

Institute of Medical Science UNIVERSITY OF TORONTO

PhD Thesis and Examination Guidelines

Please note: All fully and accurately completed defense documentation for the School of Graduate Studies Final Oral Examination (FOE) must be submitted to the IMS a minimum of nine (9) working weeks prior to the examination date.

For a Departmental Oral Exam, 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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Eligibility to Defend

Students are advised to read the **Doctor of Philosophy Program Requirements** section of our website to ensure they are eligible to proceed to defense.

In addition to the requirements listed there, a successful PhD candidate is expected to:

- Have completed all required coursework.
- Be knowledgeable in your specific field.
- Produce a thesis that is roughly the equivalent of three full research manuscripts in peer-reviewed scientific journals and that meets SGS thesis standards as set-out in these guidelines. Publication is encouraged.
- Check that you have been credited for MSC1011H (or MSC1011Y) on your academic history on ACORN (indicated by a CR on the academic history/transcript). If you have not been credited for this course, please contact the IMS Curriculum Officer (cc.medscience@utoronto.ca).
- Check on <u>ACORN</u> to make sure you have been correctly enrolled and credited for all your courses.
- Hold a Final PAC Meeting
- Ensure that you are registered.

STUDENTS MUST MEET ALL THE ABOVE REQUIREMENTS PRIOR TO DEFENDING.

The PhD Defense procedures include a final Program Advisory Committee (PAC) meeting, and two oral examinations: the PhD Departmental Oral Examination (IMS) and the Final Oral Examination (SGS). Both examinations include a student presentation, questioning and vote. Some students benefit from two examinations, but for others it is redundant. The Departmental Oral Exam can be waived upon request. The waiving of the Departmental Oral Examination is a formal process and the requirements and procedures are outlined on page 9 of this document.

Timeline Recommendations

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

Writing and defending your PhD thesis typically takes 7-12 months (3-4 months for writing, 1-3 month for thesis proofing and review, and 3-5 months for the examination process). To ensure timely completion, we recommend that you:

- Review the PhD Examination Guidelines thoroughly prior to the start of thesis writing.
- Discuss the process with your supervisor and PAC members by the third or fourth year.
- Send a draft of your thesis to your supervisor and PAC members to review and set deadlines for return of comments. Allow one month for review of the final thesis draft by PAC members.
- Schedule all PAC meetings well in advance.
- Use the <u>PhD Thesis Defense and Program Completion Checklist</u> provided in these guidelines.
- Contact the Graduate Program Assistant, PhD (<u>phd.medscience@utoronto.ca</u>) if there are any questions or concerns about the defense or thesis.

Fees and Bursaries in the Final Year

The Office of Student Accounts levies your student fees. For comprehensive information on fees in your final year, visit <u>Final Year Fees</u> on the SGS website and for inquiries please visit the <u>Student Accounts</u> website.

Fees in the final year of your degree are levied on a monthly basis. You have until the 15th of each month before fees are charged for that month. For example, if you electronically submit your final thesis to SGS by April 15th, you will only pay fees for March. If you submit the final thesis after April 15th, you will pay fees for April.

Students are required to pay outstanding University fees before their Final Oral Examination.

PhD students who are in the first year outside the funded cohort may apply for a Doctoral Completion Award (DCA). Please contact the Student, Faculty Affairs and Awards Officer at <u>sf.medscience@utoronto.ca</u> for further information about applying for the DCA.

Confidentiality and Intellectual Property

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

PhD Candidacy

PhD students are expected to have completed all course requirements, held at least 4 PAC meetings (excluding the Transfer/Qualifying Exam), and have an approved thesis topic for the PhD degree by the <u>end of the 3rd year of registration</u> (or end of the 4th year for PhD Direct Entry and Transfer students).

Course Requirements:

Quarter-credit course codes (0.25 FCE) end in H (for modular courses in the MSC1100 series only). Half-credit course codes (0.5 FCE) end in H. Full credit course codes (1.0 FCE) end in Y.

PhD

Students are required to complete a minimum of 2.0 graduate full-course equivalents (FCEs) as follows:

If you entered the program IN or AFTER September 2020:

- MSC 1011H MSc Seminars in Translational Research (0.5 FCE) *
- 0.5 FCE modular courses (two courses at 0.25 FCE each) *
- 1.0 FCE elective (may be one full year 1.0 FCE course or two half year 0.5 FCE courses)

If you entered the program BEFORE September 2020:

- MSC 1011Y MSc Seminars in Translational Research (1.0 FCE) *
- 1.0 FCE elective (may be one full year 1.0 FCE course or two half year 0.5 FCE courses)

* Not required if you completed these courses as part of a defended IMS Masters. An additional 1.0 FCE elective is required in their place to fulfill the 2.0 FCE course requirement.

PhD-Transfer from MSc:

Students are required to complete a minimum of 3.0 graduate full-course equivalents (FCEs) as follows:

If you entered the program IN or AFTER September 2020:

- MSC 1010H MSc Seminars in Translational Research (0.5 FCE) *
- 0.5 FCE modular courses (two courses at 0.25 FCE each) *
- 2.0 FCE electives (may be any combination full year 1.0 FCE courses and half year 0.5 FCE courses). Electives completed <u>before</u> your transfer count toward this course requirement.

If you entered the program BEFORE September 2020:

- MSC 1010Y MSc Seminars in Translational Research (1.0 FCE)
- 2.0 FCE electives (may be any combination full year 1.0 FCE courses and half year 0.5 FCE courses). Electives completed <u>before</u> your transfer count toward this course requirement.

* These courses must be completed before your transfer.

PhD-Direct Entry:

Students are required to complete a minimum of 3.0 graduate full-course equivalents (FCEs) as follows:

If you entered the program IN or AFTER September 2020:

- MSC 1011H MSc Seminars in Translational Research (0.5 FCE)
- 0.5 FCE modular courses (two courses at 0.25 FCE each)
- 2.0 FCE electives (may be any combination full year 1.0 FCE courses and half year 0.5 FCE courses).

If you entered the program BEFORE September 2020:

- MSC 1011Y MSc Seminars in Translational Research (1.0 FCE)
- 2.0 FCE electives (may be any combination full year 1.0 FCE courses and half year 0.5 FCE courses).
- Additional degree requirements for a Collaborative Specialization, if applicable. Check with your Collaborative Specialization administrator for specific requirements.
- These are minimum course requirements. Your Supervisor and PAC may request that you take additional courses towards your degree. Check on **ACORN** to make sure you have been correctly enrolled and credited for your courses.
- Regular PAC meetings: at least four (4) PAC meetings must have been held and reports filed in the IMS office by the end of year 3 of the PhD. For students who have transferred to the PhD

from the MSc, your transfer exam does not count as a PAC meeting. Similarly, the qualifying exam for PhD students does not count as a PAC meeting.

For candidacy related questions please get in touch with the Admissions Officer in the IMS (adm.medscience@utoronto.ca).

The Thesis

The supervisor and Program Advisory Committee (PAC) are responsible for guiding the student about thesis content and research completion. The supervisor and PAC should be prompt in reviewing, correcting, and editing thesis drafts. Make sure that your supervisor and PAC review each part of your thesis as you write. This process will help you to make corrections and changes early and help you to maintain continuity throughout the writing process. Peer-reviewed publication is recommended.

The research content of a PhD thesis is roughly equivalent of three full research manuscripts in peerreviewed scientific journals. This varies by discipline. Some research consists of one large study (i.e. a clinical trial) that may result in one major publication; other research programs may generate the equivalent of several publications. You are expected to be knowledgeable in your specific field and also to have a general knowledge base. Thesis work will reflect an original contribution to new knowledge, and you should have demonstrated an appropriate level of scholarship in your chosen field.

Before writing your thesis

- Review SGS guidelines for the preparation and formatting of the thesis on the <u>Producing Your</u> <u>Thesis</u> section of the SGS website
- Pay particular attention to the copyright instructions and formatting requirements for electronic submission
- Familiarize yourself with the requirements for electronic submission outlined on the <u>SGS website</u>
- Consult previously completed theses in the IMS office or U of T library. You can view theses online at <u>Theses Canada</u> or <u>T-Space</u> the online thesis repository.

Research Included in PhD thesis

Your PhD thesis should only be composed of work completed while enrolled in the PhD program. It must not include work completed in previous degrees or employment, with the exception of research done during the MSc portion of the program for students who have transferred from the MSc to the PhD program.

Contributions of Others to your Project

Discuss this with your supervisor. Acknowledge others properly in the thesis, but also be ready to defend work by others used in your thesis. Clearly state your own contribution in the thesis, either in a "Contributions" section at the front of the thesis, or at the start of each chapter.

Multiple Publications Generated During Your Research

If they are related to your main hypothesis, you may present publications as separate chapters in the thesis. If they are not directly related to your main research, you may add publications as an appendix in the thesis. However, be ready to answer questions raised from such work.

Two commonly used formats are:

- If the methods are similar, put them together, then present results as separate chapters.
- If different methods are used, include only general information in the Methods chapter and present detailed methods in separate chapters.

Which comes first: Publication of the research, or defense of the thesis?

Talk to your supervisor about this and come to an agreement early on in your program. Your supervisor has a vested interest in prompt publication. You have an interest in a timely degree completion. Meet with a Graduate Coordinator if there is disagreement over this.

Thesis Preparation Guidelines

Electronic Thesis Preparation and Submission

All students must submit final versions of their thesis to SGS electronically. Although only the final, approved thesis (after the PhD Final Oral Examination and following any minor corrections or modifications) is submitted electronically, students must prepare their thesis according to SGS directions for final electronic submission.

Electronic theses and dissertation (ETD) instructions and templates are available through the SGS <u>Producing Your Thesis</u> website. Theses will normally be released to T-Space 5-6 weeks after a student's convocation; release may be delayed for up to two years by submitting a <u>'Restrict Thesis Release Date'</u> form to the IMS office. The form must be accompanied by the rationale for why the student is requesting that the thesis release be restricted. Please note that **these requests do not get approved for future publication reasons alone**, as this is the case for the majority of IMS students. Generally requests are granted approval for patent/intellectual property related reasons. Submit this form and rationale in writing to the Graduate Program Assistant, PhD (if applicable) (phd.medscience@utoronto.ca).

Full instructions on <u>electronic thesis submission</u> are available on the SGS website. For questions related to the electronic submission of your thesis, please contact SGS at <u>sgs.doctoral@utoronto.ca</u>.

Format

Your thesis may be prepared in a continuous "traditional format", with an in depth Literature Review, Aims/Hypotheses, detailed Methods section, data presented in a central Results section and a Discussion that describes the plausible range of interpretations for your work, followed by the Conclusions and Future Directions.

Alternatively, you may choose a "paper format". In this case, your thesis work is organized as a series of self-contained chapters (each containing a focused Introduction, Methods, Results, Discussion/Conclusion), similarly reformatted for consistency and framed by an in-depth Literature Review, Aims/Hypotheses, and General Discussion, Conclusions, and Future Directions chapters.

The decision as to which format to use is best made early in the writing process, in consultation with your supervisor. In general, the choice depends upon the stage you are at in the preparation of publications and whether your thesis is most readily viewed as one continuous work or a set of discrete, but related studies that together tell your story.

Abstract

The central hypothesis, rationale and research aims should be clearly and explicitly laid out, along with interpretation of the results for each component of your experimental work. State what you have found rather than "results will be discussed." Keep technical jargon and discussion of background to a minimum. Endeavour to explain the findings and their significance at a level that is understandable to someone working outside your field of interest. **The limit for a PhD thesis abstract is 350 words.**

Acknowledgments

In this section you should acknowledge and thank your lab, family, friends or any other people who may have helped you along the way.

Contributions

Explicitly state the contributions of technicians, trainees, collaborators, faculty mentors and funding sources to the experimental work, analyses and writing of the thesis. Be precise, inclusive and accurate. A listing of the specific contributions of others is presented as a separate section immediately following Acknowledgments. Images, data and text taken, or adapted from material on the web, papers, or books, require attribution and cannot be used without permission from the copyright owner. More information on copyright issues and a template for preparing copyright letters of permission are available on the <u>SGS</u> website.

List of Abbreviations

All but universally accepted abbreviations, such as units of measure, should be listed and should be explained in the thesis text on the page where they are first used. For guidance on what abbreviations need not be listed, consult the <u>Council of Science Editors Manual for Authors, Editors, and Publishers</u> (available on-line through the UofT Libraries) for the instructions to authors provided by respected journals in your discipline.

List of Figures and List of Tables

Include the page numbers for the figures and tables. Figure titles should be short and self-explanatory. Leave details to the legends. All figures require a legend. Remember to include error bars. By skimming the figures and legends, a reviewer should get a clear sense of the results in your thesis. It is recommended that the figures be embedded within the text, instead of being collected at the end of the chapter.

Literature Review

The Literature Review is a scholarly review of the background to your research question. It frames your work with reference to the history of your research question, relevant theories and the clinical picture, if appropriate. Concepts and terminology that are used in your research should be explained and you should provide a review of technologies, approaches and analytical methods that you use. Where there are gaps in the literature that your thesis addresses, point these out and mention how your thesis work will resolve them. The relevant literature should all be covered in this first section so that the Discussion need not introduce new literature (unless it is extremely recent).

Research Aims and Hypotheses

Strive for clarity. Research aims frame the general over-riding purpose of the project. Hypotheses are testable postulates about the nature of relationships in your field of study. State hypotheses explicitly and summarize the arguments behind them. For most theses, specific research questions are a series of experimental steps you take to test the hypotheses. Make sure that research aims, hypotheses and specific research questions are clearly aligned. In qualitative research theses, aims, hypotheses and key issues of

research design typically emerge only through engagement in the field of study. Differences between hypothesis-driven investigation and qualitative research can give rise to confusion, and particularly so when mixed method approaches are used. If in doubt, students should consult with the PAC for guidance on appropriate framing of the thesis research aims and structure, early in the writing process.

Methods

These should be described in sufficient detail as to allow someone else to reproduce your work. If a novel technique is described, this section should be quite extensive. If the thesis is prepared in a paper format, a consolidated General Methods section can be used to provide the necessary detail. Very fine details can be placed in an Appendix.

Results

If you are preparing a paper format thesis, simply follow instructions to authors and norms common to respected journals in your field for each chapter of your experimental work. If you are using the traditional format, you may find it useful to provide more interpretation of the results than you would in a shorter manuscript. This will help lead the reader through this extended section. Subheadings that indicate the "bottom line" for each set of related experiments are useful in the paper format and essential in a traditional Results section.

General Discussion

A general Discussion is required in both traditional and paper format theses. In the paper format, discussion sections within individual chapters deal with results germane to experiments described in each chapter. In contrast, the Discussion addresses the thesis as a whole. A bit of repetition is inevitable. However, the depth of analysis in this section goes beyond your specific experiments and findings. This section should address the broader issues raised by your work. In the Discussion you need to discuss how the discrete parts of your work fit together. Explicitly discuss the hypotheses, how your work has supported them and in what ways it has not. Were your aims realistic? If not, why not? What were the limitations of your approach? What has your work revealed that is novel? How is it novel? Does it conform or not to the literature in your field (the literature you have covered in your literature review)? In a traditional thesis, the single Discussion section covers both the interpretation of particular experimental results and these larger, contextual issues.

Conclusions

This section should clearly state the "bottom line" of your findings, including a reappraisal of your hypotheses in light of your findings - i.e., whether your work supported or refuted your original hypotheses. This section can also speculate on the implications of your findings.

Future Directions

This is the fun part of your thesis! Where would you take this research program were you to continue in the field over the next 6 months, 2 years, or 10 years? What are the most important questions that emerge from your work and review of the field? How would you address them?

References

All references cited in the thesis and all published sources identified in the Contributions section must be listed. In general, cite primary sources whenever possible. If using a secondary source, make this clear (e.g. "reviewed in."). It is recommended that you use the (Author, Year) style of referencing in your thesis so that examiners can easily follow your sources. This can then easily be changed to numbered referencing when you upload your final thesis (post defense) to SGS. Double-check to ensure that references in the list are cited in the text and, conversely, that all citations in the text are listed in the References section. Missing citations or references are a red flag to reviewers.

See PhD Thesis & Exam FAQs for additional information.

Final Program Advisory Committee (PAC) Approval

A final PAC meeting must be held with a **full practice examination** to prepare the student for defense. The final PAC meeting must include a 20-minute slide presentation by the student, and a question and answer period where PAC members ask questions that would be typical of those asked during a final defense. Prior to the final PAC meeting a final draft of the thesis must have already been circulated for review. At the final PAC meeting the supervisor and PAC members must approve the written thesis for submission to the IMS.

If you intend on applying for a waiver of the IMS Departmental Oral Examination it is mandatory to have an additional faculty member at the final PAC meeting as a field expert. The additional faculty member must be a member of SGS, with supervisory experience, and be able to provide an objective perspective and feedback to the PAC and student regarding the content of the thesis and presentation.

At the end of the meeting, the PAC members vote on the student's readiness for defense and complete all pages of the PAC report form, **including the final page** indicating:

- <u>The committee has reviewed the thesis</u>. The student's final thesis draft has been read and proofed by all committee members. It is acceptable, in terms of content, quality of writing, and presentation. The thesis is ready for presentation at a PhD Oral Examination.
- <u>The committee has tested the student's presentation and oral defense</u>. The student's presentation of the thesis was well-organized, comprehensive and focused. The student's ability to field questions related to the background and significance of research, general knowledge, and specific issues related to the thesis has been appropriately tested.
- <u>The committee has tested the student's general and specific knowledge related to research</u>. The student has completed appropriate graduate courses for degree completion. The minimum degree requirements have been met. The student's basic scientific knowledge has been appropriately tested and is acceptable for thesis defense.

Please ensure that all the boxes have been checked and that all PAC members are in agreement with the evaluation, as attested to by the chair of the PAC meeting. If the PAC is unable to attest to the above three questions, then it will not be considered the final meeting and an additional PAC meeting must be held until the student is able to meet these requirements.

At the final PAC meeting, the PAC members can help recommend eligible examiners for the PhD Oral Examination.

Waiver of the Departmental Oral Examination

IMS PhD Oral Defense procedures include two oral examinations: the PhD Departmental Oral Examination (IMS) and the Final Oral Examination (SGS). Both examinations include a student presentation, questioning, and final vote. A review of past examination outcomes has shown that while some students benefit from our two-examination process, for others it is redundant. Many students will successfully waive the Departmental Oral Exam and proceed directly to the Final Oral Exam.

You have the option of requesting a waiver of the IMS PhD Departmental Oral Examination. To request a waiver, an additional SGS faculty member who has read the thesis and is competent to comment on the scientific content, must be present at the final PAC meeting.

If a PhD Departmental Examination Waiver is requested, the *PhD Departmental Oral Examination Waiver Request Form* needs to be submitted to IMS for approval.

Waiver of the Departmental Oral Examination may be denied. If so, the student must complete the twotier examination process.

Scheduling the Examination(s)

Your PhD Final Oral Examination package must be submitted for IMS approval a minimum of <u>nine</u> working weeks prior to the proposed examination date (or six weeks for a PhD Departmental Oral Examination). <u>Remember to build in this time when settling on the exam date with your committee.</u>

Additionally, please note the following scheduling limitations:

- The defense may start no earlier than 9 am and no later than 3 pm, Monday through Friday.
- The defense 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 2 weeks during the winter holidays. These 2 weeks **do not** count toward the minimum six (6) working weeks needed to schedule a PhD Departmental examination or the nine (9) working weeks' notice needed to schedule the PhD Final Oral Examination.
- Defenses 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.
- In order to be eligible for the next round of convocation, students must defend a minimum of one week prior to the final date for receipt of degree recommendations for their desired convocation cycle as listed in the <u>SGS sessional dates calendar</u>. Please note that SGS sessional dates vary from year to year.

Allow yourself sufficient time after your defense to complete all proscribed changes to your thesis in time for degree recommendation deadlines. It is advisable to hold your defense at least one month prior

to the degree recommendation date for your desired convocation cycle (November or June or March *in abstentia* if requested).

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

- Not all PAC members need to be present at the PhD defense. Check voting quorum instructions ("<u>The PhD Departmental Examination Committee</u>" and "<u>The SGS Final Oral Examination Committee</u>" sections) outlined later in this document.
- 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.
- <u>Doodle</u> (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 Departmental Oral Examination (IMS)

IF YOU HAVE SUCCESSFULLY WAIVED THE DEPARTMENTAL ORAL EXAM, PROCEED TO THE <u>SGS FINAL ORAL EXAM SECTION</u> OF THESE GUIDELINES

The purpose of the Departmental Oral Examination is to closely review the thesis, recommend revisions to be made prior to the PhD Final Oral Examination, and test knowledge of the field of study. The exam provides an objective analysis of your thesis and background knowledge by faculty members of good standing, who are familiar with the standards of scholarship required by the School of Graduate Studies.

The Departmental Oral Examination Committee

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 to attend the exam to question the student, and

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

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

Minimum quorum is four (4) voting members – at least two (2) of these members MUST be 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 recommended)
- 4. Examiner (mandatory) *see below for restrictions and roles* Attends the examination and questions the student.
- 5. Examiner and Appraiser (mandatory) *see below for restrictions and roles* 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. Attends the examination and questions the student.
- 6. Examination Chair appointed by the IMS

Note: All University of Toronto examiners attending the MSc 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>PhD 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.

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.

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 IMS Faculty Directory

If in doubt, consult the IMS Office.

Restrictions for Choosing Examiners

Examiner

The Examiner must be:

- 1. Be a current UofT SGS faculty member with expertise in the field
- 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:

(a) A UofT <u>School of Graduate Studies Faculty Member</u> with expertise in the field, meeting the same 'arms-length' criteria as the Examiner, or

(b) A graduate faculty member from another university with expertise in the field, meeting the same 'arms-length' criteria as the Examiner.

If an external Examiner/Appraiser is chosen, the student must include the examiner's CV in the PhD 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

• Reviews the thesis and questions the candidate during the PhD 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 PhD Examination

The Examination Chair (appointed by IMS)

- 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.
- The Examination Chair does not need to review the thesis in advance and does not vote.

Departmental Oral Examination Package

The IMS Office requires **all** of the following documentation be uploaded as part of the Departmental Oral 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 thesis and for the Examiner/Appraiser to prepare a report.

Required Documentation to be Submitted to the IMS

The following documents comprise the PhD Departmental Oral Examination Package and must be sent electronically to the Graduate Program Assistant, PhD. Incomplete packages will not be accepted:

- **1.** Copy of the thesis
- **2.** Updated Student CV
- 3. Completed PhD Departmental Oral Examination Nomination Form*
- 4. Examiner/Appraiser CV only if the examiner is external to the University of Toronto.
- 5. Final *PAC Meeting Report** indicating the PAC has read the thesis and agrees the student is ready to defend
- 6. Completed *Thesis Submission Checklist** signed by the student and supervisor indicating that all formatting, permissions and sections required by the SGS have been followed. Any discrepancy with these requirements may affect the thesis examination. The correct and truthful filling of this form is the responsibility of the student and supervisor.

*Download the most current version of these forms from the website

The information entered in the PhD Departmental Oral Examination Nomination Form creates the official examination record, therefore it must be completed entirely and accurately.

Additional Tips and Reminders

- 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 (Departmental Examination)

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

• The Graduate Program Assistant, PhD will vet your examiners to confirm their eligibility to serve onyour 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 using the IMS Zoom account. If the Zoom account is unavailable, IMS will coordinate alternative arrangements with the Supervisor
- 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 four (4) weeks before the defense. Do not distribute your thesis 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 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 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-departmental-oral-examination-ims.
- The Graduate Program Assistant, PhD will formally provide instructions for the written appraisal to the Examiner/Appraiser and will collect the appraisal. The appraisal will not be distributed to the studentand exam committee in advance of the defense.
- The Graduate Program Assistant, PhD will send out an exam reminder email to the exam committee and student two business days prior to the defense.
- The Graduate Program Assistant, PhD will provide all exam documentation/forms to the 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 defense: The Graduate Program Assistant, PhD will provide you with a next steps email to guide you in your degree completion.

Departmental Oral 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 Departmental Oral Examination exam file to the Chair and starts the Zoom meeting if required.
- The Chair introduces the members and the candidate and ensures that all examiners are present. If members are missing, the Chair advises the IMS Office and discusses action to be taken. The examination will be cancelled if quorum is not met.
- The Chair instructs the supervisor of their responsibility to carefully document items for revision and modification (if necessary) during the examination.
- The Chair asks the student to leave the room or places the student in the "Waiting Room" if the examination is virtual.
- The Chair advises the examiners whether the student has completed degree course requirements and inquires whether there are any major concerns about the upcoming examination.

• The Chair ensures that all examiners received a copy of the appraisal and asks the Examiner/Appraiser to briefly summarize their appraisal of the thesis. Discussion may follow the summary 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 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 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, 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 Chair should keep informal notes about the content of questions that may lead to thesis revisions for reference during the analysis of the defense.
- Following questioning, the student is again asked to leave the room/placed in the "Waiting Room".

Committee discusses the examination and votes

The Chair asks the following specific questions of the examiners. All examiners must address the questions on the voting ballot:

Is the thesis and defense acceptable?

a) Yes

b) No

Is the written thesis acceptable?

a) As it Stands (acceptable in its present form)

b) With minor or organizational corrections (typographical errors, errors in punctuation, change in format, or minor clarification of textual material, as indicated by the examining committee) to be corrected within one month.

c) With minor modifications (i.e. more extensive clarification of textual material or qualification of research findings or conclusions). Modifications must be feasibly completed within three months.

d) Not acceptable

Was the Oral Defense?

- a) Excellent
- b) Very good
- c) Good
- d) Acceptable
- e) Not acceptable

The Chair distributes the voting ballots to each Committee member to complete. When all members have finished, the Chair collects the ballots and reads aloud the vote of each Committee member. They then record the result. More than one negative vote (or abstention) causes the examination to be adjourned.

If minor modifications are required, the Chair appoints a Minor Modifications Subcommittee.

The student is invited into the room/meeting and the 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 Chair has the obligation to protect the student. If you feel harassed you may bring this to the attention of the Chair.

After the examination

The Chair returns the file to the IMS.

If minor or organizational corrections are recommended:

- Student consults with Supervisor and PAC members about changes, revises thesis 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 <u>minor modifications</u> are recommended:

- Chair will appoint a subcommittee
- Includes the Examiner/Appraiser and two (2) other members
- Subcommittee Chair cannot be the Supervisor
- The designated Chair of the Thesis Subcommittee must prepare a brief report within one week of the exam, indicating required changes, and ensure that the Candidate, Supervisor(s), and Graduate Program Assistant, PhD receives a copy of the report.
- Student consults with subcommittee members about changes, revises thesis and submits it to the subcommittee
- Subcommittee Chair writes to the Graduate Program Assistant, PhD to confirm completion of revisions within three (3) months of the examination (<u>phd.medscience@utoronto.ca</u>).

A repeat Departmental Oral Examination is absolutely required if:

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

Students are allowed only one repeat Departmental Oral Examination, to be scheduled within three (3) months of the initial exam or the student can choose to reclassify into the MSc program.

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

The Final Oral Examination (SGS)

The purpose of the Final Oral Examination (FOE) is to ensure a consistent level of academic excellence across the University and the country. The FOE, in addition to reviewing and approving the thesis, and testing your knowledge of your field of study, should discuss new questions that arise from the work and future projects that could be developed. The exam usually lasts about 2.5 - 3hrs.

The Final Oral Examination Committee

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 Internal Examiner(s) to attend the exam to question the student, and

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

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

The FOE Committee is composed of four-to-six (4-6) voting members. Minimum quorum is four (4) voting members – of which at least two (2) members MUST be 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 (recommended)
- 4. Internal Examiner who will attend the exam to question the student (mandatory) *see below for restrictions and roles*
- 5. Additional Internal Examiner (optional mandatory if the External Appraiser does not attend the exam) *see below for restrictions and roles*
- 6. External Appraiser who will write an appraisal of the PhD thesis (mandatory) and may also attend the exam to question the student- *see below for restrictions and roles*
- 7. Examination Chair appointed by the School of Graduate Studies

Note: All voting and non-voting members (excluding the External Appraiser) who are attending the FOE **must hold current a graduate faculty appointment** with the University of Toronto. Please ask faculty to confirm their current SGS status before submitting your <u>PhD Final Oral Examination Package</u>. 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.

Only approved members of the examination committee may attend the examination. If you wish to include non-voting members at the examination (for example a third PAC member), you must request this at the time of submission of the PhD Defense Package. Non-voting members must also be listed on the PhD Defense Nomination Form and approved by the Vice-Dean, Students.

Restrictions for Choosing Examiners

Internal Examiner

An Internal Examiner must:

- 1. Be a current UofT SGS faculty member with expertise in the field.
- 2. Be '**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 (<u>http://www.cihr-irsc.gc.ca/e/46378.html</u>).

- 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.

External Appraiser

The Vice-Dean of Graduate Studies personally reviews and approves the External Examiner for the Final Oral Examination.

The External Examiner must:

- 1. Be a faculty member at another university with expertise in the field who has not had an affiliation with UofT in the past six (6) years.
- 2. Be a member of their university's School of Graduate Studies
- 3. Have supervised PhD students
- 4. Hold a professorial rank equivalent to a Full Member of SGS. They must be eligible to supervise graduate students as a Professor or Associate Professor. Assistant Professors are not eligible

5. Be 'arms-length' to both the supervisor and the student and have no other perceived or actual conflict of interest

Arms-length criteria:

- they cannot have had any collaborations with the supervisor in the last six (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.

The IMS Office provides a \$100 honorarium to the External Appraiser and up to \$500 for traveling expenses (upon submission of all original receipts to the IMS office). The External Appraiser is not to book travel arrangements until they are formally approved by the IMS office and SGS. If the Supervisor or Supervisor's academic department pays all traveling expenses, the Supervisor is responsible for contacting the IMS Office for reimbursement of the IMS \$500 portion of expenses.

The Examination Chair (appointed by SGS)

- Runs the examination proceedings "keeping the peace".
- Represents the IMS and SGS administration and conducts the examination according to the rules of procedure.
- 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 IMS and SGS.
- The Examination Chair does not need to review the thesis in advance and does not vote.

Final Oral Examination Package

The IMS Office requires **all** of the following documentation be uploaded as part of the SGS Final Oral Examination Package a minimum of nine (9) 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 thesis, for the External Examiner to prepare their appraisal, and for that appraisal to be sent to you and the examination committee for review.

Simply put - finish the thesis early if you have a specific deadline date to defend (e.g., due to acceptance to medical school). Remember also to allow sufficient extra time **after** the examination for any required corrections to the thesis and for submission of the final corrected version of the thesis to SGS.

Required Documentation to be Submitted to the IMS

The following documents comprise the PhD Final Oral Examination Package and must be sent electronically to the Graduate Program Assistant, PhD. Incomplete packages will not be accepted:

- 1. Copy of the thesis
- 2. One-page thesis abstract, double-spaced.
- 3. Updated Student CV
- 4. Completed *PhD Final Oral Examination Nomination Form** (all proposed committee members must have agreed to be available on the listed potential examination date).
- 5. FOE External Appraiser Nomination Form* plus the CV of the principal nominated External Examiner that includes their graduate supervisory experience
- 6. Final *PAC Meeting Report** indicating the PAC has read the thesis and agrees the student is ready to defend.
- 7. Departmental Examination Waiver Approval Form*
- 8. Completed *Thesis Submission Checklist** signed by the student and supervisor indicating that all formatting, permissions and sections required by the SGS have been followed. Any discrepancy with these requirements may affect the thesis examination. The correct and truthful filling of this form is the responsibility of the student and supervisor.

*Download the most current version of these forms from the website

The information entered in the PhD Final Oral Examination Nomination Form creates the official examination record, therefore it must be completed entirely and accurately.

Additional Tips and Reminders

- 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 (Final Oral Examination)

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

- The IMS will ensure that all degree requirements are met, including courses, sufficient PAC meetings, candidacy and registration.
- The IMS Office will obtain SGS approval of the exam committee composition.
- 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 FOE. 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 or School of Graduate Studies, 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 six (6) weeks before the defense. **Do not distribute your thesis 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 IMS Office will liaise with SGS to arrange for an Examination Chair and provide the Chair with the examination file. If the examination is to be held at 63 St. George Street, SGS will provide the Chair's examination file to the Chair before the examination begins.
- The Graduate Program Assistant, PhD will formally provide instructions for the written appraisal to the External Examiner. Two weeks before the exam the IMS Office will distribute a copy of the External Examiner's thesis appraisal to all committee members and student with the proviso that the committee and student shall not discuss the appraisal prior to the FOE. You are entitled to this time to reflect on the External Examiner's comments as you will be required to address these comments at the examination.
- If the External Examiner's appraisal is not available 2 weeks before the FOE, the examination can be cancelled (at the Supervisor's and your discretion), or you will be required to complete a form, waiving your right to see the written appraisal prior to the examination.
- The Graduate Program Assistant, PhD will send out an exam reminder email to the exam committee and student two business days prior to the defense.
- IMS will contact the Chair one working day prior to the examination to remind him/her of the time, date, and location of the exam, and if applicable, to ensure that the Chair has received the Examination File.
- Post defense: The Graduate Program Assistant, PhD will provide you with a next steps email to guideyou in your degree completion.

Final Oral Examination Procedures Before the presentation

- IMS sends the Final Oral Examination exam file to the Chair and starts the Zoom meeting if required.
- The Chair introduces the members and the candidate and ensures that all examiners are present. If members are missing, the Chair advises the SGS Doctoral Examination Officer and discusses action to be taken. The examination will be cancelled if quorum is not met.
- The Chair asks the student to leave the room or places the student in the "Waiting Room" if the examination is virtual.
- The Chair instructs the supervisor of their responsibility to carefully document items for revision and modification (if necessary) during the examination.
- The Chair advises the examiners whether the student has completed degree course requirements and inquires whether there are any major concerns about the upcoming examination.
- The Chair Ensures that all committee members have sufficient knowledge of the thesis to judge its acceptability and reminds the committee that the examination covers both thesis and oral defense.

- The Chair confirms that all members have received the external appraisal. If any member has not reviewed the appraisal in advance, it will be read aloud by one of the examiners. Discussion may follow the summary of the appraisal.
- The Chair determines the order of questioning usually External Examiner, Internal Examiner(s), Committee Member(s), Supervisor.

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 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 Chair should intervene if another examiner, or the supervisor, starts to join in the discussion.
- 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 Chair should keep informal notes about the content of questions that may lead to thesis revisions for reference during the analysis of the defense.
- Following questioning, the student is again asked to leave the room/placed in the "Waiting Room". Non-voting members (if any are present) will also leave at this time.

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

Committee discusses the examination and votes

A discussion of the thesis and the defense takes place. The Chair distributes voting ballots and explains the voting options in detail to the Examination Committee. Voting then takes place.

The Examination Committee must vote on whether or not the oral examination and the thesis are acceptable.

More than one negative vote (or abstention) causes the thesis examination to be adjourned.

If the thesis is judged to be acceptable then the committee member must decide whether the thesis is:

i) As is, in its present from

ii) 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.

iii) With minor modifications (rewrite part of the proposal, addition of new experimental data and/or completely new interpretation of data). The student has 3 months to complete the modifications and these must be reviewed by a sub-committee appointed by the Chair after the exam.

The Chair collects the signed ballots, reads aloud the names of the Committee members and their respective votes, and records the vote on the voting summary form. The decision of the vote is determined in the following manner:

a) On a first examination, if there is more than one negative vote and/or abstention, the examination is adjourned. On a reconvened examination, more than one negative vote and/or abstention constitutes a failure.

b) Following a judgment that the thesis with its defense is acceptable, then:

i) If every examiner, or every examiner bar one, considers the thesis acceptable in its present form, then the thesis is approved in its present form.

ii) Otherwise, if every examiner, or every examiner bar one, considers the thesis acceptable in its present form or with minor corrections, then the thesis is approved with minor corrections.

iii) Otherwise, the thesis is approved with minor modifications.

If minor modifications are required, the Chair appoints a Minor Modifications Subcommittee.

The student is invited into the room/meeting and the 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.

After the examination

The Chair and student return the file to the SGS Doctoral Completion Office. For remote examinations, the Chair is responsible for returning the paperwork to the SGS.

If minor or organizational corrections are recommended:

- Student consults with Supervisor about changes and revises the thesis.
- Supervisor writes to the Doctoral Program Completion Office (<u>sgs.doctoral@utoronto.ca</u>) to confirm completion of revisions within 1 month of the examination

If minor modifications are recommended:

- The Chair will appoint a subcommittee
- Includes the at least two members
- Subcommittee Chair cannot be the Supervisor
- The Chair of the Subcommittee writes a brief summary of the required thesis modifications
- The student, supervisor and the Doctoral Program Completion Office (<u>sgs.doctoral@utoronto.ca</u>) receive a copy of the required minor modifications.
- Student consults with Subcommittee members about changes, revises thesis and submits it to the subcommittee
- Within three (3) months of the examination the Subcommittee Chair writes to the Doctoral Program Completion Office (<u>sgs.doctoral@utoronto.ca</u>) and the Graduate Program Assistant, PhD (<u>phd.medscience@utoronto.ca</u>) to confirm completion of required minor modifications.
- Should one or more members of the Subcommittee not be satisfied that the minor modifications have been properly completed, the oral examination must be reconvened.

A repeat Final Oral Examination is absolutely required if:

- The student does not pass the oral exam.
- The thesis is not acceptable.

• Revisions or corrections are not submitted or approved within the required timeline.

Students are allowed only one repeat Final Oral Examination, to be scheduled within one (1) year of the initial exam.

Submission of the Final Thesis

Your thesis is permanent evidence of your degree training. It is the culmination of your degree. Your degree is not an occupation, but a lifetime honor. Make sure that this enduring document is of the highest standards.

Please follow the instructions for electronic thesis submission on the SGS website here.

Your thesis does not become public on T-Space until after your convocation cycle. If you wish to restrict the release date of your thesis, please submit the <u>Restrict Thesis Release Date</u> form to the Graduate Program Assistant, PhD. The IMS requires at least 1 week to obtain the necessary signatures. The form must be accompanied by the rationale for why the student is requesting that the thesis release be restricted. **Please note that these requests do not get approved for future publication reasons alone**, as this is the case for the majority of IMS students. Generally requests are granted approval for patent/intellectual property related reasons.

Electronic upload of the thesis is a mandatory requirement to graduate. Students who do not follow the necessary procedures for electronic submission may be removed from the convocation list. For questions related to electronic submission or if you experience difficulty uploading your thesis, please contact SGS at <u>sgs.doctoral@utoronto.ca.</u>

Graduation

Once the Doctoral Program Completion Office receives confirmation of corrections from your supervisor or sub-committee chair, they will complete a PhD Degree Recommendation. SGS will calculate any balance of degree fees and inform you directly. You are responsible for ensuring that electronic thesis submission requirements have been met in order to graduate. You can find information on graduation procedures on the <u>Graduation and Convocation section</u> of the SGS website.

Once this is complete, your fees for the next academic session will be cancelled on <u>ACORN</u> and you will be placed on the next available convocation cycle - November or June (or March in absentia if requested). Please be patient during peak examination times such as September, October, December and January. It may take some time before SGS cancels your fees on ACORN.

SGS will notify you by e-mail to your UofT e-mail address about convocation dates, gown rental, tickets etc. approximately 4 weeks prior to the convocation date. If you are forwarding your UofT e-mails to another e-mail address, please make sure to check your junk mail for convocation notifications.

Confirmation of Degree Letters

SGS prepares letters for doctoral students requesting confirmation that all degree requirements have been met. To request such a letter, complete the <u>confirmation of degree form</u> and send the form by email

to <u>graduate.information@utoronto.ca</u>. There is no charge for letters. Please allow five days (or more during peak periods).

For more information about convocation dates and tickets, please review the <u>Office of Convocation</u> website or contact the <u>Office of Convocation</u> directly.

IMS Staff Contacts

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 | Toronto, ON | M5S 1A8 phone: 416.978.1053 | e-mail: phd.medscience@utoronto.ca

Thesis FAQs

1. How long should my thesis be?

A PhD thesis is typically 150-300 pages (<u>excluding references</u>). Ultimately, quality is the most important issue for the thesis as it is the basis for the examination. If the scholarship, research, presentation and interpretations are of high quality, and the PAC approves the thesis for examination on the basis that they think it meets the standards for a PhD degree then that is the basis for you to defend.

The thesis includes:

- Literature Review (typically up to 30-50 pages)
- Hypotheses and Research Aims (2-5 pages)
- Experimental work equivalent in depth to what would typically be contained in 3-4 peerreviewed papers
- General Discussion (10-40 pages and Future Directions (typically ~5 pages)

Consult with your supervisor and PAC to ensure that you have adequately covered the background to your question, your results and their significance to the field.

2. What font size and spacing should I use?

According to SGS guidelines font size must be a minimum of 10 points and is typically 12 points. You may use a smaller font size for graphs, formulas, footnotes, and appendices; avoid italics. You should typically use one-and-a-half line spacing, except for the thesis abstract, which should be double-spaced. Single spacing may be used for long quoted passages and footnotes.

3. English is not my native language. Does my thesis have to be written in perfect English?

The grammar and spelling in your thesis must be of high standard, just as they would need to be in articles submitted for publication. Please ask your supervisor and your PAC members to advise you on language adequacy. Do not fall into the trap of taking verbatim passages from published papers or textbooks because you think they are written in "better English" than you can produce.

The <u>Graduate Centre for Academic Communication</u> provides a number of resources for students to improve their academic writing and speaking skills.

4. When does borrowing from the work of others become plagiarism?

Under <u>The Code of Behaviour on Academic Matters</u>, to plagiarize is to "… knowingly represent as one's own any idea or expression of an idea or work of another" in an academic work. It is critical that the ideas and arguments of others be correctly attributed and simply paraphrasing these as your own does not suffice. A more extensive discussion of the subject is provided in the guide "<u>How Not to Plagiarize</u>" an excellent online resource prepared by Dr. Margaret Procter, U of T Coordinator, Writing Support.

5. Can I actually plagiarize my own work!?

It may seem surprising, but reproducing your own published work without proper acknowledgment can be considered "self-plagiarism". If you include such materials in your thesis, cite the published work and submit a letter of permission from the copyright holder, or a statement from the publisher (often available on journal websites) authorizing use of the material, when you deposit your thesis.

If chapters in your thesis are **reproduced exactly** as your published work, the title page of that chapter should include language similar to the following:

"This chapter was published as Smith, J. (2015). Publication title. Journal, pages and is reproduced with copyright permission"

If chapters in your thesis are **based on** your published work, the title page of that chapter should include language similar to the following:

"This chapter is modified from the following: Smith, J. (2015). Publication title. Journal, pages."

6. Where can I find guidance on what to include in my thesis, organization, and formatting?

Take a minute to peruse the PhD theses of previous IMS students on <u>T-Space</u>. If available, look at the theses of students from your laboratory. The Table of Contents will give you an idea of thesis structure. Skimming through several theses will give you a sense of what content and arguments should be covered in each section of your own thesis.

7. Who is responsible for distributing the thesis to the exam committee?

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

General PhD Thesis & Exam FAQs

1. Why does the IMS require a 9 week lead time?

The examiners have to be vetted, a Chair needs to be appointed, and the External Examiner need enough time to thoroughly read the thesis and prepare a report. The most important reasons are that the FOE package has to be screened by IMS and the External Examiner's CV needs to be reviewed by the School of Graduate Studies, in order for that examiner to be approved.

2. 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 IMS and the School of Graduate Studies.

3. 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.

4. Do I need to request convocation?

No, SGS will process your convocation request depending on when your Supervisor/Subcommittee Chair confirms your thesis corrections are done (if applicable) and when you upload your thesis to T-Space. If you would like to convocate in March (in absentia) you must let the <u>SGS Doctoral Exams Office</u> and the Graduate Program Assistant, PhD (<u>phd.medscience@utoronto.ca</u>) know this.

5. When will my transcript reflect that I have been awarded the PhD degree?

Your transcript will show that your PhD degree has been conferred on the first business day following convocation. This is when your thesis credit on your transcript will also change from IPR (in progress) to CR (credit).

6. Where can I get a confirmation of degree completion letter?

An official confirmation of degree completion letter can be issued once your Supervisor or modifications subcommittee Chair has confirmed your thesis corrections, you have uploaded your thesis to T-Space. This letter needs to come from SGS and can be requested using the <u>Confirmation of Degree Requirements</u> Form found on their website.

7. I am planning on starting medical school immediately after my PhD. What should I keep in mind to transition from my PhD to Medical School?

We recommend that you complete your PhD and then enter medical school. Most universities require degree completion **before** starting medical school. Offers of admission are issued up to the start of medical school classes. **If you plan to start in the Fall you must defend by mid-June.**

• Meet with your PAC often to ensure that you all agree on a timeline for completion and work expectations.

• Confirm with your medical school(s)

Does admission require degree completion prior to entry? If yes, what is their final deadline for confirmation of degree completion? What is the final date when you'll hear about your acceptance?

- Get all research for your degree completed well in advance.
- Book your defense early (note the <u>timelines</u>). Defend your thesis by mid-June.

• We cannot shorten the 9 weeks required notice period to schedule a FOE due to medical school acceptance.

8. I have a question about convocation. Who should I contact?

Please get in touch with the Office of Convocation for any questions related to convocation.

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 thesis

Presentation

- 20 minutes MAXIMUM
- Remember: everyone has read your thesis. You don't need to teach your examiners.
- Background: provide the rationale and significance of your research
- Hypothesis: This is the most important part of your research
- Methods: concentrate on the experimental design
- Results: focus on the key findings you only have 20 minutes so you can't include everything
- Conclusions: summarize the meaning and impact of your work
- Next Steps: mention a few outstanding questions from your work and map out a few experiments that you would do if you were staying on for a PhD

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 additional 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

PhD Thesis Defense and Program Completion Checklist

In order to use this checklist, you will need to select a target defense date (the Final Oral Examination) and work backwards from there. Your timeline to completion may require modification to accommodate delays and/or holidays.

PhD Candidacy Achieved:

 \Box By the end of Year 3 of the PhD program (or end of the 4th year for PhD Direct Entry and Transfer students), you are expected to have completed all course requirements and submitted at least 4 completed PAC reports to the IMS Office in order to achieve official PhD candidacy status.

Approximately one year prior to final defense date:

□ Review the PhD Thesis and Examination Guidelines thoroughly

- \Box Start writing your thesis
- \Box Follow the IMS thesis submission checklist and submit with your full examination package
- Ensure that all degree requirements are met by checking the PhD Program Requirements on the website
- \Box If necessary, arrange to meet with a Graduate Coordinator or IMS Staff Member if any complications arise

□ Apply for a <u>Degree Completion Award</u> (if applicable)

Approximately 3-4 months prior to final defense date:

- \Box Complete thesis writing and revisions
- \Box Hold a Final PAC meeting for approval to proceed to defense
- □ Apply for the PhD Departmental Oral Examination Waiver (if applicable)
- □ Select the Examination Committee membership and determine the potential examination date/time
 - Carefully review the examiner roles and eligibility criteria with your Supervisor
 - Your Supervisor is responsible for contacting potential Examiners and confirming their willingness and availability to participate in the prescribed roles

At least 9 working weeks prior to the FOE date:

□ Submit your PhD Final Oral Examination package to IMS for approval

• All forms must be complete, legible and accurate. Please ensure examiner e-mail addresses and contact phone numbers are correct. Incomplete forms will not be processed.

Note: The Examination Package, including all supporting documentation, is submitted electronically to <u>phd.medscience@utoronto.ca.</u> Incomplete packages will not be accepted.

After final defense date:

Complete post-examination thesis corrections or modifications (if applicable)

□ Supervisor or modifications sub-committee Chair (whichever applies) must send a confirmation of completed email to the <u>SGS Doctoral Program Completion Officer</u> and <u>phd.medscience@utoronto.ca</u>

 \Box You must ensure that conditions for graduation (i.e. payment of fees) are met

Upload thesis electronically to SGS

Optional: Provide a faux-leather hard-bound thesis to the IMS office for display in the IMS thesis library

Convocation takes place in November, June or March (in absentia, if requested).