

FACULTY OF DENTISTRY UNIVERSITY OF TORONTO

GUIDELINES FOR Ph.D./SPECIALTY AND DOCTORAL STREAM M.Sc. AND Ph.D. STUDENTS

The doctoral stream includes students in M.Sc. and Ph.D. (both research only and combined Ph.D./specialty) programs that follow the standards, regulations, and practices for doctoral stream students common to all departments of the Life Sciences Division of the School of Graduate Studies, Div. IV. These are research-intensive programs where the thesis is the major requirement and the choice of courses is prescribed by the nature of the student's research project and research education needs, in consultation with the research supervisor. The objective of a Ph.D. program is to prepare the student for a career as an independent research investigator. The objective of a M.Sc. program is to provide the student an opportunity to achieve mastery of investigative strategies, methods, and technology in a defined field. Following are some guidelines to help you complete your research thesis and other program requirements in a timely manner.

Select a research advisor and research topic

You must have a designated research advisor and plan for financial assistance in place at the time of registration. The graduate advisor must be a member of the School of Graduate Studies (SGS); consult the Faculty Calendar and/or SGS Calendar. Select a research advisor in whom you feel confidence, one who is committed and deeply engaged in graduate research and who has access to dependable operating funds to support your research program. Your graduate advisor can be an SGS member of Dentistry or in any related biomedical research field. When an extra departmental member is involved, co-supervision with an SGS member of Dentistry is mandatory. If the principal advisor is a new member of SGS, co-supervision is encouraged.

You may pursue laboratory, clinical, epidemiological survey, or educational research, as long as the project is of high, graduate level standard. Feel free to discuss options with any member of staff. Select a topic that is significant, that stimulates you, which you will enjoy, and that is achievable. A topic for the Ph.D. must be original and of high educational standard. M.Sc. students expecting to transfer to Ph.D. should seek a topic that presents good potential for conversion to a comprehensive Ph.D. project.

Complete a thorough topic review and research proposal early in your program

A thorough literature review and a [software] system for comprehensive reference management at the beginning will be of enormous help when you write your thesis and publications later. Consult your research advisor often during this period. Set clear research objectives and testable hypotheses, which will guide your project and set the tone for your thesis. Learn the rationale and details of appropriate methods which you will use to test the hypotheses; write a clear plan of methods. Include anticipated strategies for illustrating and statistically analyzing the type of data that you propose to gather. Include a proposed budget; this will give you practice for the future when you will be leading your own research group (Ph.D.) or working as a key member of an investigative team (M.Sc.).

Research Involving Human Subjects Review

Scientific merit of graduate student research proposals requiring human subjects review must be approved by your advisory committee under the supervision of the Graduate Department. Any student submitting a proposal to the Ethics Review Office for human subjects review should apply to the Associate Dean of Graduate/Postgraduate Studies for a letter confirming the scientific merit of the project. Such a letter will only be issued if the Graduate Department has on file a Graduate Advisory

Committee Report form signed by all committee members with approval of the student's research proposal. A copy of the proposal should also be on file.

Please be advised that the Health Sciences Committee that reviews proposals from the Faculty of Dentistry undertakes a scientific as well as an ethics appraisal of each proposal. Consequently, that committee may require changes to research design, processes and procedures irrespective of the assurance of scientific merit provided by the Faculty.

Consult regularly and get to know your advisory committee members

Your advisor will help select committee members. M.Sc. committees will normally include your advisor and 2 SGS staff members; Ph.D. committees will normally include 3 members, one member being an SGS member from another SGS department. Your graduate advisor can be an SGS member in any discipline of dentistry or in any related biomedical research field. When an extra departmental member is involved, co-supervision with a member of the Graduate Department of Dentistry is mandatory.

Advisory committees must be approved by the Associate Dean of Graduate/Postgraduate Studies. Advisory committee members are selected for their diverse expertise in your project area; they are there to help, not to examine and not to do your work for you.

Formal committee meetings are held once a year, and additional meetings may be required at the discretion of the thesis committee and/or student, or the Associate Dean of Graduate/Postgraduate Studies. **In addition to keeping a formal record of your progress through the program, the progress reports from these meetings are used to determine rankings for departmental scholarships. Scheduling meetings is your responsibility.**

Use your research time efficiently

The main emphasis is on individual graduate research education. Course requirements are minimal, and much of the learning is self-guided. You are expected to take a mature attitude toward immersion in your research project and the courses needed to master your research field. Completing your research project and thesis are your responsibility. Plan comprehensively, work efficiently, and consult your advisors often.

Coursework requirements

There is a minimum SGS course requirement; however additional courses relevant to your research topic may be required and/or may be chosen in consultation with your research advisor.

M.Sc. students must complete a minimum of 1.5 full course equivalents (FCE) that includes the course Introduction to Biostatistics (DEN1015H) in addition to the Masters Seminars in Oral Health Sciences (DEN1001Y)

Ph.D. students must complete a minimum of 2.5 full course equivalents (FCE) that includes the course Introduction to Biostatistics (DEN1015H) in addition to the Doctoral Seminars in Oral Health Sciences (DEN1100Y)

Ph.D./specialty students must complete an additional 1.0 full course equivalent (FCE) pertaining to the research component of the program, together with completion of clinical and didactic course work

requirements as necessary for the chosen clinical specialty that includes the courses Clinical Epidemiology and Evidence-Based Care (DEN1014H) and Introduction to Biostatistics (DEN1015H) in addition to the Doctoral Seminars in Oral Health Sciences (DEN1100Y)

DEN1001Y/DEN1100Y Masters or Doctoral Seminars in Oral Health Sciences is a required course with compulsory attendance during program registration. The program includes an annual series of research ethics seminars which students are required to attend and complete any assignment as set by the director. Attendance at seminars is compulsory during graduate degree residence years and encouraged thereafter until completion of the program. Graduate students will normally present one 25 minute seminar in DEN1001Y and DEN1100Y in their first year of research, and one 45 minute seminar in their second or third year. Attendance by all members of the presenting student's supervisory committee is mandatory. Each year the student is also expected to present a poster at the Faculty of Dentistry Research Day. Research Day posters are evaluated by all Faculty members in attendance. A grade of credit is assigned on satisfactory completion.

Time Limit for Completion of Program Requirements

- **Ph.D. students – (excluding Ph.D. Flexible-time and Ph.D./specialty registrants)** although the minimum residency requirement is one year, it is the Department's expectation is that students will normally remain on campus for four years. Students must complete all requirements for the degree, exclusive of the thesis research, including course requirements, and qualifying examination (the Qualifying Examination takes place after 12 months and within **24** months of starting a Ph.D. program) at the end of the third year of registration. All program requirements must be completed within six years from initial registration.
- **M.Sc. students, full and part-time (excluding M.Sc./specialty registrants)** although the program will ordinarily require one year of full-time registration, it is the Department's expectation that students will normally remain in full time attendance on campus for two years. Students must complete all requirements for the degree within 5 years from initial registration.

All coursework requirements for the degree must approved by the Associate Dean of Graduate/Postgraduate Studies and must be completed prior to thesis defence being convened.

The thesis requirement

M.Sc. students are required to submit and defend a comprehensive research thesis. Although there is no clear definition of the Master's degree by the School of Graduate Studies, the University and the Department at present accept the statements that "the master's degree should be considered as certification of two attributes: familiarity with a body of knowledge in a specified number of fields and acquaintance with the methods of research which will permit at least a beginning of systematic and independent inquiry. The M.Sc. thesis does not have to contain a finished piece of research but should provide a competent report of the student's mastery of certain relevant techniques and their application to a specific problem. The M.Sc. thesis may be organized in one of two ways: **Traditional Style** – Introduction (in which pertinent literature is reviewed and the problem or hypothesis stated); Materials and Methods; Results; Discussion; Conclusions or Summary; Bibliography; and Appendices **Publishable Style** – Discrete chapters each in a format suitable for submission for publication. Papers already published may be used provided that the title page, abstract and references are removed and that the format conforms to the rest of the thesis. Reprints or manuscripts may not be bound into the body of the thesis. General Introduction, including literature review and statement of problem, and discussion

sections must be included, as well as conclusions or summary. Students should note that, presently, thesis defences may not be scheduled during the month of August.

The thesis draft must be approved by all members of your advisory committee before submission. Upon review of the final advisory committee report, the Associate Dean, Graduate and Postgraduate Studies, has the sole authority in the Department for approval that a thesis may be submitted for departmental examination. Thesis review by the examiners takes at least 3 weeks (M.Sc.).

M.Sc. Thesis defences will not take place in August in any year.

Ph.D. Students – should see the regulations as contained in the SGS Calendar, Degree Regulations, Doctor of Philosophy, Thesis. Students may organize their thesis in Traditional or Publishable style. If the Publishable style is utilized it will contain a collection of published papers, the norm, of which, in the scientific community is 3 published papers. In the Publishable style the thesis will include the Introduction; Flow of Papers; Summary; and Conclusions. The thesis draft must be approved by all members of your advisory committee before submission, and following review of the final advisory committee report, the process for review and approval of the proposed External Examiner and the Ph.D. Final Oral Examination Committee includes: (i) review and approval by the Associate Dean of Graduate/Postgraduate Studies, and (ii) final approval by the School of Graduate Studies. The timeline required for this process is a minimum of 8 weeks. For information on booking your Ph.D. Final Oral Examination see the form, Application for the Ph.D. Thesis Examination.

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