

Guidelines and Procedures for Comprehensive Exam PhD In Agricultural Sciences

To be provided to PhD students and their supervisor(s) after successful completion of the Preliminary Examination.

1. Overview

PhD students must undertake a comprehensive exam as part of the PhD in Agricultural Sciences. Students are encouraged to complete the exam in their second year of study, but no later than thirty (30) months of entering the program and at least one year prior to the thesis defense. A comprehensive examination will reflect the breadth of the program, including topics outside of the thesis, and will give the student the opportunity to demonstrate increased range of knowledge gained during their program related to their general area of research.

The examination will consist of three parts:

- i) A written assignment consisting of an essay that critiques a particular subject or question of relevance to the thesis topic.
- ii) A written progress report that overviews the research problem and research progress, showing competencies in the field of study, and plans for the program completion.
- iii) An oral presentation of the content presented in the written essay and progress report.

The comprehensive examination committee will normally consist of the Supervisory Committee who will provide suggestions of a potential external examiner with expertise in the field of the thesis. The external examiner will be appointed by the Graduate Coordinator. All members of the examination committee, excluding the external examiner, must be [members](#) of the Dalhousie University Faculty of Graduate Studies. The examination will be chaired by a member of the Graduate Studies Committee, who will not vote, except in the case of a tie. The examination is judged on a *pass/fail* basis. In the event of a failed exam, FGS regulations allow a second attempt within one year of the first.

2. Essay Requirements and Guidelines

General Purpose: PhD students are expected to develop breadth of knowledge in their broad discipline in addition to the focused expertise they gain through inquiry into their specific research problem and composition of their thesis. The writing of the essay as part of the Comprehensive Exam will allow the student to synthesize, critique, and/or provide a unique perspective on a topic related to the PhD dissertation research. The essay will allow the student to examine an appropriate body of literature while evaluating it in writing, may draw attention to current advances, and can speculate on future directions of a certain topic, incorporating personal opinion. Students are encouraged to offer their scholarly perspective through, for example: writing a unique viewpoint on an existing problem, fundamental concept, or prevalent notion on a specific topic; proposing and supporting a new hypothesis; or discussing

the ramifications for science or society of an innovation or policy.

The essay should help the student mature as a writer and ‘form their voice’ as it relates to their potential scholarly impact in their discipline. More fundamentally, the essay will allow the student to develop skills needed later in writing the thesis, and help the supervisory committee identify the need for assistance or practice in written presentation and synthesis of information. Ideally, the essay would serve as a critical review, commentary, or perspective piece intended for publication in a peer-reviewed journal.

Length: There are no set page limits for the essay and students should bear in mind that assessment of their work will not be based on quantity. A total text length of 20-30 pages, typed double-spaced on letter-size paper (1” margins) plus references is a reasonable length. Students are encouraged to include tables and figures, if appropriate. More than 40 pages total is excessive and may be considered justification for rejection by examiners.

Content: Although a thorough review of the literature on a topic will be necessary, and students will need to cite relevant literature on their topic, students need to be mindful that they are not being tasked with writing a literature review: **a mere survey or summary of the literature is not enough**. The essay needs to present and evaluate the current state of knowledge (including conflicting evidence), and the student should also strive to be critical and offer a unique viewpoint on a topic. The essay may take previously disconnected problems or ideas in agriculture and synthesize them into a new framework for future research or innovations.

The student and supervisory committee may choose to incorporate the essay into the dissertation as a thesis chapter, and therefore it may be written in a style appropriate to the thesis.

Academic Integrity: The [Academic Integrity website](#) provides information on plagiarism and other forms of academic dishonesty. As stated on the website, “Dalhousie University expects all students to be responsible learners, which means that you will complete assignments yourself and acknowledge sources of information and ideas when they are not your own.” Never transcribe content in its original form into your essay. Restate facts or ideas using your own words and cite original sources.

Supervisors are expected to help students improve their writing through careful critique of drafts of the essay for grammar, formatting, flow, and arguments or propositions. Other members of the Supervisory Committee may also help if they are willing to do so. The [Writing Centre](#) provides academic support for improving writing skills.

3. Progress Report

The written report should detail progress and plans for completing the research project, and an update on progress towards completing other program requirements (e.g. courses, teaching assistantships). The report should include an overview of the thesis research problem, a description of methodologies and/or experimental designs, a summary of the results to date

(tables or figures are acceptable, as appropriate), conclusions derived from those results, and references. The progress report should be concise, but sufficient for the examiners to make critical judgement on the quality of the thesis research thus far, and overall program progress. Peer reviewed papers published, accepted, or in preparation for submission to journals, abstracts or proceedings from conferences, extension materials developed (e.g. fact sheets or posters for industry partners), and similar relevant examples of productivity are useful appendices. The written report should not exceed five (5) single-spaced pages (12 pt font, 1" margins), excluding references and appendices.

4. Oral Presentation

The oral presentation will complement and reflect the contents of the essay and written report. The presentation will be 30-40 minutes, consisting of an overview of the content presented in the essay, followed by, and focusing mostly on, research results to date and next steps.

5. Format of the Examination

The examination will incorporate an oral presentation by the student, questions from the examiners, deliberation by the examination committee concerning the student's performance on the oral (presentation and answering of questions) and written components (essay and progress report), and communication to student on the result of the examination. The exam will not be open to the public.

The Examining Committee consists of at least the following individuals:

- Chairperson
- An External Examiner
- Supervisory Committee Members (Supervisor or two Co-supervisors and at least two other members of the Supervisory Committee)

The examination will be chaired by the Graduate Coordinator or a Departmental representative from the Graduate Studies Committee. The external examiner, from outside the Faculty of Agriculture, is selected based upon suggestion from the Supervisory Committee. The external examiner should have the expertise and knowledge in the area of research to qualify for the comprehensive exam and must not have been involved in the thesis work, or other research, of the student or supervisor.

All members of the Examining Committee must be present for the examination. All members of the examination committee, excluding the external examiner, must be [members](#) of the Dalhousie University Faculty of Graduate Studies.

The Chairperson will introduce the student and examiners, and explain that the student will give a presentation followed by two rounds of questions from the examiners. The student will be examined for mastery of all aspects of the thesis research including its background. The examiners should be satisfied that the student has a thorough understanding of concepts and methods needed to complete the project, as well as the intellectual ability and independence expected of a PhD candidate.

The Chair should assign time for questions to allow all examiners to have an equal opportunity, considering the size of the examining committee. The external examiner will ask questions first. The suggested time limit is 10-15 minutes in the first round and 5-10 minutes in the second round. The Chair and supervisor may also participate in the questioning. In total, comprehensive examinations preferably last no longer than 2.5 hours.

Following the question period, the student will be asked to withdraw and wait outside the room (or leave the video call) as they will be asked to join the examining committee following their deliberations to discuss the outcome of the exam. The result of the examination will be conveyed to the student formally by the Chair, and the student will have an opportunity to discuss the outcome of the exam with their examining committee with the Chair present to facilitate the discussion.

A copy of the evaluation summary report, along with a formal letter, will be sent to the student by the Graduate Studies Office.

6. Scheduling and Submission of Essay and Report

PhD students should take the comprehensive exam in the second year of their program. The examination must be completed by the thirtieth (30) month after commencing the graduate program and one year before the thesis can be defended. All courses should be completed before the comprehensive exam. Extensions will only be granted in special circumstances by written application to the Graduate Coordinator, with justification and supervisor's support. Students requiring an extension, approved by the Supervisor, are to complete the Comprehensive Examination Extension Request Form (an extension request form has been prepared). No more than two such extensions will be permitted.

The student should anticipate, plan, and prepare for the comprehensive exam well in advance of the exam date. In doing so, the student should use the Comprehensive Examination Planning Form. The student, in consultation with the supervisor(s) and supervisory committee, will select potential date(s) for the examination.

The student and/or supervisor should send the names and contact information of the suggested external examiners to the Graduate Coordinator by email for approval prior to submission of the planning form. After confirmation by the Graduate Coordinator that the external examiners are appropriate, the student and/or supervisor may begin coordinating with external examiners around scheduling.

At least four weeks in advance of the earliest proposed exam date, submit the Comprehensive Exam Planning form to the Graduate Program Assistant. The Graduate Program Assistant will schedule the examination and arrange for a Chairperson. The Graduate Program Assistant will notify the student and Examining Committee of final arrangements, including the date, time

and room (or video call information) of the examination.

Students who do not complete the essay and oral examination requirements by the scheduled (or rescheduled) date will be deemed to have failed the examination. The Graduate Coordinator will notify the student and supervisor in writing.

At least three weeks before the scheduled date of the examination, the student must submit electronic copies of the progress report and essay to the Graduate Program Assistant for circulation to the examining committee. Prior to submission, the student should consult their supervisor for suggestions for improvement.

Students must submit hard copies of either document to any examiner that requests one.

7. Evaluation and Outcomes

After the examination, the student will leave the room (or video call) and each examiner (excluding the Chair) will independently complete an evaluation form (Comprehensive Exam Form, Part 1). These are collected by the Chairperson who later enters the results (a summary of comments from each examiner) on a consensus form (Comprehensive Exam Form, Part 2). The Chairperson will ask the Supervisor to comment on the examination and examiners will then discuss the evaluation amongst themselves. All forms are signed and returned to the Graduate Program Assistant.

The examination can have only two outcomes - pass or fail. All examiners participate in this discussion and in the final decision. The Chairperson will accept the view of the majority of examiners. If there is an impasse, the Chair will cast the deciding vote. Students who fail the comprehensive examination may apply within 2 weeks of receiving this decision to the Graduate Coordinator for re-examination. Faculty of Graduate Studies regulations allow a second attempt within one year of the first examination. The Chairperson will inform the Graduate Coordinator and student as to the reasons for failure. Scheduling of a second defense and the composition of the examining committee will be at the discretion of the Graduate Coordinator after consultation with the original examining committee and the supervisor(s). If the student fails upon re-examination, or if no request for re-examination is received, the Graduate Coordinator will inform the Department Chair and the Dean of Graduate Studies and recommend that the student be dismissed from graduate studies.