

Institute of Medical Science UNIVERSITY OF TORONTO

PhD Qualifying Examination Guidelines

Please note: All fully and accurately completed defense documentation must be submitted to the IMS a minimum of six (6) working weeks prior to the examination date.

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Purpose

Qualifying Examinations are completed by Direct Entry PhD students with no previous thesis-based MSc degree. The purpose of the Qualifying Examination is to closely review the student's Research Proposal, recommend revisions, and test the student's knowledge of their field of study, in order to determine that the student may continue in a PhD program.

The Qualifying Examination must be completed within 18-21 months of initial registration in the IMS graduate program (i.e. September 2020 registrants must hold a Qualifying Exam by May 2022, January 2020 registrants must hold a Qualifying Exam by September 2021). Extensions to this deadline are problematic and require permission of the School of Graduate Studies.

Eligibility for Qualifying Examination

- Preparation of a PhD Research Proposal
- Approval of the supervisor and Program Advisory Committee (PAC) that the student may proceed with the Qualifying Examination at a Pre-Examination PAC meeting
- Completion of course requirements as follows*:
 - One full graduate course equivalent (1.0 FCE) with a **cumulative B+ average**
 - <u>MSC 1010H</u> MSc Seminars in Translational Research (0.5 FCE)
 - \circ 0.5 FCE modular courses (two courses at 0.25 FCE each)

*If you entered the program *BEFORE* September 2020, you must complete one full graduate course equivalent (1.0 FCE) with a cumulative B+ average only.

Timeline Recommendations

A <u>timeline for degree completion</u> is available on the IMS website.

The PhD Qualifying Examination <u>must be completed within 18-21 months</u> of your initial IMS registration.

Writing up and completing your examination takes an AVERAGE of 3.5 months (1 month for writing up, 1 month for proposal proofing and review, and 1.5 months for the examination process).

- Review the Qualifying Examination guidelines thoroughly by the second PAC meeting or by the end of your first year in the program.
- Discuss the process with your Supervisor and PAC members by the second PAC meeting. Set up an additional PAC meeting for recommendation to hold the examination.
- Complete current degree program course requirements early in your program (ideally in the first 12 months).
- Send a draft of your Research Proposal to your supervisor and PAC members to review (allow one month for review). Revise the Research Proposal according to PAC members' suggestions.
- Once your proposal has been reviewed by your PAC members, hold a pre-qualifying examination PAC meeting, with mock examination, to approve your readiness to proceed with the Qualifying Exam and prepare you for your exam.

• Contact the Graduate Program Assistant, PhD (<u>phd.medscience@utoronto.ca</u>) if there are any questions or concerns about the examination.

Confidentiality and Intellectual Property

Industrial support of research may limit the communication of research findings. This may affect your PhD project and Qualifying Examination. Refer to the <u>Guidelines for Faculty of Medicine Graduate</u> <u>Students and Supervisors in the Context of Commercialization of Inventions based on Thesis-Related</u> <u>Research</u> if necessary.

Research Proposal

A written 15-20 page, double-spaced Research Proposal is required for your examination. The supervisor and Program Advisory Committee are responsible for guiding the student regarding proposal content.

The Research Proposal may NOT be more than 20 double-spaced pages long including figures but excluding references. If your proposal exceeds this page limit it will be returned to you for revision and delay scheduling of your Qualifying Exam.

Include these elements (possibly in the form of a research grant application):

- Title Page
- Background
- Work to date
- Hypothesis
- Experimental design/Methods
- Projected outcome
- Relevance
- Predicted time to completion of PhD research. Include a detailed timeline.
- References

Include appendices to illustrate additional preliminary results or details of a formal clinical trial.

Frequent reviews of your Research Proposal by your supervisor will help you to make revisions and changes early and help you to maintain continuity throughout the writing process.

Program Advisory Committee (PAC) Approval: Pre-Examination PAC Meeting

When the supervisor and PAC have approved the written Research Proposal, an additional PAC committee meeting must be held to prepare the student for the examination. The student should practice the 20-minute slide presentation and answer questions from the supervisor and PAC members that are typical of those asked during the examination. Supervisor and committee sign the appropriate section on the PAC Meeting Form recommending that the student proceed to the Qualifying Examination.

PAC members can help recommend eligible examiners for the Qualifying Examination.

This pre-examination PAC meeting must not be held more than eight (8) weeks before submission of the Qualifying Examination Package to the IMS Office.

Qualifying Examination Scheduling

Your Qualifying examination package must be submitted for IMS approval a minimum of six working weeks prior to the proposed examination date - <u>remember to build in this time when settling on</u> <u>the exam date with your committee.</u>

Additionally, please note the following scheduling limitations:

- The exam may start no earlier than 9am and no later than 3pm, Monday through Friday.
- The exam may only take place on days that the University is open. Please visit the <u>SGS sessional</u> <u>dates calendar</u> for holidays and University closures.
- The University is closed for approximately two (2) weeks during the winter holidays. These 2 weeks **do not** count toward the minimum six (6) working weeks' notice needed to schedule the defense.
- Exams are not permitted one full week prior to the official University closure date for the winter holidays nor in the first 3 business days after the University officially opens in January. Dates vary from year to year.
- Exams held remotely due to COVID-19 protocol are booked through the IMS Zoom account (where available) or other arrangements are coordinated through the Supervisor.
- In-person exams are booked by IMS in the Medical Sciences Building (subject to room availability); alternative examination room details must be included with the examination package.

We know it can be challenging to get your examiners around a table for your Qualifying Examination. The following tips can help you schedule your exam date with greater ease:

- Not all PAC members need to be present at the Qualifying Examination. Check voting quorum instructions outlined in the <u>Examination Committee</u> section.
- All members of the Examination Committee can participate and vote via virtually (e.g. by Zoom, MS Teams or teleconference) if necessary, provided they are on the line for the entire duration of the defense.
- **Doodle** (a free online scheduling tool) may prove useful to facilitate scheduling. However, offering too many options can be counter-productive. It may be helpful to **schedule times with your supervisor and one PAC member first**, before scheduling via doodle with your other examiners and PAC member(s).
- Approach potential examiners well in advance, before their schedules book up. Your supervisor is responsible for contacting examiners and confirming their willingness and availability to participate.
- Include all Administrative Assistants (for all exam committee members) in your correspondences.

The Qualifying Examination Committee

The purpose of the examination committee is to provide an objective analysis of the candidate's Research Proposal and background knowledge by faculty members of good standing, who are familiar with the standards of scholarship required by the School of Graduate Studies.

Note: All University of Toronto examiners attending the Transfer Examination **must hold current a graduate faculty appointment** with the School of Graduate Studies (SGS). Please ask your potential examiners to confirm their current SGS status before submitting your <u>Qualifying Examination Package</u>. Internal examiners cannot attend the examination without a current SGS appointment and having one or more faculty with an expired appointment could jeopardize your exam.

You can determine the graduate faculty status of a proposed University of Toronto examiner by checking with:

(a) the examiner

- (b) the <u>SGS Faculty Listing</u>
- (c) the <u>IMS Faculty Directory</u>

If in doubt, consult the IMS Office.

Student and supervisor should discuss and agree on who should be on the examination committee. The supervisor (**not the student**) is responsible for contacting the Examiners and confirming their willingness and availability to participate, and for:

(i) the Examiner/Chair to attend the exam to question the student and chair the examination, and

(ii) the Examiner/Appraiser to provide a written appraisal before the examination <u>and</u> to attend the exam to question the student

These Examiners both need to be confirmed **before** submission of the Qualifying Examination Package.

Minimum quorum is 4 voting members - 2 internal to the PAC and 2 external to the PAC. If quorum is not met the exam cannot proceed and will be cancelled or rescheduled.

The committee is composed of:

- 1. Supervisor(s) (mandatory)
- 2. Program Advisory Committee Member (mandatory)
- 3. Additional Program Advisory Committee Member (optional but common)
- 4. Examiner and Chair who will attend the exam to question the student and will also chair the examination (mandatory) *see below for restrictions and roles*
- 5. Examiner and Appraiser who will <u>write an appraisal</u> of the Research Proposal and <u>attend the exam</u> to question the student (mandatory) *see below for restrictions and roles*

Please contact the IMS Office in advance if you wish to have a non-voting member attend (for example a third PAC member). This requires the approval of the student, supervisor, and IMS Graduate Coordinator.

Restrictions for Choosing Examiners

Examiner/Chair

The Examiner/Chair must be:

1. A current IMS member with some expertise in the field.

The Examiner/Chair must have an active graduate appointment at IMS. If an Examiner without an IMS appointment is chosen, the supervisor must identify an IMS faculty member to serve separately as the Chair. This additional faculty member will only assume the role of Chair, and does not have to read the thesis nor participate in the questioning.

2. 'Arms-length' to both the supervisor and the student and have no other perceived or actual conflict of interest

Arms-length criteria:

- they <u>must not</u> be from the supervisor's **primary academic department**. In the case of larger departments such as the Department of Medicine, Surgery or Psychiatry, they cannot be from the same division as the supervisor.
- they cannot have had any collaborations with the supervisor in the last 6 years on research papers or reviews
- they should have no other perceived or actual conflict of interest.

Conflict of interest is as defined by CIHR (http://www.cihr-irsc.gc.ca/e/46378.html).

- If the supervisor and an examiner appear together on a grant, that is a collaboration.
- If the supervisor and an examiner appear together on a paper with one of them as first or senior author, that will be deemed a collaboration.
- If, however, the supervisor and an examiner appear together as middle authors on a multi-author paper then the extent of the apparent collaboration needs to be explained.

Examiner/Appraiser

The Examiner/Appraiser must be either:

- 1. A UofT <u>School of Graduate Studies Faculty Member</u> with expertise in the field, meeting the same 'arms-length' criteria as the Examiner/Chair. or
- 2. A graduate faculty member from **another university** with expertise in the field, meeting the same 'arms-length' criteria as the Examiner/Chair.

If an external Examiner/Appraiser is chosen, the student must include the examiner's CV in the Qualifying Examination Package.

Important Notes

Joint publications can easily be searched in <u>PubMed</u> and should be checked carefully by the student and supervisor before submission of the examination package to IMS.

Any collaborations, conflicts of interest (including shared academic departments) and/or issues with faculty appointments, can cause significant delays to the examination approval process, and may result in the need to replace the examiner and/or submit a new examination date.

Examiner Roles

The Examiner and Chair

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The Examiner/Chair will **attend the exam to question the student** and will also **chair the examination**. *This responsibility must be communicated to the proposed examiner at the time of their recruitment by the supervisor and agreed upon by the examiner in advance*.

- Runs the examination proceedings "keeping the peace".
- Represents the IMS and SGS administration and conducts the examination according to the <u>Rules of</u> <u>Procedure</u>.
- Ensures that all members needed to achieve voting quorum are present.
- Instructs those present as to their duties, instructs the supervisor to carefully document items for revision and modification.
- Discusses and finalizes the results and reports the outcome to the IMS.
- Questions the candidate during the Qualifying Examination

The Examiner and Appraiser

The Examiner/Appraiser will attend the exam to question the student and will also submit a written appraisal. This responsibility must be communicated to the proposed examiner at the time of their recruitment by the supervisor and agreed upon by the examiner in advance.

- Submits a written appraisal of the thesis to the IMS at least one week prior to the examination and attends the defense. This written appraisal is not distributed to student or committee before the examination.
- Questions the candidate during the Qualifying Examination

If an <u>external</u> Examiner/Appraiser is chosen, the student must include the examiner's CV in the Qualifying Examination Package.

Qualification Examination Package

The IMS Office requires **all** of the following documentation be uploaded as part of the Qualifying Examination Package a **minimum of six (6) working weeks** prior to your chosen examination date.

Exceptions to this timeline are not possible due to the large number of examinations that need to be processed in the IMS office. Processing occurs in the order that the examination packages are received. The timeline also allows sufficient time for the examiners to read the Research Proposal and for the Examiner/Appraiser to prepare a report.

Required Documentation to be Submitted to the IMS

An electronic examination package must be submitted for approval through the <u>online</u> <u>examination portal.</u>

The package comprises of:

- 1. Completion of an online Qualifying Examination Nomination Form (see <u>Qualifying Examination</u> <u>Committee</u>) + submission of the following supporting documentation:
- 2. PhD Research Proposal
- 3. Updated Student CV
- 4. Pre-Examination PAC Meeting Report indicating the PAC has read the Research Proposal, conducted a mock examination, and agrees the student is ready to proceed with the Qualifying Examination
- 5. Examiner/Appraiser CV only if the examiner is external to the University of Toronto.

The online nomination form captures information about the student, exam logistics, and the proposed examination committee. The information entered into this form creates the official examination record, therefore it must be completed entirely and accurately. By submitting the form, the student agrees to have received approval/consent from your supervisor(s) to do so.

Helpful Tips and Reminders

- You will need your UTORID and PASSWORD to access the online examination portal
- Ensure all examiner contact information is correct (especially important when IMS needs to contact examiners for follow-up and/or in case of exam emergency)
- Include all administrative contact information (for additional peace of mind)
- The submitted examination date/time is final, subject to IMS approval, and has been agreed upon by all parties in advance
- The responsibilities of potential examiners must be communicated to them at the time of their recruitment by the supervisor, and agreed upon by the examiner in advance

Sequence of Events

Supervisor Responsibilities

- Recommend the Qualifying Examination as early as possible (no later than 15 months after initial enrolment, in order to allow for the examination).
- Review, edit, and approve Research Proposal drafts
- Secure examiners (see the <u>Examination Committee</u>). The IMS Office must have an assurance of availability and agreement of ALL EXAMINERS to participate. The supervisor is responsible for contacting the examiners and confirming their willingness and availability to participate. It is understood by the student, supervisor, PAC members and examiners that the day and time listed on the submitted documentation is final and has been agreed upon by all parties in advance.
- Oversee submission of the required documentation to the IMS Office at least six (6) working weeks in advance of the Qualification Examination
- Carefully document items for revision and modification at the examination.

Student Responsibilities

- Prepare and revise the Research Proposal in consultation with Supervisor
- Discuss committee composition with Supervisor
- Submit complete Qualification Examination Package to the IMS Office at least six (6) working weeks in advance of the Qualification Examination
- When instructed by IMS, will distribute the Research Proposal to all committee members **at least four (4) weeks** before the examination.

The required documentation must be submitted to the IMS office a minimum of six (6) working weeks prior to the proposed Qualifying Examination date.

After submitting your exam documentation to the Graduate Program Assistant, PhD (<u>phd.medscience@utoronto.ca</u>), the following steps will take place:

- The Graduate Program Assistant, PhD will review your examiners to confirm their eligibility to serve on your exam committee.
- The Graduate Program Assistant, PhD will send out an official notification of exam e-mail, informing all examiners of the date, time, location and committee composition of the examination. This notification will include the details of the Zoom meeting if the exam is being held virtually and you have requested that IMS set up the Zoom meeting.
- If the exam takes place in person, the Graduate Program Assistant, PhD will organize a room in the Medical Sciences Building and AV equipment if you have requested it (you are required to supply your own laptop and suitable 'dongle' connector if needed). If the exam is held off site, you must make all room and A/V arrangements and inform the IMS office of this when submitting your exam documentation.
- The Graduate Program Assistant, PhD will instruct you to distribute a copy of the thesis to all Examination Committee members approximately 4 weeks before the Qualification Examination. Do not distribute your research proposal to your exam committee until receiving email confirmation from the IMS. You should only communicate with the examiners for the purpose of sending them your thesis.
- The Examiner/Chair should be familiar with the policies and procedures for chairing the exam, either in person or remotely. These policies and procedures and will be sent to the Examiner/Chair for review prior to the examination and are also available under the *Exam Rules of Procedure* on the website: https://ims.utoronto.ca/phd-qualifying-examination.
- The Graduate Program Assistant, PhD will formally provide instructions for the written appraisal to theExaminer/Appraiser and will collect the appraisal. Appraisals are not distributed to the student or exam committee in advance of the Qualifying Examination.
- The Graduate Program Assistant, PhD will send out a reminder email to the exam committee and studenttwo business days prior to the exam.
- The Graduate Program Assistant, PhD will provide all exam documentation/forms to the Examiner/Chair. Alternatively (if the exam is to be held in person), the student can pick up and distribute the exam documentation/forms in a signed sealed envelope and take to the examination.
- Post exam: The Graduate Program Assistant, PhD will provide you with a next steps email to guide youthrough exam completion.

Qualification Examination Procedures

<u>Refer to the website for the most current versions of the IMS Rules of Procedures (In-Person and Remote Exams)</u>

Before the presentation

- IMS sends the Qualifying Examination exam file to the Examiner/Chair and starts the Zoom meeting if required.
- The Examiner/Chair introduces the members and the student and ensures that all examiners are present. If members are missing, the Examiner/Chair advises the IMS Office and discusses action to be taken. The examination will be cancelled if quorum is not met.
- The Examiner/Chair instructs the supervisor of their responsibility to carefully document items for revision and modification (if necessary) during the examination.
- The Examiner/Chair asks the student to leave the room or the Supervisor places the student in the "Waiting Room" if the examination is virtual.
- The Examiner/Chair advises the other examiners whether the student has completed all course requirements and inquires whether there are any major concerns about the upcoming examination.
- The Examiner/Appraiser summarizes their appraisal with the focus on the most pressing points. Discussion may follow the summary of the appraisal.
- The supervisor is provided with a copy of the appraisal.

Presentation by candidate

The student is invited back into the room/virtual meeting to give a 20-minute (uninterrupted) presentation with slides. This is a strict time limit.

Question period

- Following the presentation, the examiners question the student. There is an initial round of questions, with 10 minutes allotted to each examiner.
- The Examiner/Chair allows only one examiner at a time to ask questions at a time (discussion by examiners among themselves will only detract from the 10-minute time period) The Examiner/Chair should intervene if another examiner, or the supervisor, starts to join in the discussion.
- Order of questions is usually from the most distant: i.e., Examiner/Appraiser, Examiner/Chair, PAC Members, and Supervisor (if necessary).
- A second round of questioning along the same format is permitted and is typical. Some examiners may choose not to ask additional questions, or not to take up the full 10 minutes on the second round.
- The Examiner/Chair should keep informal notes about the content of questions that may lead to proposal revisions for reference during the analysis of the examination.
- Following questioning, the student is again asked to leave the room/placed in the "Waiting Room".

Committee discusses the examination and votes

The Examiner/Chair asks the following specific questions of the examiners. All examiners must address the questions:

Is the Research Proposal acceptable?

a) With no modifications

b) With minor or organizational corrections (typos, change in format, additional information, no new data or new interpretation of data required). The student has 1 month to complete the corrections.

c) With minor modifications (rewrite part of the proposal, addition of new experimental data and/or completely new interpretation of data). The student has 2 months to complete the modifications and these must be reviewed by a sub-committee appointed by the Examiner/Chair after the exam.

d) Not acceptable (major modifications are required to the proposal (e.g. insufficient preliminary results, flawed proposal, scope of proposal is too limited). The student may have one reconvened qualifying examination, to be scheduled within two months of the exam, or defend a thesis at the M.Sc. level.

Was the Oral Defense?

- a) Excellent
- b) Very good
- c) Good
- d) Acceptable

e) Not acceptable; must undergo re-examination within two months or defend at the MSc level

Is the student acceptable for continuation in the PhD program?

- a) Approved
- b) Approved conditional on completion of minor corrections/minor modifications
- c) Not approved: will re-examine in two months or defend at the MSc level

In the case that a consensus about the recommendations is not reached, the Examiner/Chair must ask for a vote on each question. More than one negative vote (or abstention) causes the examination to be adjourned.

If minor modifications are required, the Examiner/Chair appoints a Minor Modifications Subcommittee (see "After the Examination").

The student is invited into the room/meeting and the Examiner/Chair advises the student about the outcome of the examination. A clear statement about who will review the revised thesis is given to the student and supervisor and the defense is adjourned.

The Examiner/Chair has the obligation to protect the student. If you feel harassed you may bring this to the attention of the Examiner/Chair and/or the other examiners.

After the examination

The Examiner/Chair returns the file to the IMS.

If minor or organizational corrections are recommended:

• Student consults with Supervisor and PAC members about changes, revises Research Proposal and submits it to the committee.

• Supervisor writes to the Graduate Program Assistant, PhD at phd.medscience@utoronto.ca to confirm completion of revisions within one (1) month of the examination

If minor modifications are recommended:

- Examiner/Chair will appoint a subcommittee
- Includes the Examiner/Appraiser and two (2) other members
- Subcommittee Chair cannot be the Supervisor
- Student consults with subcommittee members about changes, revises Research Proposal and submits it to the subcommittee
- Subcommittee Chair writes Graduate Program Assistant, PhD at <u>phd.medscience@utoronto.ca</u> to confirm completion of revisions within two (2) months of the examination
- Student submits revised proposal to the IMS Office

A repeat Qualifying Examination is absolutely required if:

- The student does not pass the oral defense. This may occur when a vote is required (i.e., examiners disagree about the recommendations) and there is a negative outcome.
- The research proposal is deemed not acceptable.
- Revisions or corrections are not submitted within the required timeline (above).

The student must reclassify into the MSc program if:

- Student no longer wishes to continue in the PhD
- Does not pass the reconvened Qualifying Examination

Students are allowed only one repeat Qualifying Examination, to be scheduled within two (2) months of the initial exam, or the student can choose to schedule an MSc Final Oral Examination.

The IMS Office will complete all paperwork required for reporting the outcome of the examination to the School of Graduate Studies.

IMS Staff Contact

For clarification on these guidelines or for any other thesis and exam related questions, please get in touch with:

Graduate Program Assistant, PhD Institute of Medical Science | University of Toronto 1 King's College Circle, Room 2364 | Toronto, ON | M5S 1A8 phone: 416.978.6696 | e-mail: phd.medscience@utoronto.ca

General Exam FAQs

1. Can I invite members outside of my approved committee to my examination?

No. The IMS examinations are only available to those members who have been listed on your nomination form and pre-approved by the IMS office.

2. I'm having difficulty finding a date that all my examiners are available, what should I do?

This is a common problem. Luckily there are logistical solutions that can make scheduling much simpler.

Keep in mind that not all PAC members have to be present at the exam. If you are really struggling with having them all present at the exam, just ensure that your committee meets minimum voting quorum. If you do not meet the minimum quorum requirements your exam will be cancelled.

Currently, all members of your exam committee can participate virtually using Zoom, Teams or teleconference. To do so, they must remain in the meeting for the duration of the exam.

3. Who is responsible for distributing the Research Proposal to the exam committee?

Once the IMS has approved the <u>Required Documentation</u> (see section above), we will send out a notification of exam e-mail, instructing the student to distribute the Research Proposal to all exam committee members. Students are expected to distribute the proposal as soon as they receive this notice. Please deliver your proposal to your examiners by PDF copy, and also by hard copy if requested. If the examiners would like a hard copy of the proposal, the supervisor is expected to cover any courier costs for the student.

Examination Tips

One day before the exam:

- Check all presentation equipment: computer, projector, overhead, screen sharing
- Briefly review your proposal, get familiar with your figures
- Get familiar with several key references, including authors' names, research groups and major points that may support your defense

On the day of the exam:

- There is no proscribed dress code, but we recommend dressing in business attire
- Come earlier to check the equipment/screen sharing again
- Bring a bottle of water if your examination is in person
- Bring a copy of your Research Proposal

Presentation

- 20 minutes MAXIMUM
- Remember: everyone has read your proposal.
- Background: provide the rationale and significance of your research
- Hypothesis: This is the most important part of your research
- Future Research: this is the most important aspect of your exam. Clearly articulate a set of experiments that extend your current findings and explain what you expect to find and what the impact will be.

Examination Questions

There are several types of examination questions, which generally fall into 4 categories:

- Questions arising directly from your data methodology, interpretation, limitations
- Background knowledge
- Future directions proposed experiments, approaches to answering remaining questions
- Unpredictable questions
 - If the Globe and Mail wants to release your research, what would be the title of the article?
 - What are the top 3 secrets of your success?
 - If you were allowed to re-do your project, what kind of new approaches would you like to use?

How to answer your questions:

- Make sure you understand the question properly. Repeating the question back can give you time to reflect
- Provide a clear, brief answer
- Use references to demonstrate your knowledge and support your point
- Don't be defensive
- Be honest. Sometimes, "I don't know" could be the best answer
- If the question is not related to your research directly, point it out first, then speculate
- After the first round, if you feel necessary, you may ask for a short break
- The Examiner/Chair has an obligation to protect the student. If you feel "harassed" you may bring this to the attention of the Examiner/Chair