

Faculty of Agriculture, Dalhousie University

Guidelines for Preliminary Examination PhD Agricultural Sciences

What is the Preliminary Examination?

The Preliminary Examination is a means to engage the PhD student in the development of the proposed research direction early in the PhD program. It is normally the first meeting of the full advisory committee. It provides an opportunity for the supervisory committee to determine whether the student is capable of pursuing PhD research in the Faculty of Agriculture. The examination committee will provide feedback on the suitability of the research direction to ensure it meets the requirements of the PhD program and that it can be undertaken within the prescribed timelines of the program. This requirement includes: (1) a written document that frames and describes the proposed research, (2) a presentation, and (3) an oral defense in which the student defends the proposed thesis question, the method(s) required, and shows the level of knowledge required to explore the question. It is both a formal meeting of the supervisory committee and an opportunity for the input of a faculty member external to the supervisory committee. The exam also provides opportunity for input from the Graduate Studies Office.

When does this have to be done?

The Preliminary Examination is normally completed within the first year of study.

Why do this so early in the program?

The discussion between an external examiner and the supervisory committee may identify areas that can be improved, or suggest additional resources. The committee may find that the student is lacking in background in some areas, and can suggest additional coursework or additional reading that would be helpful to the student in carrying out the proposed research. The committee may judge the student incapable of completing the PhD program.

What happens if the Preliminary Examination is not completed within the first 12 months?

The student must complete and submit a **Preliminary Examination Extension Request Form** with a detailed timeline for completion and the reason why the Preliminary Exam has to be delayed. This must be signed by the supervisor and is to be submitted to the Faculty of Agriculture Graduate Coordinator, who may grant a specified extension period after consultation with the supervisor. Students who have not completed by the end of the 5th semester may be required to withdraw on the basis of non-completion of an academic requirement (unless an extension has been provided).

Students who have not completed the Preliminary Exam by the end of their 3rd semester will need to meet with the Graduate Coordinator.

Format of the Examination

The student will give a 15-20-minute oral presentation on the proposed research. This should include background context for the research problem, statements of objectives and hypotheses, description of the research methods to be used, and an account of the potential impact, significance, or benefit of the

proposed research. It is unnecessary to give detailed descriptions of research methods and protocols in the verbal presentation.

The examination committee will ask the student questions related to the proposal and/or related to concepts relevant to the proposed research. There will be two rounds of questions, with examiners being given up to 20 minutes and up to 10 minutes for the first and second rounds of questions, respectively. The external examiner will normally be the first to ask questions, although the order is at the discretion of the chairperson. The supervisor/co-supervisor **does not** examine the student. The chairperson may participate in the questioning, but is not required to do so.

After the examination, the student is asked to leave the room and the committee will discuss and assess the student's written proposal, oral presentation, and responses to questions. The supervisor/co-supervisor may participate in the final assessment discussion after the examination, and is/are expected to communicate helpful information back to the student. After a consensus is reached on the outcome of the examination the student is then asked to return so that she/he can be informed of the results.

The examination is expected to be completed in 2-2.5 hours. The chairperson may adjust the time allotted for individual questioners in order to meet this timeframe.

Examiners will be mindful that a detailed outline of research procedures is not required, but they may and should question the student's general knowledge of methodology required for the project and theory relating to it. The examiners will also keep in mind that the preliminary examination is not a comprehensive exam and that questions will be derived from the content presented by the student and not range over the entire field. The student is being examined for competence by evaluating her/his ability to put together a viable research project and to defend both the rationale and the methodology. In the process, the student must demonstrate mastery of the science on which the work is based. The Chairperson is expected to intervene on behalf of the student if examiners' questions are not consistent with the purpose of the ATC examination.

Who is on the Examination Committee?

The Examination Committee consists of:

- A Chairperson, assigned through the Graduate Coordinator and Graduate Studies Office
- An External examiner
- Members of the supervisory committee, consisting of the Supervisor or two Co-supervisors and at least two other individuals.

It is important that membership of the supervisory committee be established well in advance of the Preliminary Examination. Students and supervisors will review and follow Departmental and Faculty of Graduate Studies (FGS) guidelines on membership. For information of Supervisory Committee membership contact the Graduate Coordinator or Secretary.

The External examiner is usually a regular faculty member in the Faculty of Agriculture or another Faculty at Dalhousie University who is a full member of FGS. Adjunct FGS members at Dalhousie University may also serve as external examiners. The External may not be directly involved with the student's proposed research area. Names of external examiners are suggested by the student in consultation with the supervisor; approval of suggested names is given by the Graduate Coordinator.

Does everyone on the Examining Committee have to be present in person?

The student, the Examination Chair, and the Supervisor/Co-supervisors are expected to be present in person. Although it is desirable for committee members and the external examiner to be present, it is possible for one or more to participate from a distance. The supervisor may be approved to attend from a distance if absolutely necessary. Approval for these arrangements is through the Graduate Coordinator.

Videoconference may be used. The student is responsible to set up the arrangements and confirm beforehand that these will work effectively for both visual and audio communication. A telephone must always be available for backup. The arrangement for telephone will be made by the Graduate Secretary.

Preparation for the Preliminary Examination

The student prepares a 5-7 page Research Proposal, typically following a format similar to that described below. It should provide a general framework and rationale for the research problem being explored. An outline and context (e.g. hypotheses and experimental methods) for each research chapter should follow. Resources available and any practical limitations to the project should be explained, and the timeline for the student to complete the project and defend the thesis provided. All sections should reference pertinent literature, but the document is not expected to present a complete and thorough literature review. Methodologies described need not include every aspect of methodology.

The proposal is typically prepared in consultation with the supervisor only. The student should meet often with the primary advisory to discuss the rationale behind the proposed project, important background literature, resources available, practical limitations, and the nature of the examination. The student will independently write the proposal and prepare for the oral presentation. The supervisor/co-supervisors is expected to review 1-2 drafts of the document.

Before the preliminary exam, consultation by the student with the rest of the Supervisory Committee will generally be limited to specific factual questions, and the committee members will generally not be expected to review drafts of the proposal. In cases where a committee member has expertise relevant to the project that is outside the expertise of the Supervisor's – for example, methods for a certain experimental technique – more extensive consultation with a committee member may be appropriate.

Scheduling the Exam and Submitting Documents

Students are expected to complete the Preliminary Examination within the first year of study. The student consults with the supervisor and completes **Preliminary Exam Planning Form**. This form must be submitted to the Graduate Studies Office, Faculty of Agriculture, *at least four weeks* before the proposed date of the examination. It is not necessary for the student or the supervisor to consult with proposed external examiners.

The **Research Proposal** has to be approved by the supervisor/co-supervisors, and must be submitted to the Graduate Studies Office, Faculty of Agriculture, at least three weeks prior to the proposed date. The **Preliminary Exam Form Part 1** must be submitted at the same time.

All forms are available on the Faculty of Agriculture Graduate Studies website at <https://www.dal.ca/faculty/agriculture/programs/graduate-studies/forms.html>

The Graduate Coordinator will approve the External Examiner and Chairperson. The Graduate Secretary will contact proposed external examiners and assist with necessary arrangements for travel. The Graduate Secretary will arrange for the room and for necessary telephone access. It is the student's responsibility to obtain the necessary computer resources.

The Graduate Secretary will confirm the time of the examination with the student and examining committee. The proposed dates are not guaranteed. Students should have alternate dates in mind, particularly at busy times of the year.

Who covers the cost?

The Graduate Office will normally cover the cost of telephone calls for examining committee members within Canada. Telephone conference calls are not possible for members attending from outside of Canada. The cost of long distance for committee members from outside Canada must be met by that individual or by the supervisor.

Travel expenses incurred by the external examiner or any member of the supervisory committee to attend the Preliminary Exam will not be reimbursed by the Faculty of Agriculture or Dalhousie University. The supervisor may choose to reimburse these costs, and should discuss any specific arrangements for travel with the Graduate Secretary.

Can the documents be submitted electronically?

Paper documents are not required. An electronic copy of the Preliminary Exam Planning Form, with scanned signatures, may be sent to the Graduate Secretary. This form will also be accepted in paper format. The Research Proposal must be submitted electronically as a Microsoft Word file to the Graduate Secretary. The Preliminary Exam Form Part 1 should be attached.

What is being evaluated?

The committee will consider the following:

- The merit and feasibility of the project for a PhD program and PhD thesis
- Whether the resources are available for the project
- If the student has the required background to be able to do the project, including experience or potential in employing various techniques or methods, and understanding relevant literature or theory around the research problem.

The student is expected to have put together a viable research project, to justify the background for the project and the general methods, and be able to relate the methods and protocol to the objectives. This should be justified with appropriate reference to the literature but a full literature review is not expected at this time. The examiners should keep in mind that this is not a Comprehensive Examination. Questions will arise from the scientific content of the work but will not range randomly over the entire field.

The Chairperson is expected to intervene on behalf of the student if examiner's questions are not consistent with the purpose of the ATC examination.

Who makes the final decision and what are the possible outcomes?

The evaluation decision is by consensus of the examining committee. Each member of the examining committee (except the Chair) will independently complete and sign **PhD Preliminary Examination Form PART 2**. These are collected by the Chairperson who enters the results on a consensus form, **PhD Preliminary Examination Form PART 3**. The examiners discuss the evaluation with the Supervisor/Co-supervisors; the Chairperson enters the decision, all useful comments, and an overall evaluation on the Form PART 3, which is then signed by all present, to indicate their concurrence. The completed and signed forms (Part 2 and Part 3) are returned to the Graduate Coordinator.

The outcome will be *Pass* or *Fail*. The preliminary examination is only considered as passed when all conditions outlined by the examining committee are satisfactorily completed. A Pass may be accompanied by *Recommendations* or by *Conditions*. These may include requirements to take additional courses or to do supplementary reading. Required courses must be defined in the context of available courses, and normally must be completed by the end of the next academic year.

A student may be required to re-write the Research Proposal if this is not satisfactory.

A Recommendation is to be considered by the student and supervisor in consultation with supervisory committee members.

A Condition will be verified by the Graduate Coordinator. This must be completed before the student will be allowed to proceed to the Comprehensive Exam.

A Failure is given when the student's performance in the examination indicates that they are not suitable for PhD studies in Agricultural Sciences. Failure results in academic dismissal (according to FGS regulations). If the student wishes to be readmitted, he/she should apply to the Graduate Coordinator to petition FGS for readmission. If readmitted, the student must repeat and pass the Preliminary Examination within 12 months.

Is it possible to change the Research Proposal after the Preliminary Examination is completed?

The broad format of the proposal must be followed. However, any scientific study may require alteration of methods as the study progresses. Such changes are made by consultation between the student, supervisor, and supervisory committee.

If it becomes necessary to make major changes to the proposal, or if the timeline of the project is affected, the supervisor and student should consult with the Graduate Coordinator. A new Preliminary Examination may be required.

The proposal should be no more than 5-7 pages excluding reference list, cover page, figures, tables, time table and appendices. Text should be single space and 12-point font size. Margins should be no less than 1.5 cm. The written research proposal is to be presented to members of the examining committee (including the Chair) 3 weeks prior to the set examination date.

The proposal should include: a cover page, table of contents, reference list, any necessary figures or tables, and the timeline for completion. The timeline should include all requirements for the PhD in Agricultural Sciences program, e.g. courses, comprehensive examination, thesis writing, thesis submission, and defence. The format and referencing should be consistent with publications in the student's area of study.

An **Introduction** section should be a synthesis of what is currently known or unknown as it relates to the research problem being examined in the thesis. There should be clear context for the purpose of study, its rationalization, and an explanation of how the proposed research will contribute to the discipline. This section should close with clear statements of what the student is attempting to demonstrate, analyze, investigate, or examine. An overall objective, hypothesis, or prediction, with a list specific project aims should be included.

In most cases it is recommended that the student develop **Research Approach or Methodology** sections in the research proposal that reflect the projected research chapters of the thesis. Here the student may provide additional context, formulate specific hypotheses to be tested, and describe how they will achieve each aim, the experimental approach, and design. Discuss resources available (special equipment, software or material) and any practical limitations, barriers or pitfalls.

A final **Expected Outcomes or Significance** section can indicate the importance of the proposed research, highlighting originality, knowledge contribution, potential benefits and application of knowledge. Describe expected outcomes and what you expect the proposal will deliver.

The student may find the Library Resource Guides to be a useful resource in preparing the research proposal. These documents are available at <http://dal.ca.libguides.com>. The student is encouraged to consult with Library staff at an early stage to assist in researching the literature.

Students may also wish to consult the Agricultural Campus Writing Centre for general assistance. The Writing Centre is located in the MacRae Library.