an examiner.

Ph.D. Students

1) Students enrolled in the Ph.D. program must take the Candidacy Evaluation prior to the end of the 3rd term after enrollment. (See Important Considerations below for additional details on the timing of the evaluation process).

2) The student will prepare a written Ph.D. research proposal of up to 10 typewritten pages in 12 point Times New Roman or 11 point Helvetica font. This page limit includes tables and figures but does not include summary and references. The proposal should include background information, a summary of progress to date, as well as an outline, significance, rationale for the proposed Ph.D. research work, references, figures and tables (For additional information on format see Important Considerations below).

3) The Advisory Committee **must** first approve the proposal before being considered by the Graduate Program. A complete submission form with the required signatures **must** be provided to the Graduate Assistant by the deadline date. Proposals submitted without these approval signatures are considered incomplete and will not go forward to examination. (See Important Considerations below for additional details on the appropriate process leading up to submission in order to avoid the serious consequences of not handing in a complete submission).

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Submission and Deadline

The deadlines for receipt of the Exam Scheduling Request Form and Proposal Submission Form are announced each term by email from the graduate studies chair to all graduate students each

term. Typically, the deadline for the Exam Scheduling Request Form falls ten weeks prior to the end of the term. The deadline for the Proposal Submission Form falls three weeks prior to the date of exam or the deadline announced, whichever comes first. **Late submissions will not be considered by the program. The consequence of late submission is 1) For M.Sc. students, they will not be allowed to transfer to the Ph.D. program, and 2) For Ph.D. students, they will be asked to withdraw from the program.**

Evaluation

1) EXAM BOARD: Upon receipt of the proposal and Ph.D. Candidacy form (and not sooner than three weeks after receipt of the proposal), the candidacy examination will take place. The exam will be chaired by the Chair of the Graduate Studies Committee or designate. Three faculty members will serve as examiners. The Chair of the Graduate Studies Committee will assign one member from the advisory committee (or other faculty member) recommended by the supervisor and two members recommended by the Graduate Studies Committee. The exam is also attended by the chief advisor. It is recommended that students enrolled in collaborative programs have at least one examiner who is a member of the collaborative program. No student other than the one under examination may be present during the examination.

2) EXAM PROCEDURE: The exam chair makes introductions, then excuses the candidate while order of examiners is decided and the examiners deal with any other administrative business. The candidate is brought back into the room and gives a 15-minute oral presentation on the research project. The examination then proceeds. The Ph.D. Evaluation Committee will assess the student on the research to date, the proposed research and its defense, his/her intellectual capabilities and perseverance, and background knowledge in relation to the general field of research. This will entail 2 rounds of questions. During the first round each examiner will have 15 minutes to ask questions. During the second round each examiner will have 10 minutes to ask questions. After the candidate has withdrawn from the meeting, the chief advisor will be invited to make comments as needed, but he/she will not participate in the decision. The Chair of the Evaluation Committee will then invite each evaluator to make comments on the candidate's performance during the evaluation. The evaluators will then give their rating of the candidate's performance. Two out of three evaluators must agree upon a 'satisfactory' rating for the candidate to pass the evaluation. The Chair of the Evaluation Committee does not take part in the rating of the candidate. The student will be invited back and informed of the decision by the exam chair.

3) DECISION: The Evaluation will be assessed as "Satisfactory, "Unsatisfactory: specific remediation required" or "Unsatisfactory" performance. Performance based on a grade scale is also noted and is used for purposes of internally adjudicated awards and/or scholarships. The assessment is based upon the written proposal, the oral presentation, and the response to questions both on specific research aspects as well as on general background knowledge. "Satisfactory" corresponds to a grade score of 7 or higher and will denote an adequate defense of the proposal. "Unsatisfactory" corresponds to a grade score lower than 7 and will denote an inadequate defense of the proposal as related to the nature of the project (i.e. descriptive versus hypothesis-based), and/or inadequate response to questions by the Evaluation Committee members. "Unsatisfactory: specific remediation required" correspond to a grade score lower than 7 in any one of the three criteria (Proposal contents; Style and Technical presentation of the proposal; Candidacy defense), and specific remedial action should be taken by the candidate to have "Satisfactory" assessment. Students receiving an average score of greater than 8.5 will be notified that they have passed with

distinction. The Graduate Chair will convey the decision to the student in writing. Candidates receiving an unsatisfactory performance evaluation will be offered a second chance as deemed appropriate after discussion with the members of the Evaluation Committee. Students may be allowed to retake the Evaluation after a suitable period of time (no less than a month) to consider the recommendations of the Evaluation Committee. The second evaluation for the direct entry Ph.D. student can take place in the following term. After a second evaluation the decision of the Committee will be final.

Successful outcome

M.Sc. students successfully completing the Ph.D. candidacy process will be transferred directly to the Ph.D. program in the next academic term (usually their 6th term). Ph.D. students successfully completing the Ph.D. candidacy Evaluation will be allowed to remain in the program until completion of all additional requirements for the Ph.D. degree according to the guidelines of the Faculty of Graduate Studies and the program's specific requirements.

Unsuccessful outcome after second Evaluation

M.Sc. students who demonstrate unsatisfactory performance after the second round of evaluation (or those who choose not to take a second evaluation) will be allowed to complete the M.Sc. degree. They may re-apply for admission to the Ph.D. program upon completion of the M.Sc. degree. If accepted by the program, these students will be assessed as regular Ph.D. students. Ph.D. students who demonstrate unsatisfactory performance after the second round of evaluation will be required to withdraw from the Graduate Program. The acceptance letter by the Graduate Chair to all students entering directly in the Ph.D. program (at the time of admission into the program) should state the need for passing the Candidacy Evaluation before being allowed to continue in the program.

Important Considerations

Style and Format of the Research Proposal

The proposal must be written in single space, 12-point Times New Roman or 11-point Helvetica font and 1 inch margins. The text, Figures and Tables are limited to 10 pages, and does not include Summary and References. Proposals not conforming to these guidelines will be returned to the student. The proposal should contain the following: Introduction, Background, Rationale and Significance, Hypothesis, Objectives, Work accomplished to date, Proposed experiments, Expected/anticipated results and References.

In general, the proposal should clearly summarize the background, data and progress to date. In addition it should outline the proposed research. The hypothesis to be tested should be clearly stated as well as a logical rationale for the project, the proposed methodology to attack the problem, and the relevance of the work to the general discipline. Such a clear description of the project will facilitate the committee's decision.

Timing

The first round of the evaluation process must be completed at least 4 weeks prior to the end of the term. This is especially important for M.Sc. students who, according to regulations by the Faculty of Graduate Studies, must be transferred to the doctoral program by the beginning of the sixth term of graduate enrollment.

Students are responsible for careful planning regarding the timing of the Ph.D. Evaluation process. The advisory committee should have substantial input in the preparation of the research proposal (see below). The draft candidacy proposal **must** be provided to the committee a minimum of 2 weeks prior to the submission deadline in order for them to provide feedback and to allow the student time to incorporate suggested changes into the proposal prior to the submission deadline. The Graduate Studies Committee is not responsible for student's poor planning or the lack of availability of the student's Chief Advisor and/or members of the Advisory Committee during the process of preparation of the proposal (see below).

Role of the Thesis Advisory Committee

It should be noted that this evaluation process **requires** a strong participation of the members of the Thesis Advisory Committee (including the student's Chief Advisor). The following responsibilities rest within this committee: (a) Making an honest assessment of the student's abilities to progress into the Ph.D. and to convey this information to the student; (b) Providing feedback to the student during the process of preparation of the proposal; (c) Agreeing in writing that the proposal is ready, both in form and content, for evaluation by the candidacy evaluation board.

Conflict of Interest

Faculty members in direct conflict of interest with the student's research project must not take part in the candidacy exam board. Direct conflict includes (i) Supervision (or co-supervision) (ii) Joint publications with the student.