

**Graduate Program in Civil Engineering, York University  
Policies and Procedures for the PhD Comprehensive Examination**

13 March 2022

### **1. Objectives**

The objectives of the PhD Comprehensive Examination are to ensure that the PhD students, before being allowed to proceed to their PhD research activities, possess adequate knowledge in the major area of their PhD research project and have the ability to communicate that knowledge to their peers. It is expected that through passing of the PhD Comprehensive Examination, the PhD students will be able to demonstrate their:

- Grasp of relevant basic concepts in mathematics, science and engineering;
- Ability to use these concepts to solve complex engineering problems; and,
- Ability to handle facts, concepts and new ideas at the PhD level.

### **2. Timing**

Each PhD student is required to pass a PhD Comprehensive Examination within the first 12 months of the student's PhD program. It is anticipated that the majority of students will be able to complete this requirement within the first 12 months of their PhD degree program. As such, exceptions to the 12-month time limit will only be considered under exceptional circumstances (e.g. part-time students, personal situations beyond the student's control, etc.) and must be approved by the Graduate Program Director (GPD).

### **3. Format**

The PhD Comprehensive Examination will have two components: (i) a written component that involves the student's being asked to solve a set of technical questions that are taken from undergraduate- and graduate-level materials in the major area of the student's PhD research project; and (ii) an oral examination component that follows the written component. The purpose of the oral examination component is to allow the student an opportunity to offer further clarification on the written component and to allow for further assessment of the student's knowledge.

### **4. Accessibility and Accommodations**

Students requiring accommodations are encouraged to contact the appropriate accessibility office at the university well in advance of the examination. The Examination Committee is expected to support students who require accommodation, whilst ensuring the integrity of the examination process.

### **5. Examination Committee**

A separate Examination Committee will be formed for each PhD student. It will comprise the student's supervisor, two research experts whose areas of expertise align closely with the major area of the student's PhD research project, and the GPD (or the GPD's designate), who will chair the Examination Committee. Normally, a research expert will be a member of the Department; however, upon consultation with the GPD, the student's supervisor may invite someone from another Department at York or from industry. The student's supervisor and the two research experts will be the voting members of the Examination Committee. The GPD (or the GPD's designate) will be a non-voting member of the Examination Committee. In the case of joint supervision of the student by two or more faculty members, all the co-

supervisors will collectively have a single vote on the Examination Committee. The student will be informed of the composition of their Examination Committee at least four weeks before the Examination. The student will have the right to request to the Department Chair that any voting member of the Examination Committee be replaced if the student feels that past instances of personal conflict may potentially compromise the voting member's objectivity.

## **6. Arrangements**

All arrangements for this examination are the responsibility of the student's supervisor(s). Copies of the PhD Comprehensive Examination Request Form (attached at the end of this document) must be given to the GPD and to each member of the Examination Committee at least four weeks before the day on which the student will be given the set of technical questions for the written component of the Examination. From the day on which the student receives the set of technical questions, the student will have up to five business days to hand in the student's written response (solutions) to the questions to the GPD. The GPD will make copies of the student's written response and distribute it among the members of the Examination Committee. Members of the Examination Committee will have up to five business days to complete their assessment of the student's written response after which the oral component of the Examination will be scheduled. The GPD must be informed of the date of oral component of the Examination at least four weeks in advance.

## **7. Assessment Criteria and Feedback**

Each examiner will provide a set of technical questions taken from undergraduate and graduate-level materials in the major area of the student's research. The technical questions will assess the student's ability to:

- Grasp of relevant basic concepts in mathematics, science and engineering;
- Ability to use these concepts to solve complex engineering problems; and,
- Ability to handle facts, concepts and new ideas at the PhD level.

The Examination Committee will assess the student's performance in both the written and oral component of the Examination. Each component will have an equal weighting, and a single integrated outcome will be provided. The description of possible outcomes is provided in Section 8; a grading scheme will not be used and a final grade will not be provided. The Examination Committee will provide a written assessment with a rationale for the final outcome to the student in the case of a "Referred" or "Fail" outcome. This feedback will be provided to the student within 5 business days following the oral component of the Examination. A written assessment will not be provided for a "Pass" outcome.

## **8. Outcome**

The outcome of the Examination will be described using the following categories:

- a) Pass
- b) Referred: The Examination Committee will use this category when one or more deficiencies have been identified in the student's performance in the written and/or oral (or both) components of the Examination. A set of corrective measures will be prescribed by the Examination Committee. The student's supervisor(s) must ensure the implementation of these corrective measures and will inform the GPD, in writing, of their successful implementation.
- c) Fail: A written report on both the written and the oral components of the Examination is required from the Chair of the Examination Committee in case

of the student's failing the PhD Comprehensive Examination. The Examination Committee may recommend either the student's retaking of both components of the Examination within six months or the student's withdrawal from the PhD program.

Note: In the case of a second PhD Comprehensive Examination – either as a result of the Examination Committee's recommendation as outlined in Section 8(c) above, or because of the result of an appeal process as described in Section 9 below, the outcome of the second PhD Comprehensive Examination will be final. That is, no third PhD Comprehensive Examination will be allowed.

### **9. Appeal Procedure**

The procedure for a PhD student to appeal the composition or the decision of the Examining Committee will be as follows:

- a) If a student wishes to appeal the outcome of the Comprehensive Examination on procedural and/or academic grounds, the appeal must be lodged formally with the GPD, setting forth in writing the reasons why the student believes the academic decision is unjust. This should be done as early as possible after the decision is announced and, normally no later than five business days thereafter.
- b) If the matter has not been resolved by the GPD, and the student continues to believe that the academic decision is unjust, a formal request may be lodged for a review of the formal appeal by an Appeals Committee established by the GPD. The Appeal Committee should exclude the initial examiners on the student's Examination Committee.
- c) After reviewing the appeal, including interviewing the student and the members of the examination committee, the Appeals Committee may find that:
  - i. The decision is academically and procedurally sound; or,
  - ii. An error in procedure or academic judgment has been made. In this case the Appeals Committee will proceed to rectify the error. This may include passing the student or allowing the student to repeat all or part of the Comprehensive Examination.
- d) If the GPD and the Appeals Committee find that the decision of the Comprehensive Examination Committee was academically and procedurally sound, the GPD may recommend to the York University Faculty of Graduate Studies (FGS) that the student be required to withdraw from the PhD program.

### **10. Updates to the Comprehensive Examination Policies and Procedures**

The Comprehensive Examination Policies and Procedures will be reviewed every 5-years by the Civil Engineering Graduate Program Administration Committee, and if necessary, propose changes to the Policies and Procedures.