



PhD Public Health Sciences

Department of Public Health Sciences

Student Handbook

2019-2020 Academic Year

Queen's University

Kingston, Ontario, Canada

<https://phs.queensu.ca/graduate-programs/phd-epidemiology>

Document Change History

August 1, 2019: Added Conflict of Interest check requirement to Appendix 3 PhD Thesis Defense Scheduling Form



Department of Public Health Sciences
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Dear PhD Student,

On behalf of the Department of Public Health Sciences, we are pleased to welcome you to the doctoral program!

Our goal is to help you become an independent investigator capable of providing leadership in improving public health in Canada and beyond.

The dynamic and growing field of public health sciences needs graduates who can effectively create new scientifically-sound health knowledge and provide health research leadership. By completing your PhD with us, you will be prepared to work in academia, or a public, non-profit or private health sector as a highly skilled professional able to address health research questions using valid and robust research methodologies.

This student handbook includes important information on our program, faculty, and university services, including current degree requirements. Please review it carefully because it will likely answer many of your questions. For additional information about graduate student life at Queen's and up to date information on the university's formal policies and procedures, please consult the Queen's University School of Graduate Studies at <http://www.queensu.ca/sgs/>

If you have any questions or require further information, please do not hesitate to contact our PhD Graduate Assistant at epid@queensu.ca.

Regards and best wishes,

PhD Program Committee
Department of Public Health Sciences
Queen's University

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Departmental Overview

Established in 1968, the Department of Public Health Sciences (formerly Community Health and Epidemiology) was created to study the incidence of diseases in Canadian communities and to find ways to help reduce public health risk. Since then, the fields of community health and epidemiology have broadened considerably. Department members now conduct research and teach in areas as diverse as health economics, mental health, program evaluation, and biostatistics. The Departmental offices are in Carruthers Hall at the center of the Queen's campus.



Carruthers Hall, Queen's University

The mission of the department is to advance scientific knowledge relevant to research in epidemiology, public health and biostatistics, and to participate in the dissemination and application of scientific knowledge to address health, health care, and health system issues.

To achieve this mission, the department is home to several graduate programs:

- a two-year, thesis-based Master of Science (Epidemiology);
- a 12-month Master of Science specializing in Biostatistics (collaborative with the Department of Mathematics and Statistics);
- a 12-month Master of Public Health program (for experienced health professionals);
- a 16-month Master of Public Health professional program and;
- a four-year PhD program with an option to specialize in Epidemiology.

PhD Program Overview

The PhD program in the Department of Public Health Sciences at Queen's University has been in existence since 2006. It was designed to build on the existing strengths of our academic faculty.

The program objective is to graduate individuals who are capable of functioning as independent investigators within academic (or equivalent) research positions, or who can occupy positions of professional leadership in public health- or health-related agencies where research is an important function.

Through coursework students demonstrate a mastery of theories, methodological concepts, and substantive knowledge integral to their research area. In the Comprehensive Exam, students demonstrate their in-depth knowledge in theoretical and applied methods; and an ability to apply that knowledge to their research area.

Through the dissertation process, students demonstrate the ability to undertake research including the ability to critically appraise and synthesize appropriate literature; develop researchable questions; design practical and feasible studies; write scientific protocols that summarize research plans and demonstrate an understanding of key methodological issues; collect primary or process secondary data, where the latter are not 'research ready' at the outset; analyze and interpret data; and understand the implications of findings within the appropriate context.

Students also have opportunities to present their research in seminars and scholarly academic meetings. Students gain an ability to communicate scientifically, both in terms of publishing research findings in reputable journals, and by presenting research findings to their respective research communities. Some students also gain experience as teaching assistants.

Program Contacts

PhD Program Director: Patti Groome PhD groomep@queensu.ca

PhD Program Administrator: Sue Preston epid@queensu.ca

Department Public Health Sciences website: <https://phs.queensu.ca/>

PhD Program Organization and Structure

The Department of Public Health Sciences and all of its graduate programs fall under the School of Medicine in the Faculty of Health Sciences. PhD students work with a Faculty supervisor (or co-supervisors); at least one of these supervisors must have a faculty appointment in the Department. A full list of core and adjunct faculty members, and information about their research interests, is available on the Public Health Sciences website: <https://phs.queensu.ca/faculty-staff>

Students with health research-related Masters level preparation can enroll in our PhD program and work in any of the areas of research expertise in our department. These include but are not limited to: qualitative, mixed- and community-based methods used in the study of the social determinants of health, the use of health and public health services, epidemiology, health equity, global health, Indigenous health, and health economics. Students with Masters level research-related preparation in epidemiology (or its equivalent) may apply to the Specialization in Epidemiology if they have specific if they wish to continue with a focus on

epidemiology for their PhD. Students in this specialization will study advanced epidemiologic methods and biostatistics and conduct a thesis using those methods. Research topics and methods covered by this specialization are also broad, including disease etiology, clinical epidemiology, health services research and more (see Appendix 1).

Admission Requirements

The PhD program is administered under the rules and regulations of the School of Graduate Studies. These regulations are outlined more fully by the Queen's School of Graduate Studies (www.queensu.ca/sgs/).

Academic Requirements

- a minimum A- average (equivalent GPA of 3.7 or 80%) in a Master's degree program in a related discipline such as (but not limited to) health sciences, epidemiology, biostatistics, statistics, health promotion, health geography, economics.
- a minimum A- average (equivalent GPA of 3.7 or 80%) in the last 20 post-secondary courses
- demonstrated research competency and potential, which is normally achieved via a thesis-based or a research-project based Master's degree.

Applicants who have not completed a thesis or research project will be considered on a case-by-case basis. In these cases, applicants should show evidence of interest in research and experience including relevant coursework, publications and/or work experience.

Applicants who express an interest in our Specialization in Epidemiology option should have Master's-level training or equivalent in epidemiology.

Full-time students are accepted into the program for a September start date each year. The application deadline is January 31, 2019 but applications continue to be accepted until the program is full.

Additional Requirements

- Two copies of transcripts from each post-secondary institution attended
- Two academic reference letters
- International students from a non-English speaking university or students with English as a second language will require a minimum TOEFL score of 600 (paper) or minimum TOEFL iBT scores of: writing (24/30); speaking (22/30); reading (22/30); listening (20/30); for a total of 88/120. Please note applicants must have the minimum score in each test as well as the minimum overall score. The TOEFL institution code is 0949 and the department code is 50.
- For applicants whose degrees are from universities outside of Canada, a Graduate Records Examination (GRE) score is mandatory. A minimum score of 149 on the quantitative section is required and analytic writing and verbal reasoning scores are also considered. The GRE institution code is 0949 and the department code is 0606.

Identifying a Supervisor

Although the program will provide assistance to viable applicants in their search for a supervisor, it is ultimately the applicant's responsibility to find a faculty member (or members) who agrees to supervise their graduate research work. This process takes place prior to an offer of admission being made. The selection of a supervisor is a critical decision that impacts the quality of the student's graduate experience and influences the student's career path. At the time of making an application to the PhD program,

students should have a fairly clear idea about what their research interests are and approach potential supervisors with similar interests.

To this end, applicants are advised to obtain information about potential supervisors and the environment in which they will be working. As a start, the Departmental website: <https://phs.queensu.ca/> provides profiles of all of our faculty members, including descriptions of their ongoing research. It is important that, whenever possible, the applicant meet with the potential supervisor to determine compatibility and have an opportunity to discuss issues such as expectations, research project support, identifying a thesis topic and scope, student funding, and strategies to ensure timely completion and quality work. The potential supervisor is required to provide a statement of support as part of the student's application package to the program.

One of the conditions under which a supervisor can accept a doctoral student is that appropriate funding has been prearranged with the supervisor, who is often expected to underwrite at least half of the student funding package. Supervisors are often able to offer PhD students funding from their research grants. But students also have a responsibility to attempt to find funding by applying for internal awards and to external agencies. Therefore, students entering the doctoral program require high academic standing so that they are competitive for such awards. Potential faculty supervisors may work collaboratively with prospective students to identify internal and external sources of funding prior to acceptance and/or these applications can be made starting in the student's first year in the program.

Degree Requirements

To complete a PhD degree in the Department of Public Health Sciences, students must:

- Complete EPID902 Advanced Topics in Public Health Sciences Research and three additional half courses. The supervisor will advise the student on what coursework will best prepare them for their particular thesis area. Students specializing in epidemiology must complete EPID901 Advanced Epidemiology (full course across two semesters) and EPID823 Advanced Biostatistics.
- Complete the comprehensive examination.
- Write and present a research outline.
- Write and successfully present a research proposal.
- Complete the Course on Research Ethics (CORE) online tutorial.
- Write and successfully defend their doctoral dissertation.

The following is an outline of the usual timelines for a PhD student in Public Health Sciences:

Summary and Timing of Degree Requirements for PhD*			
Year 1 (Terms 1-3)	Year 2 (Terms 4-6)	Year 3 (Terms 7-9)	Year 4 (Terms 10-12)
EPID 902: Advanced Topics in Public Health Science Research 3 additional courses. *Students specializing in epidemiology must take EPID901 (over 2 terms) and EPID823. Completion of Comprehensive Examination	Completion and presentation of Research Outline. Completion and presentation of Research Proposal	Dissertation Research	Completion and Defense of Dissertation

*Students entering via the mini-MSc route can expect to finish in 3 to 3.5 years, with the research proposal presented by the end of Term 3. For further details on this route see: <https://phs.queensu.ca/graduate-programs/msc-epidemiology/mini-masters>

Supervision

The Supervisor and thesis committee have a major role in the intellectual development of students that is in addition to the formal requirements of the PhD program such as coursework and comprehensive exams.

Supervisor

Doctoral students enter the program with a Primary Supervisor who is a member of the Department and has designated School of Graduate Studies and Departmental authority to supervise PhD candidates. At the time of acceptance into the program, the Primary Supervisor will have indicated a willingness to guide the student through the entire program, including course work, comprehensives and the thesis. The Primary Supervisor, along with the student through fellowship/scholarship applications, is also responsible for organizing funding for four years. The Primary Supervisor acts as a mentor and role model for the student, and encourages the intellectual development and critical judgment of the student through activities of critical thinking such as engagement in methodological discussions, review of manuscripts, journal reading, grant review and writing, etc. The School of Graduate Studies' Guide to Graduate Supervision offers graduate students, faculty, and other departmental members the guidelines needed to foster productive working relationships between supervisors and graduate students.

By virtue of being a member of the Primary Supervisor's research group, students interact much more intensely with their Primary Supervisor than with other faculty. However, through interactions with research groups and participation in the life of the Department, students also have extensive contact with many other faculty members.

Thesis Supervisory Committee

A Thesis Supervisory Committee is established by the Primary Supervisor in consultation with the student at the point of drafting a thesis outline. The Committee will consist of at least one additional faculty member (who may be from the department, another department at Queen's, or another institution)

selected to provide expertise within methodological and/or substantive areas relevant to the student's research. Depending on their degree of involvement, this person may be designated Co-Supervisor rather than Thesis Committee member. Thesis outlines and committee membership will be reviewed by the PhD Program Committee. Once the outline is approved, a thesis proposal will be written and presented to the Department for approval.

The Thesis Committee should meet with the student at least once per term (three times per year) to review progress. A written accounting of these meetings should be prepared by the student and Primary Supervisor and reviewed by all Committee members.

Either the Primary Supervisor or a Co-Supervisor MUST be a faculty member who is a core member of the Department and who holds a PhD in an appropriate discipline.

Understanding roles, responsibilities and expectations is important in graduate study and effective communication is essential to ensuring a shared understanding. The development of strong working relationships helps to promote an excellent graduate experience. The School of Graduate Studies Supervision Handbook is a guide that provides best practices, advice and general information to assist in forming and maintaining good student-supervisor relationships and references resources that may be helpful in the pursuit of a graduate degree: <http://www.queensu.ca/sgs/>

Funding and Financial Assistance

Funding for PhD students comes from a variety of sources, including funds from the supervisor's research grants, research and teaching assistantships, internal and/or external scholarships or fellowships and other available sources. The School of Graduate Studies and Research requires that doctoral programs guarantee a minimum stipend of \$18,000 annually for four years of a student's program and our program strives to increase this minimum amount to \$25,000 where possible. PhD students are expected to apply for internal and external awards for which they are eligible. Both internal and external awards contribute towards the guaranteed minimum funding, and many external awards can increase this funding beyond the amounts mentioned above. Should the student meet the requirements and prerequisites, PhD students are also eligible to apply for teaching assistantships, and students can work as paid research assistants on non-thesis related research for up to 10 hours per week. Both of these income sources are in addition to the amount guaranteed by the department.

Coursework

All PhD students are required to take a minimum of four courses beyond the courses they would already have taken in their Master's degree. Prerequisite equivalents from other institutions will be considered for PhD students. The School of Graduate Studies Calendar contains up to date descriptions of the following courses and which courses are offered in any given year: <https://www.queensu.ca/sgs/graduate-calendar/courses-instruction/>. Course numbers beginning with 'EPID' can be found in the calendar under 'Public Health Sciences'. Other departments are noted.

Core Courses

The only required core course for all PhD students is EPID902. For students wishing to complete the Specialization in Epidemiology, they must take EPID901 (both Fall and Winter terms) and EPID823.

EPID 823 Advanced Methods in Biostatistics

EPID 901 Advanced Epidemiology

EPID 902 Advanced Topics in Public Health Sciences Research

Additional Elective Courses Offered in the Department

These are many of the additional courses available in the Department of Public Health Sciences. A course of study is determined with the supervisor or supervisory team.

EPID 801 Introduction to Epidemiology
EPID 802 Foundations in Public Health
EPID 803 Public Health System in Canada
EPID 804 Intermediate Epidemiology
EPID 805 Leading Evidence-Informed Action
EPID 806 Applied Research Methods for Program Planning and Evaluation
EPID 807 Health Economics
EPID 810 Controlled Clinical Trials
EPID 815 Independent Study
EPID 817 Foundations of Cancer Control
EPID 819 Clinical Epidemiology
EPID 821 Introductory Biostatistics
EPID 822 Applied Regression Analysis
EPID 828 Infectious Diseases
EPID 829 Foundations in Global Health
EPID 831 Chronic Disease Epidemiology
EPID 832 Mental Health/Critical Inquiry
EPID 833 Issues in Military and Veteran Health Research
EPID 835 Environmental Public Health
EPID 836 Critical Methods of Inquiry
EPID 837 Health Services Research

Examples of Elective Courses Offered by other Departments

In consultation with their Supervisor, a student may choose to take courses from other Departments and Schools at Queen's University to fulfill their program of study course requirements. The following list is not comprehensive and students are encouraged to seek out other potentially relevant courses across campus and discuss these with their Supervisor.

Economics:

ECON830 Economic Development in North America

ECON837 Cost-Benefit Analysis

ECON835 Development Economics

Global Development Studies: DEVS-803 Qualitative Research Methods and Fieldwork

Gender Studies: GNDS-802 Methodologies in Gender Studies

Geography: GPHY 887 The Geography of Health and Health Care

Kinesiology and Health Studies:

KHS 869 Bodies and Social Theory

KHS-871 Critical Health Promotion

KHS-872 Health Behaviour Change

KHS-873 Critical Methodologies: Politics of Knowledge

Law: LAW 900 Public Health Law

Nursing: NURS-802/RHBS 832 Qualitative Methodology & Methods

Policy Studies:

MPA 836 Health and Public Policy in Canada

MPA 838 Economic Analysis of Health Policy

MPA 882 Comparative Social Policy
MPA 886 Leading Change in the Public Sector
Rehabilitation Science: RHBS 877/977 Community-Based Rehabilitation
Sociology: SOCY 925 Feminist Sociological Theory
School of Urban and Regional Planning: SURP 861 Healthy Community Planning
see: <https://www.queensu.ca/geographyandplanning/surp/courses-timetables>

Candidacy Examination

All students in the PHS PhD program are required to complete a comprehensive candidacy exam, usually within the first year of study. The exam includes written and oral components with both parts designed to assess the candidate's knowledge and competence in the core areas related to their research (e.g., epidemiology, biostatistics, health economics, etc.). The examination committee sets the exams and consists of three faculty members.

Purpose and Timing

The purpose of the Comprehensive Exam is to assess students' scholarly qualifications for their degree. Students will be evaluated on their in-depth theoretical, conceptual and methodological knowledge.

Students will be expected to prepare for the comprehensive examination through self-directed study. Faculty consultation will be encouraged, as appropriate. The exam will be taken after all coursework has been completed (usually in June of year one).

Examination Committee and Evaluation

The Examination Committee consists of three Queen's professors affiliated with the department and/or chosen for their relevant expertise. The Examining Committee will evaluate both written and oral components of the exam. Students must achieve a minimum grade of 75% on each of the two components. If a student does not perform satisfactorily, a remedial program of study will be recommended by the Examination Committee and the Graduate Education Committee will be notified of the expected course of action. The student will be allowed two attempts to pass the examination. If a student does not pass the examination on the second attempt, and barring any extenuating circumstances, the Comprehensive Examination Committee will recommend to Graduate Studies that the student be required to withdraw from the program.

For the written component, each response will be marked by a minimum of 2 committee members.

For the oral component, the examining committee will record key points that the student makes for grading purposes. All examination committee members will attend the oral examination and provide evaluations.

Thesis Process and Requirements

Independent and original research and the preparation of a thesis are essential core elements of Doctoral studies. Therefore, all Doctoral students must complete a research project that culminates in a thesis that is based on original research of publishable quality. The breadth and depth of the thesis must meet normative expectations of a PhD in the student's research area. The design choices and analytic methods that can be used are wide in scope reflecting the diverse nature of the disciplines covered by this PhD program. For those students specializing in epidemiology, the scope of that discipline has been outlined in Appendix 1. The thesis process emulates the conventional process of a grant submission and involves three

major milestones with progress towards these reviewed each term. Those milestones are the presentation of an outline, the defense of a thesis proposal and the completion of the thesis.

Through the dissertation process, students demonstrate the ability to undertake independent research including the ability to:

- critically appraise and synthesize relevant academic literature;
- develop novel hypotheses or important, researchable questions;
- design practical research studies aimed at testing these hypotheses and/or answering these research questions;
- write scientific protocols that summarize research plans and demonstrate an understanding of key methodological issues;
- collect primary or process secondary data, where the latter are not 'research ready' at the outset;
- analyze and interpret data; and
- understand the implications of findings within appropriate population health, health services/health policy, or clinical contexts.

Students also have opportunities to present their research in seminars and scholarly academic meetings. Students gain an ability to communicate scientifically, both in terms of publishing research findings in reputable journals, and by presenting research findings to their respective research communities.

Outline

Students are required to submit a three-page (maximum) single-spaced outline, signed by all members of their thesis committee no later than 15 months into the program. It is submitted to the PhD Program Committee for formal review and feedback. The submission is to be via email to epid@queensu.ca **at least two weeks** before it is discussed at the PhD Program Committee bi-monthly meeting. The student and his/her Primary Supervisor are in attendance for that discussion. The Primary Supervisor is asked to provide a written record of the committee's feedback which is also put in the student's file.

It is expected that students are working with their supervisory committee throughout their first 15 months to develop their project. The purpose of the outline is to provide a mechanism to obtain constructive program-level feedback prior to embarking on full scale proposal. The content of the outline should be minimal regarding study design, methodology and analysis with the goal being to provide enough information for an assessment of the appropriateness and feasibility of the project. It is a brief sketch of the intended project that includes:

- Title
- Background and rationale
- Empirical objectives
- Study design and methods
- Data management and analysis strategy
- Ethical considerations
- Feasibility issues (e.g. ability to access required data)
- Timeline for proposal development and project completion (can be an appendix)
- Appropriateness for a PhD in Public Health Sciences re: depth and scope, originality, use of appropriate study design principles and quantitative and/or qualitative analysis
- Contributions of the student
- References (outside page limit)
- Dated names and signature(s) of thesis committee members (outside page limit)

The PhD Program Committee review will focus on three questions:

1. Is the proposed study adequate and appropriate for a PhD thesis?
2. Is the project manageable in the timeframe and expectations of the PhD program?
3. Are there any methodological concerns that the student will need to consider in writing a complete proposal?

If an outline is not deemed thesis-worthy, the PhD Program Director will meet with the Thesis Committee and the student to develop a remedial action plan. Otherwise, comments and suggestions are to be taken under advisement to assist the student in conceptualizing and preparing the full thesis proposal.

The thesis proposal outline is optional for students who have entered the PhD program after having completed a mini-masters. Such students may choose to undertake an outline and presentation if they want the perspective of additional faculty members or if their project materially changes from what was proposed at the mini-masters defense. For further details on the mini-masters route see:

<https://phs.queensu.ca/graduate-programs/msc-epidemiology/mini-masters>

Thesis Proposal and Proposal Defense

The student will write a thesis proposal to be submitted to the PhD Program no later than 21 months into the program. The student's supervisor should inform the program administrative assistant and director that the student is ready to defend the proposal at least four weeks prior to defense date. A form for this purpose is provided in Appendix 2. The form asks for suggested dates, times and reviewers. The submitted proposal must be approved by the Primary Supervisor and all committee members. Approval can be demonstrated by having the document signed before submission or submitting the document electronically with a statement indicating approval which is copied to the Primary Supervisor and all committee members. The proposal is to be submitted via email to epid@queensu.ca at least 10 full working days prior to the defense.

The thesis proposal should be polished and of comparable quality to what would be submitted for *internal review prior to an extramural grant application* with a recognition that the proposal may not represent all details of the final project as these may change as funding is obtained and/or the project starts to roll out. In particular, the proposal needs to be presented *at a time when changes are still possible and welcomed by the student and his/her committee*. The program recognizes that some changes could occur post-proposal acceptance. As such, if they think it is necessary, the student and his/her team have the opportunity to inform and get advice/approval of fundamental changes that occur during the finalization of the project planning / funding process from the proposal examiners and/or the PhD Program Committee.

The proposal should be at such a stage that the thesis supervisors have had a chance to have full input. The purpose of the review by the department is to provide input over and above that possible by the supervisors to maximize the chance that the final dissertation will be acceptable to external reviewers.

As such, and as stated above, the proposal presented should be a 'near final draft', which means that the project plan is mature, coherent but not necessarily fully realized on details such as final confounder identification, fully defined analysis plan, or inclusion of any minutiae such as fine details about data processing or variable capture.

The proposal is required to have finalized objectives, a solid rationale, a clear conceptual framework, defensible variable definitions, coherent progression of the plan to address the objectives, a reasonable analytic approach using appropriate methods, the right team in place, a complete assessment on feasibility, originality, and adequate scope for a PhD.

The proposal is 12 to 15 pages single spaced ideally following the standard format used by the Canadian Institutes of Health Research. If the thesis has multiple parts that do not fit conveniently within the CIHR format, the student should submit a shorter proposal following this format that describes the primary

component of the thesis along with a summary of no more than seven pages that describes the overall context and other components.

An oral presentation and defense of the thesis proposal will take place in a Departmental forum. The review committee consists of the Department Head (or delegate) and two reviewers (assigned by the PhD Program Director). Those present include: the PhD student, their thesis committee members, and interested students and faculty (closed sessions are possible in the presence of extenuating circumstances).

The main purpose of the proposal defense is to allow the department to have an opportunity to determine whether the thesis project, if successfully completed, would satisfy PhD program requirements, or whether modifications should be made. Secondly, the presentation (which should be of 15-20 minutes in length) provides students with a more formal opportunity to communicate their thesis to a multi-disciplinary audience, field questions, and receive constructive feedback. Students other than the candidate being examined are also given the opportunity to ask questions.

After the presentation and questioning, the examination and thesis committee members and the student will remain to determine if the proposal can (a) proceed, (b) proceed with recommended modifications and/or conditions, or (c) not proceed. A record of this decision is kept in the student's academic file. If a recommendation is made that the student "not proceed," the Supervisor must present a remedial plan of action to the PhD Program Committee within six weeks of the defense date.

Ethics

Any research project involving human subjects regardless of whether the project is supported by grant funds must receive approval from one of the Research Ethics Boards (REB) prior to the start of the data collection and/or analysis. The approval process can take time. Students must complete an online module (Certificate on Research Ethics – CORE) for research involving human subjects prior to submitting the research proposal to the appropriate REB. Research associated with the Health Sciences and Affiliated Teaching Hospitals must be submitted to the HSREB and non-health sciences submit to the General Research Ethics Board (GREB). If you are uncertain of whether ethics is required, consult with your supervisor or the appropriate ethics office. <https://www.queensu.ca/urs/research-ethics>

Thesis and Thesis Defense

All PhD students must complete a doctoral dissertation thesis. The thesis must adhere to the requirements and formatting standards that apply for traditional style theses or manuscript style theses. Information on thesis formatting, copyright and final e-submission to Q-Space can be found on the School of Graduate Studies website: <http://www.queensu.ca/sgs/>

Once the research for the thesis is completed satisfactorily, the thesis will be written and revised according to suggestions from the Thesis Committee. Students are encouraged to take advantage of other Queen's resources such as the Writing Centre and the School of Graduate Studies' Dissertation Boot Camp as well as online resources and to check the SGS website for up to date requirements regarding submission: <http://www.queensu.ca/sgs/>

Once the student, on advice of the committee, judges that the thesis is ready to defend, the thesis must be submitted to the Department five weeks prior to defense. The Primary Supervisor should inform the PhD Program of the upcoming defense including examiner suggestions no less than two months prior to final submission. The form for this request is provided in Appendix 3.

According to School of Graduate Studies and Research policies, thesis examination committees for all doctoral programs include:

- The Dean of the Graduate School (or delegate) – Chair
- Head of the Department (or delegate)

- Supervisor and Thesis Committee members
- At least one faculty member from the Department
- At least one faculty member from another Department
- An examiner from outside of Queen's University

Prior to the examination, examiners are asked to complete a confidential report. If two or more of the examiners indicate that the thesis is not ready for defense, then the student is given the option of postponing. Otherwise, the thesis goes forward to oral defense. See the Queen's School of Graduate Studies Calendar "General Regulations" section for further details.

At the opening of the oral defense, the student provides a brief presentation (approximately 20 minutes), followed by the formal examination. Questions are asked, in turn, by the examination committee, beginning with the External examiner. Exams will normally take about two hours. At the close of the examination, the candidate leaves the room and the Examination Committee votes on one of three outcomes:

Passed – a thesis is passed if it is acceptable in its present form or pending minor revisions. This means that no substantive changes are required.

Referred – a thesis is referred if it is not acceptable in its present form, but could be acceptable pending major revisions. A thesis is referred if it requires changes such as rewriting a chapter, reinterpreting data, correction to calculations or additional research in order to attend acceptable standards of coherence and scholarship. A re-examination of the thesis may be required.

Failed – A thesis is failed if it is unacceptable to the discipline even with major modifications. If the committee returns two or more votes showing failure, the committee will advise the student that they will be required to withdraw on academic grounds.

Student Progress

Student progress is reviewed once per year by the PhD Program Committee. The student is required to submit an annual progress report in June (**form is provided in Appendix 4**). This report describes the student's achievements to date, their academic goals for the next year, what supports need to be in place to accomplish these goals, and whether there have been unanticipated delays. Continuing and satisfactory progress is required to be in 'good standing'. Reports must be discussed with the supervisor(s) prior to submission and there is space in the report for the supervisor's assessment. Reports are submitted to the graduate assistant at epid@queensu.ca and copied to the supervisor(s). Tips for completing the annual report are provided on the School of Graduate Studies website: <http://www.queensu.ca/sgs/>

Student progress is deemed satisfactory if the student: 1) passes all courses; 2) passes the comprehensive exam and 3) meets thesis milestones. Unsatisfactory progress will be reviewed by the PhD Program Committee and recommendation for withdrawal of the student may be made to the GEC after two unsatisfactory reports. If a report is not submitted it will be deemed to have been negative. The program will closely monitor student progress to ensure a four-year completion time. Students have access to all the regular appeal processes through the School of Graduate Studies and Research.

In general, when problems occur, students are encouraged to approach their Supervisor first. If the student feels that this is not possible or appropriate, then they are encouraged to discuss issues with the PhD Program Director. Further advice is available in the School of Graduate Studies Graduate Student Handbook available at: : <http://www.queensu.ca/sgs/> and in the Faculty of Health Sciences Graduate Council manual: <https://www.queensu.ca/sgs/faculty-staff/governance/graduate-councils> Supervisors are also encouraged to approach the PhD Program Director when they think a student is having difficulty, if they perceive a student is not progressing through the major milestones at an appropriate pace, or if they wish a collegial

forum for discussion and advice. The purpose of this review is to act early to identify and document the problem(s), brainstorm solutions, and set out a plan of action.

Students and supervisors are free to approach the PhD Program Director at any time. In situations of some urgency, special meetings of the PhD Program Committee are convened. The PhD Program Director may also ask a Supervisor to present a student's situation to the PhD Program Committee if they appear to be having difficulty (for example, in coursework). In these cases, the presentation serves to identify whether or not a problem exists, the extent to which the Supervisor is aware of the problem, and to develop an action plan if warranted.

Student Wellness Services

Queen's School of Graduate Studies Student Wellness Services provides a welcoming, confidential and integrated service that is responsive to the needs of students be it health services, counselling services, disability services or advice on maintaining or improving your overall well-being. For a full listing of services visit: <http://www.queensu.ca/studentwellness/> and <https://www.queensu.ca/sgs/sgs-habitat/staying-well>

Additional Academic Policies

Students are expected to be aware of and adhere to Queen's academic integrity policies. See <https://www.queensu.ca/sgs/graduate-calendar/general-regulations> for further information on these and other academic policies.

Academic Integrity

Academic integrity is constituted by five core fundamental values: honesty, trust, fairness, respect and responsibility. Queen's students, faculty, administrators and staff all have responsibilities to support and uphold the fundamental values of academic integrity.

All registered graduate students should be aware of the seriousness of academic dishonesty in a graduate setting and the possibility of expulsion from the program for any of the listed offenses. Submitting any written work (either in draft or final form) in whole or in part that is authored by someone else, or using direct quotations or large sections of paraphrased material in a project, research report, thesis, or other scholarly publication without appropriate acknowledgment is considered academic dishonesty. An expanded discussion, including definitions of academic dishonesty and plagiarism and sanctions imposed is found on the School of Graduate Studies policy site (above).

Students are encouraged to consult their course instructors regarding appropriate use of materials if in doubt about how their use may relate to academic dishonesty. If a course instructor, teaching assistant or supervisor identifies a case of academic dishonesty, the steps outlined below will be followed. There will be no exceptions to the policy.

Appeal of an Assigned Grade in a Graduate Course

Any student wishing clarification about, or who is dissatisfied with, an assigned grade in a graduate course should first discuss the matter with the course instructor, who will review the work in question. This discussion should take place within 14 days of the grades being available. If the instructor agrees to change a grade, a change of grade form shall be processed in the usual way.

If the instructor confirms the original grade, and if the student is still dissatisfied, then the student should appeal to the Department Head or Graduate Coordinator in the department, stating clearly the grounds on which the grade should be raised. If the Head or Graduate Coordinator believes the grounds to be reasonable, then the Head or Graduate Coordinator should initiate a review of the grade.

If the Head or Graduate Coordinator does not agree to a review of the grade, then the student has the right to formally request a review of the grade through the Dean of the School of Graduate Studies. The Dean will forward the request to the Head or Graduate Coordinator in the department, who will conduct a review of the grade.

The grade determined by means of the review shall be recorded as the final official grade, irrespective of whether it is identical to, or higher or lower than, the original grade. The Head or Graduate Coordinator will inform all parties, including the Dean of the School of Graduate Studies, of the result of the review.

Further appeal of an assigned grade can be made only on the basis of a specific procedural error or errors made in the departmental grade review procedures. This would be done through convening the Academic Appeal Board of the School of Graduate Studies.

Course Failure

If a student fails a required course, Queen's University states that the Head of the Department recommend one of the following:

1. Repeat the examination within one year after the original examination
2. Repeat the course
3. Take a substitute course
4. Withdraw from the program

Other School of Graduate Studies policies can be found at: <https://www.queensu.ca/sgs/graduate-calendar/general-regulations> and at: <https://www.queensu.ca/sgs/graduate-calendar>

Accommodation of Graduate Students with Disabilities

Queen's University is committed to providing accommodation for graduate students with disabilities. University administrators, faculty, staff and other students are expected to support, to the point of undue hardship, all reasonable individualized and appropriate accommodation plans that preserve the program's academic standards and adhere to the principles of academic integrity. For the policy click the following link: <https://www.queensu.ca/sgs/graduate-calendar/admission-and-registration>

Conflict of Interest

If a member of the faculty has a close relationship with a student (family or close friendship) and is required to teach that student, the faculty member will provide detailed answer keys/instructions for all tests and assignments to another faculty member so that they may mark that student's work. Said faculty member will also recuse themselves from membership on the comprehensive exam committee for that student.

Guidelines to Intellectual Property

These guidelines are intended to support your study and research at Queen's and to provide you with a general overview of what intellectual property is, what you should know, and how to find out more. You will find practical guidance about issues associated with intellectual property (IP) including patents, copyright and ownership of IP on the School of Graduate Studies website: <http://www.queensu.ca/sgs>

Opportunities for Student Involvement in the Department

Students play an important role in the administrative life of the Department and are represented on key Departmental Committees. Each year students choose representatives for:

- Public Health Sciences Student Association (PHSSA)
The PHSSA fosters experiences that support students on their path to becoming successful researchers and practitioners. PHSSA members organize activities that build student community and connect students to alumni and professional associations. <http://queensu.ca/phssa/>
- Departmental Committee
This Committee provides a broad forum for communication and discussion for all members of the department. One student from each cohort will be elected by their peers to bring forward questions, comments, concerns and suggestions of the class at monthly departmental meetings.
- Graduate Education Committee
The Graduate Education Committee (GEC) advises the Graduate Coordinator on matters pertaining to the administration of Graduate Programs, ranging from participation in admissions, assessment of scholarship and funding applications, review of student progress, strategic planning, participation in internal and external program reviews, and development of program policies and procedures. Elected program student representatives sit on this committee. Students participate in all discussions, except those on individual student progress.
- Sub-Committees, Special Committees and Task-Forces
From time to time students will be asked to sit on sub-committees, special committees and task forces struck in response to specific policy or procedural issues.
- Student Business Meetings
Student representatives will arrange regular meetings of the student body to provide a forum for general communication and discuss matters of departmental business. All full-time and part-time students are encouraged to attend.

Workspace, Equipment and Facilities

It is the responsibility of the primary supervisor to request and/or allocate each full-time doctoral student his or her own work-space and computer. These are usually located in the research environment of the supervisor. Students have access to a variety of software applications either through Queen's software licenses or through the supervisor's purchased software (SAS, SPSS, STATA, NVivo, Endnote, Epi-Info etc). Many licenses for the most common data management and analysis software are provided for Queen's students or can be purchased at reduced student costs.

Students are provided with a computing account that affords them access to Queen's server and network for e-mail, internet, library, and archival resources. Some of the department's affiliated research groups are linked to the Queen's network through Kingston General Hospital or other computing networks.

Queen's Information Technology Services maintains a number of computing sites on campus. Students can use computers in these sites for e-mail, internet, or to run certain site-licensed software. The Department provides computer lab sessions on SAS programming corresponding to biostatistics teaching in one of these computing labs located at Jeffrey Hall. Students working on geographic analyses also have access to the Geographic Information Systems computing laboratory through the Department of Geography.

Bracken Library also has a Centre for Health Education Electronic Resources (CHEER) which provides students with access to over 100 workstations.

The main offices for the Department of Public Health Sciences are located at Carruthers Hall at 62 Fifth Field Company Lane.



The following equipment and facilities are available for student use in Carruthers Hall:

- **Kitchen:** A small kitchen, equipped with a microwave and sink, is available for student use.
- **Desk Space:** Shared areas are available to all students on the 3rd floor of Carruthers Hall.
- **Computers:** Students are required to have their own computers. In order to facilitate group work and allow for students to access desk space in the common rooms, laptops are ideal. Two communal computers are available for use, one in the student common room and one in the lounge. These computers are equipped with internet access, word processing, SAS and SPSS software.
- **Email:** All Public Health Sciences students are required to obtain a Queen's student e-mail account. The computer help desk phone number is: 613-533-6666
- **Wireless internet:** Carruthers Hall is equipped for wireless communication so that students may check their emails and work on the web from their workstations, classroom, and common room.
- **Photocopier:** A photocopier machine is located in the student common room. All students will be provided with a photocopy code which is required in order to use the machine.
- **Keys:** Keys for Carruthers Hall and student rooms are available from the Graduate Assistant. A \$20 cash deposit is required, to be returned when keys are handed in.
- **Fax:** Students may fax material using the photocopier located in the student common room in Carruthers Hall on the 3rd floor.

Professional Skills Development for Graduate Students

Expanding Horizons

The School of Graduate Studies, in partnership with student service providers at Queen's, offers Expanding Horizons - a series of workshops and seminars to support the academic, personal, and professional success of graduate students. Graduate students are encouraged to participate according to their needs and interests, and may attend as many workshops/seminars as desired. <http://www.queensu.ca/sgs>

Career Services

Career Services provides career education and employment support services at Queen's for undergraduate and graduate students in all disciplines. A comprehensive range of services are offered including drop-in

career advising, supporting graduate students in making informed decisions about career options, job search strategies, and CVs/resumes. For a full description of services see: <http://careers.queensu.ca/>

Centre for Teaching and Learning

The Queen's Centre for Teaching and Learning (CTL) offers a wide array of programs and services that are designed to meet the teaching and learning needs of students, post-doctoral fellows, staff, and faculty members. For a full description of programs, services and supports, see: <http://www.queensu.ca/ctl/>

Dissertation Boot Camp

The School of Graduate studies hosts two Dissertation Boot Camp events throughout the year. The primary aim of the 5-day Boot Camp is to write and to make substantial headway on your thesis. Advice and tips about writing, one-on-one consultation and snacks and lunch are provided. For details and how to register go to: <http://www.queensu.ca/sgs/dissertation-bootcamp>

Three Minute Thesis (3MT)

The 3MT is a university wide competition for Master's students (thesis or research project) and doctoral students in which participants present their research and its wider impact in 3 minutes or less to a panel of non-specialist judges. This is an excellent opportunity to develop strong communication skills and convey the significance of your research work. <http://www.queensu.ca/3mt/home>

Student Academic Success Services

These services include thesis writing support in small groups covering topics of interest to the participants, learning strategies for graduate students, and through the writing centre graduate students can get assistance with academic writing and one-on-one consultations. SASS works with students in all disciplines and provide specialized support for English language learners: <http://sass.queensu.ca/>

Tips & Resources Webpage

Queen's School of Graduate Studies have many valuable resources and events in place to assist you in progressing toward degree completion. Take advantage of the many services available to you during your time at Queen's. <http://www.queensu.ca/sgs/>

Queen's University International Centre (QUIC)

QUIC is a support service for all members of the Queen's Community and through its activities promotes an internally informed and cross-culturally sensitive learning environment. The centre offers support for international students in finding housing, it provides a relaxing and welcoming space for conversation, and provides information about study permits, visas, health insurance coverage, taxes and living in Kingston. Visit : <http://quic.queensu.ca/>

Queen's Libraries

Students can access library materials on-site or via the internet with a Queen's netID. In addition, students can book study and meeting space, borrow materials from other libraries, seek advice on searching for the information you need, and access information about copyright, open access and scholarly communications. On the third floor of Stauffer Library, the Helen Howard Reading Room is a dedicated space for graduate students. It holds two breakout rooms equipped with televisions, and a lounge area in the front. <https://library.queensu.ca/help-services/services-graduate-students>

Handbook for International Students

This handbook provides valuable information and resources that will help students find what they need upon arrival and throughout their stay in Kingston. Sections include student services, academic life,

housing, money matter, cross-cultural transition, and community and recreation.

<https://www.queensu.ca/sgs/prospective-students/international-students>

Student Wellness Services

Student Wellness Services provides a welcoming, confidential and integrated service that is responsive to the needs of students be it health services, counselling services, disability services or advice on maintaining or improving your overall well-being. For a full listing of services visit:

<http://www.queensu.ca/studentwellness/home> and <https://www.queensu.ca/sgs/sgs-habitat/staying-well>

Health Services

Student Health Service provides Queen's students with quality, comprehensive health care in a convenient campus location. Student Health Service provides confidential, student-centered health care, including comprehensive medical care, travel medicine and education, immunization and referrals for specialized treatment. The multidisciplinary health team includes family physicians, psychiatrists, registered nurses and support staff. Appointments are available for students, provided they have not opted out of the health coverage provided by the university.

Appointments can be scheduled by calling 613-533-2506 and are available at the following times:

Monday - 9:00 am to 4:30 pm

Tuesday - 9:00 am to 7:30 pm

Wednesday - 9:00 am to 4:30 pm

Thursday - 9:00 am to 7:30 pm

Friday - 9:00 am to 3:00 pm

Counselling Services

Counselling Services supports the personal, academic and social development of students at Queen's University by providing a range of programs and services appropriate to student needs. Some reasons why students seek counseling:

- Abuse and assault issues
- Academic engagement or direction
- Substance use
- Anxiety and mood problems
- Coping with grief or loss
- Relationships
- Eating/body image difficulties
- Self-harm
- Homesickness/Loneliness
- Self-confidence and self-esteem issues
- Sexuality and sexual orientation
- Stress
- Transition to university
- Social functioning
- Dealing with racism

Students are urged to seek guidance and assistance before the issue escalates and becomes more difficult to handle.

To make a counseling appointment, call 613-533-6000 ext. 78264. Appointment times fall within 9:00 am – 4:30 pm Monday through Friday. The School of Graduate Studies has two embedded counsellors (see

below). More information on counselling services, including urgent help, are here:

<http://www.queensu.ca/studentwellness/counselling-services>

Accessibility Services

With other members of the Queen's community, Accessibility Services works to ensure the university and its programs are accessible to students with disabilities. Supports and services include:

- Transition programming specially designed for students with disabilities
- Initial assessments to determine eligibility for services and academic accommodations
- Individualized accommodation planning
- Referrals to on and off-campus services and supports
- Coaching in self-advocacy to promote autonomy and independence
- Counseling support related to one's disability, self-concept, disclosure, and self-advocacy
- Advice to students, faculty, and staff on disability, accessibility, and accommodation matters
- Education and awareness training to the Queen's community

Students seeking academic accommodations for reasons of a disability or health condition at Queen's University are required to provide documentation from a qualified health care or other professional verifying the presence their disability or health condition. Individual accommodation plans may include:

- Special examination arrangements
- Use of computers for exams and an adaptive technology lab and equipment loan
- Special classroom arrangements
- Alternate formats for course material

The following link has helpful information for students about how to register with the Accessibility Services office, required documentation, consent and confidentiality policies etc:

<http://www.queensu.ca/studentwellness/accessibility-services/students>. Accessibility Services can be reached by email at accessibility.services@queensu.ca, by phone at 613-533-6467.

School of Graduate Studies on-site Counsellor

As part of Student Wellness Services, the School of Graduate Studies has an on-site Counsellor who provides an additional access point for graduate students to counselling services. Located in the School of Graduate Studies, graduate students have access to individual counselling services, group programs and various health and wellness events. Strict standards of confidentiality or upheld. Visit:

<https://www.queensu.ca/sgs/sgs-habitat/staying-well>

Peer Advising (Society for Graduate and Professional Students, SGPS)

The Student Advisor program provides advocacy and support for graduate and professional students. The program's primary goal is to assist SGPS members negotiate their many roles as students, researchers, teachers, employees and colleagues. Services are strictly confidential. <https://sgps.ca/>

Academic Counselling, Confidential Advising

The Associate Deans in the School of Graduate Studies are available to graduate students who wish to talk about any academic issue they have. The Associate Deans will offer advice and lay out options to manage the specific issues. These meetings are in confidence and actions are only taken with the student's consent. To make an appointment please contact the Administrative Assistant at: sgsasst@queensu.ca

Athletics and Recreation Centre

The Athletic and Recreation Centre – also known as “The ARC” - is a hub of activity on campus. This facility offers a number of opportunities for students to contribute to and enhance or maintain their health. The ARC provides students, faculty, staff and community members with a selection of eating establishments, a student run café, a small market stocked with fresh produce and meat and a prescription dispensing, fully supplied pharmacy. All of these amenities are situated alongside the 24,500 square feet of cardiovascular and strength-training space, pool, racquet courts, gymnasiums, exercise, dance and spin studios and combative rooms. More information on facility options, programming, and hours of operation can be found at: <https://rec.gogaelsgo.com/index.aspx>

List of Appendices

1. Concepts, Competencies and Activities that can be covered in a PhD Specialization in Epidemiology
2. Thesis Proposal Defense Scheduling Form
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Appendix 1: Concepts, Competencies and Activities that can be covered in a PhD Specialization in Epidemiology

Epidemiology is one of the sciences underlying and supporting public health, and it is a broad and exciting field that “provides logic and structure to the analysis of health problems” (p. 2, Webb and Bain Essential Epidemiology). Rothman defines Epidemiology as: *the study of the distribution of health-related states and events in populations... Other sciences, such as clinical medicine, are also directed toward the study of health and disease, but in epidemiology the focus is on population distributions.*” (Rothman 3rd ed. p. 32) As such, epidemiologic studies contribute evidence for the design of prevention programs, clinical practice, legislation, and public health interventions aimed at improving the health of the community. This document attempts to describe epidemiologic research areas that fall within the three main research areas encompassed by our Epidemiology field option: population health, health services and policy, and clinical epidemiology. Many of these methods are used by other health research disciplines as well.

A PhD with a specialization in epidemiology includes the study of design and measurement principles, analytic methods and critical interpretation of epidemiologic studies as evidence for public health issues. Focus on measurement and the design elements that contribute to rigorous internal validity of research on human health issues are key features of a dissertation. Epidemiologic methods can be applied to all substantive health problems. Other approaches can complement epidemiology, or inform the epidemiologic approach.

This list attempts to describe the scope of epidemiologic endeavours. We recognize that health research information from cellular and animal studies, case reports, qualitative studies, non-systematic scoping reviews, needs and gap analyses can inform the epidemiologic research agenda and its conceptual frameworks. But these approaches in and of themselves do not constitute epidemiologic research.

A. Health Problem

- a. Descriptive epidemiology
 - i. Disease definition
 - 1. Disease classification systems
 - ii. Disease frequency, morbidity and mortality
 - iii. Disease risk factors
 - 1. Relative risk
 - 2. Population attributable risk
 - iv. Global, cultural and social context of health problems
- b. Disease surveillance
 - i. Types of surveillance systems and approaches (e.g., acute disease surveillance versus chronic disease surveillance)
 - ii. Existing data sources local, national, international
 - iii. Rate standardization for comparisons across person, place, time
 - iv. Etiologic studies
- c. Healthcare surveillance approaches
 - i. Process evaluations for quality, accessibility, continuity, efficiency, acceptability
 - ii. Benchmarking

- iii. Small area variation studies

B. Current Knowledge

- a. Systematic literature review
- b. Critical appraisal
 - i. Study validity
 - ii. Precision
 - iii. Significance
- c. Meta-analysis
 - i. Cochrane Collaboration
- d. Causal inference
- e. Identify meaningful gaps

C. Study objectives and hypotheses

- a. Conceptual frameworks / disease models
 - i. Pathophysiologic disease mechanisms
 - ii. Socio-behavioural mechanisms
 - iii. Community program / system level mechanisms
 - iv. Natural history of disease
 - v. Prognosis
 - vi. Access and/or quality of care models
- b. Hypothesis or research problem identification

D. Study design and conduct

- a. Design options (including advantages, strengths, limitations)
 - i. clinical and population case series
 - ii. cohort
 - iii. case-control
 - iv. cross-sectional
 - v. measurement studies
 - vi. variations on traditional designs (e.g., case-cohort, case-only)
 - vii. designs adopted from other disciplines (e.g., mixed methods, instrumental variables design)
- b. Data sources
 - i. Primary sources
 - ii. Secondary sources
- c. Study population
 - i. Identification
 - 1. Sample size estimation, detectable effect, study power
 - 2. Sampling methods
 - ii. Recruitment
 - iii. Follow-up

- d. Issues and choices in study conduct
 - i. Influence of cultural / social context on study design and conduct
 - ii. Data collection / capture (face-to-face, telephone, mail, internet, other)
 - iii. Variable selection and definitions
 - iv. Questionnaire / data collection instrument design / data processing
 - v. Measurement quality
 - 1. Quality control strategies
 - 2. Assess for measurement error
 - 3. Correct for measurement error if possible
- e. Research ethics
 - i. Confidentiality
 - ii. Informed consent
 - iii. Issues in special populations
 - iv. Data privacy and protection
- f. Analyses
 - i. Descriptive - univariate
 - ii. Bivariate
 - 1. Categorical
 - 2. Continuous
 - 3. Survival
 - 4. Longitudinal
 - iii. Hypothesis testing
 - iv. Assess for presence and/or control of confounding and effect modification
 - 1. Stratified analyses
 - 2. Multivariable regression
 - 3. Comparative effectiveness / outcomes research
 - a. Pragmatic trials
 - b. Instrumental variables / natural experiments
 - c. Propensity scores
 - v. Predictive / prognostic modelling
 - 1. Variable choice and transformations
 - 2. Missing data imputations
 - 3. Calibration and discrimination
 - 4. Shrinkage for optimism in the estimates
 - 5. External validity
 - vi. Measurement development and validation
 - 1. Factor analysis and other item reduction strategies
 - 2. Reliability assessment
 - 3. Internal validation
 - 4. External validation

- vii. Advanced methods and methods (e.g., hierarchical regression, time dependent and longitudinal analyses, structural equation modelling)
- g. Interpretation of effect estimates
 - i. Assess effect of possible biases, assess internal validity
 - ii. Interpret results
 - 1. Precision
 - 2. In relation to conceptual / causal framework
 - 3. In relation to clinical / public health significance
 - iii. Assess external validity
 - iv. Put in context of what else is known
 - v. Identify next steps

E. Knowledge dissemination and translation

- a. (consider) Integrated knowledge translation
- b. Oral and written scientific reports
- c. Plain language / accessible reports
- d. Relevance of research findings in relation to other knowledge and sociocultural norms
- e. (when appropriate) Advocate for action informed by research findings or influence subsequent research

F. Intervention research

- a. For primary prevention of disease or risk reduction
 - i. Community trials
- b. For secondary prevention - disease detection (screening)
 - i. Test characteristics (validity, reliability)
- c. For tertiary prevention - disease treatment
 - i. Randomized controlled trials
 - ii. Other comparative effectiveness designs
- d. For healthcare programs and service delivery
 - i. Program/service trials
 - ii. Technology assessment
 - iii. Community trials
 - iv. Quasi-experimental designs (pre-test/post-test, time series)
 - v. Epidemiologic designs (cohort, case-control, cross-sectional)
 - vi. Mixed methods

G. Specialization based on level of prevention

- a. Etiologic epidemiology
- b. Public health-related epidemiology
- c. Clinical epidemiology
- d. Health services research

H. Exposure-specific areas of specialization

- a. Environmental epidemiology
- b. Epidemiology in war and disasters
- c. Genetic epidemiology
- d. Molecular epidemiology
- e. Nutritional epidemiology
- f. Occupational epidemiology
- g. Social epidemiology

I. Disease-specific areas of specialization

- a. Cancer epidemiology
- b. Cardiovascular disease epidemiology
- c. Chronic respiratory disease epidemiology
- d. Infectious disease epidemiology
- e. Injury epidemiology
- f. Mental health epidemiology
- g. Perinatal epidemiology
- h. Reproductive epidemiology

NOTE: Epidemiologists often work in multidisciplinary teams that can include: biostatisticians, health care professionals, basic molecular and genetic scientists, health economists, medical geographers, kinesiologists, psychologists, sociologists and others.



Appendix 2: PhD Proposal Defense Scheduling Form
Department of Public Health Sciences

Student Name		
Student Number		
Thesis Title		
Supervisors		
Proposal Submission Date		
Presentation Date (Suggestion #1):	<input type="checkbox"/> am	<input type="checkbox"/> pm
Presentation Date (Suggestion #2):	<input type="checkbox"/> am	<input type="checkbox"/> pm
Presentation Date (Suggestion #3):	<input type="checkbox"/> am	<input type="checkbox"/> pm
Faculty Reviewer (Suggestion #1):		
Faculty Reviewer (Suggestion #2):		
Faculty Reviewer (Suggestion #3):		
Faculty Reviewer: (Suggestion #4):		
Faculty Reviewer: (Suggestion #5):		

Primary Supervisor(s) Signature _____

Student Signature _____

Program Director Signature _____



Appendix 3: PhD Thesis Defense Scheduling Form

Department of Public Health Sciences

Student Name:	
Student Number:	
Thesis Title:	
Supervisor(s):	
Confirmed Submission Date:	
Presentation Date (Suggestion #1):	<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
Presentation Date (Suggestion #2):	<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
Presentation Date (Suggestion #3):	<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
External Examiner* (Suggestion #1) + email:	
External Examiner* (Suggestion #2) + email:	
External Examiner* (Suggestion #3) + email:	
Internal/External Examiner*: (Suggestion #1):	
Internal/External Examiner*: (Suggestion #2):	
Internal/External Examiner*: (Suggestion #3):	
Internal Examiner*: (Suggestion #1):	
Internal Examiner*: (Suggestion #2):	
Internal Examiner*: (Suggestion #3):	

Primary Supervisor(s) Signature* _____

Student Signature* _____

Program Director _____

** By providing their signatures, the primary supervisor(s) and student attest that all examiner suggestions are at arm's length from the student and the thesis content so as not to be in conflict of interest with the student (examples include co-authorship with the student on manuscripts that form part of the thesis; a personal or family relationship with the student; vested interest in the thesis/research for personal/financial gain).*

Appendix 4: PhD Program Term Progress Report

Department of Public Health Sciences, Queen's University

This progress report is to be completed once per year in June. Once fully completed by the student and supervisor(s), please submit via email to epid@queensu.ca copying your primary supervisor. This method will stand in for signatures.

Student Name:

Student Number:

Year in Program:

Supervisor(s) Names:

Thesis Committee Membership:

Milestone completion dates or planned completion dates:

Comprehensive exam

Outline presentation

Thesis proposal presentation

Thesis submission

To be completed by the student:

Please describe your progress over the last year. Comment where applicable on progress in research, data collection, analysis and/or writing of dissertation. Please report on papers submitted or published, conferences, presentations, grant applications and/or professional development. Please indicate if there is anything that has hindered your progress over the last year.

Please outline your specific goals for the next year.

Respond, if you wish, to the evaluation given below.

To be completed by the supervisor(s) and/or committee members (teaching should not be evaluated in this report):

Comment on the student's progress in the last year.

Are the proposed goals for the next month reasonable and compatible with timely degree completion?

If delays or obstacles to progress have been reported, please comment on remedial action.

Date: _____