



McGill

Department of
Epidemiology, Biostatistics
and Occupational Health

PhD Handbook

2021-2022 Academic Year

PhD Program Leadership

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Preface

Note that this handbook is specific to the Epidemiology program and does not replace McGill's Graduate and Postdoctoral Studies (GPS) Calendar or Policies and Procedures. You are responsible for reading and understanding the official GPS procedures, rules and regulations. Please contact the Epidemiology Graduate Program Director (GPD) or Student Services Office to answer any questions.

Chapter 1

Introduction

Welcome to the PhD program in Epidemiology at McGill. This handbook aims to provide an overview of important requirements for completing your degree, as well as providing links to other sources of information to enhance your experience in the program.

Epidemiology is the study and analysis of the patterns and causes of disease in human populations. It forms the core discipline of public health by identifying the distribution and determinants of health and disease, and by gaining the etiologic understanding to intervene toward the improvement of population health. The PhD program in epidemiology at McGill trains scientists and health professionals to design and conduct studies, analyze health data and effectively communicate scientific results, and to gain novel insights into the causes and prevention of diseases at the population level. Epidemiologic work at the doctoral level involves a thorough integration of biological knowledge of pathogenesis, statistical knowledge of quantitative analysis and causal inference, and sociological knowledge to place these insights in the context of dynamic and interconnected human populations. Major areas of strength at McGill include epidemiologic methods, clinical epidemiology, infectious diseases, social epidemiology, pharmacoepidemiology, public and population health, global health, environmental epidemiology, chronic diseases and aging, and perinatal epidemiology.

1.1 Competencies

Our program aims to prepare our students for successful careers in epidemiology. Upon successful completion of the PhD in Epidemiology at McGill, we aim for our students to:

- Understand the difference between descriptive and etiologic epidemiologic studies, and the value of both designs for public health science;

- Develop a thorough understanding of modern epidemiologic methods and how they are utilized in the service of descriptive, predictive, and etiologic study designs;
- Apply quantitative skills to the analysis of epidemiologic data using statistical software;
- Systematically and critically review the epidemiologic literature, synthesize existing evidence, and identify important gaps in knowledge;
- Design, write, and critique an independent research proposal for answering epidemiologic questions;
- Develop skills in communicating epidemiologic findings to a variety of audiences (professional, student, lay) and through a variety of formats, including oral and written reports;
- *[more to be added?]*

1.2 High-Level Program Overview

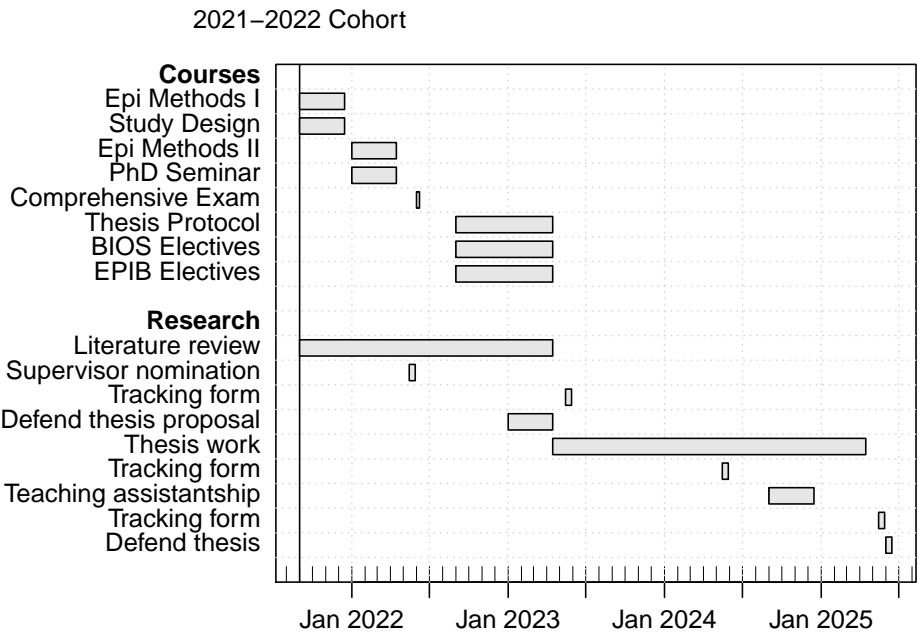
Successful completion of the PhD program in EBOH involves 4 key milestones:

- Required coursework;
- Passing a comprehensive exam;
- Developing and defending a thesis protocol; and
- Writing and defending the doctoral thesis.

The timeline for program completion varies depending on each student's circumstances and subject matter, but most of our students complete the PhD in around 5 years.

1.3 Example Timeline and Milestones

Below we show a very general example of a timeline for completing all of the required coursework and other milestones, as well as some reporting requirements.



Chapter 2

Supervision

2.1 Getting Started

You are initially advised by the designated Program Advisor for all students in the program you are following. The advisor's role is to provide guidance on your academic program and career planning, to mentor you, and to serve as your advocate when necessary. The relationship between the Program Advisor and the student can last for the student's entire academic program although, once a supervisor has been approved, the supervisor normally takes on the primary mentorship role.

These terms of reference do not exclude the possibility of a student-supervisor match at admission, nor do they preclude the possibility of the academic Program Advisor becoming a student's supervisor.

2.2 Thesis Supervisor

Thesis students are expected to identify a supervisor by no later than 15 February of their first year of study.

To help you narrow down the list of possible supervisors, you are encouraged to contact the professors within the various areas of faculty research that interest you. You can also network with the faculty members, program advisors and other students. If you wish to be supervised by an Associate Member, you can contact the Student Services Office for assistance.

2.3 Requirements

Your thesis supervisor must be a McGill faculty member with an appointment in the Department of Epidemiology, Biostatistics and Occupational Health. Please

refer to the forms tab of the Graduate Studies section of this website for the form used to notify department of proposed supervisor.

As of Fall 2019, students and supervisors are required to sign a Letter Of Understanding. This document is designed to promote dialogue between the supervisor(s) and the graduate student to define their expectations and to increase awareness of the rights and responsibilities governing the training program and the student-supervisor relationship. The aim is to avoid problems and to achieve a positive and mutually beneficial experience. It is due at the same time as the Thesis Supervisor Nomination form, May 15 at the end of the first year.

2.4 Suggestions

Maintaining a mutually respectful and supportive relationship with your thesis supervisor will help make your journey through the program easier. To ensure timely progress through the degree program, we recommend discussing the following issues with your supervisor at the earliest opportunity after admission. Any unresolved issues should be reviewed periodically and agreement achieved as soon as possible. It might be helpful to attach to this checklist detailed minutes of discussions held and decisions made, as appropriate.

Issues to Discuss:

- Course plan: courses; credits by semester
- Thesis timeline: dates for protocol; completion
- Thesis format: classical or manuscript based
- Authorship: number of expected papers; content, journals; first, senior, corresponding author; number of presentations, content, conference locations, costs
- Thesis project: possible topics; primary or secondary data collection; holding rights & responsibilities
- Members of supervisory committee: proposed; confirmed
- Committee meetings: number and timing; by semester
- Funding: personal, project
- Ethics approval: timing
- Office hours: hours, open door
- Absences: sabbatical; holidays; conferences

2.5 Thesis supervisory committee

You are required to have a Thesis Supervisory Committee. The membership and size are determined by you and your Supervisor, with the approval of the program Director or Advisor. For the PhD a committee of two (supervisor and one other) is required, but may (and likely should) be larger, depending on how inter-disciplinary the topic is, and what other expertise is needed. Committee

members must hold a faculty or scientist appointment at a university or research institution, though there is flexibility to include members at non-research institutions if needed. The committee should be struck at an early stage of thesis research and certainly no later than the end of the semester in which the topic has been defined.

Meetings with the entire thesis supervisory committee should be held as frequently as is necessary to ensure efficient progress of the thesis research, but at a minimum once per semester.

2.6 Expectations

2.6.1 Expectations for the supervisor

A Supervisor will:

- help to define topic of dissertation
- help to assemble Supervisory Committee
- jointly with you, notify department in writing of topic and committee members
- help to define exact nature and scope of dissertation
- meet, or otherwise communicate, with you at least once a month
- provide timely feedback
- monitor deadlines
- be aware of, and co-ordinate (and resolve any conflicts in) any advice received by - you when you meeting separately with other members of Supervisory Committee or with - other consultants
- hold once-a-semester meeting of full Supervisory Committee
- when thesis is nearing completion, submit names of possible examiners to Department
- ensure that corrections/suggestions by examiners are carried out.

2.6.2 Expectations for Thesis Committee Members

Thesis Committee Members will:

- be a consultant to you and your supervisor;
- (with other members of thesis committee) evaluate, and when satisfied, formally - approve your research protocol;
- attend once-a-semester meeting of full thesis committee and take active part in - assessing progress and setting goals for you.

2.6.3 Expectations for you

The department expects that you will:

- follow the timelines set out for the program, including submitting the required progress reports in accordance with established deadlines;

- establish a thesis committee, and convene meetings of this committee on a regular basis, ensuring there is at least one full committee meeting per semester;
- be a full-time research student, and keep research moving forward in accordance with the timetable for completion of activities noted in the annual work plan you are to submit.

2.7 Conflicts

Completing a PhD is a long and occasionally frustrating process for everyone involved, and conflicts between you and your supervisor (or thesis committee) may arise. In a situation of conflict with your thesis supervisor, you should follow these steps one at a time and in the following order:

1. speak to your supervisor
2. speak to your degree Program Advisor
3. speak to your Graduate Studies Director
4. speak to your Department Chair
5. speak to the Ombudsperson
6. speak to the Associate Dean (Graduate Studies)

See www.mcgill.ca/students/srr/disputes for further information.

Chapter 3

Coursework

PhD students are required to complete 25 course credits, including 16 required credits and 9 elective credits.

3.1 Required courses

The required coursework is typically completed during the first 4 terms and consists of the following courses:

- EPIB 701 PhD Comprehensive Examination*
- EPIB 702 PhD Proposal*
- EPIB 703 Principles of Study Design (2 Credits)
- EPIB 704 Doctoral Level Epidemiologic Methods 1 (4 Credits)
- EPIB 705 Doctoral Level Epidemiologic Methods 2 (4 Credits)
- EPIB 706 Doctoral Seminar in Epidemiology (3 Credits)
- EPIB 707 Research Design in the Health Sciences (3 Credits)

*Note that EPIB 701 and 702 are not didactic courses but are required milestones for advancing toward degree completion and require registration in the appropriate term. Students register for EPIB 702 in both Fall and Winter terms of their second year.

3.2 Elective courses

Students are also required to take 9 credits of elective coursework, at the 500 level or higher, with a minimum of 3 credits in Biostatistics and 6 credits in an epidemiologic and/or substantive topic (normally related to the thesis topic). Elective courses must be chosen in consultation with the student's supervisor and/or the degree program's director or adviser.

These courses can be chosen from the Department's current offer of more than 40 courses in EBOH as well as from other McGill Departments. To assist you in your course selections see the Ph.D. Epidemiology Electives Guidelines page. Below in Table 3.1 you can find a list of current EBOH courses commonly taken as electives. However, courses from other departments or faculties may be possible, depending on the thesis subject matter and subject to the approval of your supervisor(s) and the Program Director.

3.3 Directed Reading Courses

Directed Reading courses complement offerings in the department or elsewhere at McGill or other universities. They are NOT substitutes for existing courses but are, rather, ways for students in the programs to enrich their education in an organized way on topics not otherwise covered or not covered sufficiently (in depth or breadth) in existing courses.

Students enrolled in the department may take Directed Reading courses for credit towards a degree under the rubric of the Special Topics offerings. These courses may be for 1, 2, or 3 credits. Directed Reading courses should conform to the usual semester format unless the specific circumstances of the course require flexibility. However, students are expected to complete such a course within no more than any six month period. Students will be expected to submit for approval in advance material that provides the objectives and methods to be used for the directed reading work.

There is considerable flexibility in what constitutes a directed reading course, but certain requirements must be met before work can begin, including:

1. Students must themselves propose a supervising faculty member with whom to work.
2. With the faculty supervisor, students must prepare an adequate project proposal commensurate with the number of credits sought that includes:
 - The rationale for doing this work as a Directed Reading course and for the number of credits sought. As well, this statement should indicate how it relates to, but is separate from, thesis work when the student is in a thesis program.
 - An outline of the work to be done and the final product/output to be submitted. If a Reading Course is being proposed, a preliminary bibliography and a planned reading schedule should be included.
 - A timetable, with appropriate milestones to assess a student's progress and the measures to be used to evaluate the work (e.g., number of written assignments and their length). A student's faculty supervisor will be responsible for this evaluation as is the case for "regular" courses.
 - A timetable indicating when the student and faculty supervisor will meet.

Table 3.1: EBOH Electives as of Fall 2021

Course	Credits	Elective Category
BIOS 612 Advanced Generalized Linear Models	4	Biostatistics
BIOS 624 Data Analysis & Report Writing	4	Biostatistics
BIOS 691 Bayesian Analysis in the Health Sciences 1	3	Biostatistics
EPIB 625 Ethics of Human Research	3	Epi/Substantive
EPIB 627 Analysis of Correlated Data	3	Biostatistics
EPIB 628 Measurement in Epidemiology	3	Epi/Substantive
EPIB 629 Knowledge Synthesis	3	Epi/Substantive
EPIB 631 Pharmacoepidemiology 2	2	Epi/Substantive
EPIB 632 Mental Disorders: Population Perspectives and Methods	3	Epi/Substantive
EPIB 633 Pharmacoepidemiology 1	2	Epi/Substantive
EPIB 635 Clinical Trials	3	Epi/Substantive
EPIB 637 Advanced Survival Analysis	3	Biostatistics
EPIB 638 Mathematical Modeling of Infectious Diseases	3	Epi/Substantive
EPIB 639 Pharmacoepidemiology Methods	4	Epi/Substantive
EPIB 645 Confounding Control in Pharmacoepidemiology	1	Epi/Substantive
EPIB 647 Analysis of Temporal and Spatial Data	3	Epi/Substantive
EPIB 648 Methods in Social Epidemiology	3	Epi/Substantive
EPIB 654 Pharmacoepidemiology 4	2	Epi/Substantive
EPIB 661 Pharmacoepidemiology 3	2	Epi/Substantive
EPIB 662 Pharmacological Basis of Pharmacoepidemiology	1	Epi/Substantive
EPIB 671 Cancer Epidemiology&Prevention	2	Epi/Substantive
EPIB 675 Special Topics: Health Care Systems Anaylsis Using Administrative Data	3	Epi/Substantive
EPIB 676 Special Topics: Bayesian Analysis in the Health Sciences	3	Biostatistics
EPIB 679 Special Topics: Genetic Epidemiology	3	Epi/Substantive
EPIB 681 Global Health: Epid. Research	3	Epi/Substantive
EPIB 684 Princ of Envrnmntl Hlth Sci 1	3	Epi/Substantive
EPIB 685 Princ of Envrnmntl Hlth Sci 2	3	Epi/Substantive
EPIB 686 Environmental Health Seminar	3	Epi/Substantive
PPHS 501 Population Health and Epidemiology	3	Epi/Substantive
PPHS 511 Fundamentals of Global Health	3	Epi/Substantive
PPHS 525 Healthcare Systems in Comparative Perspective	3	Epi/Substantive
PPHS 527 Economics for Health Services Research and Policy	3	Epi/Substantive
PPHS 528 Economic Evaluation of Health Programs	3	Epi/Substantive
PPHS 529 Global Environmental Health and Burden of Disease	3	Epi/Substantive
PPHS 612 Principles/Pub Hlth Practice	3	Epi/Substantive
PPHS 613 The Practice of Global Health	3	Epi/Substantive
PPHS 614 Knowledge Translation and Public Health Leadership	3	Epi/Substantive
PPHS 615 Intro:Infectious Disease Epid	3	Epi/Substantive
PPHS 616 Principles & Practice of Public Health Surveillance	3	Epi/Substantive
PPHS 617 Impact Evaluation	3	Epi/Substantive
PPHS 618 Program Planning and Evaluation in Public Health	3	Epi/Substantive
PPHS 624 Public Health Ethics & Policy	3	Epi/Substantive
PPHS 682 Special Topics: Critical Perspectives on Global Health	2	Epi/Substantive
PPHS 683 Special Topics: Vaccine Epidemiology	3	Epi/Substantive
PPHS 684 Special Topics: Foundations of Health Promotion	3	Epi/Substantive

3. The project proposal, signed by both the student and the supervisor, should be submitted to the Student Affairs Office a minimum of one month prior to the start of the semester in which the course will take place. The director, along with one other person on the Program Committee who has accepted responsibility for curriculum matters, will review the proposal and determine if it is to be approved. Once approved internally, a copy will be sent to the Director of Graduate Studies as well as to the Department's Graduate Studies Office, with a request that the latter obtain a Special Topics course number for the offering. A copy of the final approved version of the course content will be placed in the student's file.

3.4 Example curriculum

The timing and choices to fulfill the course requirements will likely be unique for each student. Decisions regarding the timing and choice of elective courses should be done in consultation with your supervisor(s) and dissertation committee. Some students may elect to take electives early in their program to complete their requirements as soon as possible, others may decide to focus on restricting their attention to the required courses in the first year to prepare for the comprehensive exam. Moreover, it should be noted that the 25 course credits needed for the PhD degree are the *minimum*, and some students may wish to take additional courses to satisfy their intellectual curiosity or to complement their thesis work. Below we provide one example of a possible curriculum over the course of the program:

- Year 1
 - Fall: EPIB 703 Study Design; EPIB 704 Epi Methods I; Ethics Requirement: Tri-Council Policy for Ethical Conduct of Research online module (TCPS-2) (non-credit)
 - Winter: EPIB 705 Epi Methods II; EPIB 706 Doctoral Seminar
 - Summer: EPIB 701 Comprehensive Exam (June)
- Year 2
 - Fall: EPIB 702 PhD proposal; EPIB 707 Research Design; BIOS elective (e.g., Advanced Generalized Linear Models, Causal Inference)
 - Winter: EPIB 702 PhD proposal; EPIB or substantive electives (e.g. Pharmacoepidemiology, Impact Evaluation, Knowledge Synthesis)
- Year 3
 - Fall: EPIB electives (as needed)

Chapter 4

Concentrations

There are presently 3 options for Epidemiology PhD students that wish to pursue concentrated work in substantive areas related to either Global Health, Pharmacoepidemiology, or Population Dynamics. In addition to the other milestones for the PhD degree (Comprehensive Exam, Protocol Defence, Thesis Defence), these options all require additional courses to be completed *in addition to* the required courses for all Epidemiology PhD students.

4.1 Global Health Option

This option will provide enhanced training in global health to graduate students registered in the PhD in Epidemiology; Global Health degree program at McGill. Students will become familiar with topics of global health relevance and incorporate this into their core coursework and thesis research. The thesis must be relevant to global health and approved by the Global Health Coordinating Committee. Contextualizing the core training students receive in epidemiology and in their respective substantive discipline within the global health research domain will enhance their academic experience. Graduates of this option will be prepared to pursue further training in global health or to undertake a variety of career opportunities in global health in Canada or internationally. The PhD thesis must be relevant to global health and approved by the Global Health Coordinating Committee.

Required Courses (22 credits)

Option-specific courses are italicized

- *EPIB 681 Global Health: Epidemiologic Research (3 Credits)*
- *PPHS 511 Fundamentals of Global Health (3 Credits)*
- EPIB 701 PhD Comprehensive Examination
- EPIB 702 PhD Proposal
- EPIB 703 Principles of Study Design (2 Credits)

- EPIB 704 Doctoral Level Epidemiologic Methods 1 (4 Credits)
- EPIB 705 Doctoral Level Epidemiologic Methods 2 (4 Credits)
- EPIB 706 Doctoral Seminar in Epidemiology (3 Credits)
- EPIB 707 Research Design in the Health Sciences (3 Credits)

Complementary Courses (9 credits)

6 credits of coursework at the 500 level or higher, with a minimum of 3 credits in Biostatistics, and 3 credits in Epidemiology. Courses must be chosen in consultation with the student's supervisor and/or the degree program's director or adviser.

3 credits of coursework at the 500 level or higher from this list, or any other course *approved by the Global Health Option Committee* that have not been taken to satisfy other program requirements.

- GEOG 503 Advanced Topics in Health Geog 3 Credits
- NUTR 501 Nutrition in Dev Countries 3 Credits
- PPHS 525 HlthCare Systems in Comp Persp 3 Credits
- PPHS 527 Econ for Hlth Serv Res&Policy 3 Credits
- PPHS 529 Global Env Hlth&Burden/Disease 3 Credits
- SOCI 513 Soc Aspects HIV/AIDS in Africa 3 Credits
- SOCI 519 Gender and Globalization 3 Credits
- SOCI 545 Sociology of Population 3 Credits

Please contact the Global Health Option Advisor Madhu Pai for any questions regarding this option.

4.2 Pharmacoepidemiology Option

This program provides in-depth training for graduate students on pharmacoepidemiologic methods and the application of these methods to study the population effects (benefits and harms) of pharmaceutical products. Students will acquire the skills to become independent investigators and conduct original research in pharmacoepidemiology. Career opportunities for graduates are multiple and include work in industry, government, or academia. Students will be required to participate in the Pharmacoepidemiology Journal Club. Research topics must be related to pharmacoepidemiology and approved by the program coordinating committee.

Required Courses (25 credits)

Option-specific courses are italicized

- *EPIB 639 Pharmacoepidemiologic Methods (4 Credits)*
- *EPIB 654 Pharmacoepidemiology 4 (2 Credits)*
- *EPIB 661 Pharmacoepidemiology 3 (2 Credits)*
- *EPIB 662 Pharma Basis of Pharmacoepidem (1 Credit)*
- EPIB 701 PhD Comprehensive Examination

- EPIB 702 PhD Proposal
- EPIB 703 Principles of Study Design (2 Credits)
- EPIB 704 Doctoral Level Epidemiologic Methods 1 (4 Credits)
- EPIB 705 Doctoral Level Epidemiologic Methods 2 (4 Credits)
- EPIB 706 Doctoral Seminar in Epidemiology (3 Credits)
- EPIB 707 Research Design in the Health Sciences (3 Credits)

Complementary Courses (3 credits)

3 credits of coursework in Biostatistics at the 500 level or higher. Courses must be chosen in consultation with the student's supervisor and/or the degree program's director or adviser.

These courses can be chosen from the Department's current offer of more than 40 courses in Epidemiology, Biostatistics and Occupational Health as well as from other McGill Departments.

Please contact the Global Health Option Advisor Robert Platt for any questions regarding this option.

4.3 Population Dynamics Option

The Population Dynamics Option (PDO) is a cross-disciplinary, cross-faculty graduate program offered by the Centre on Population Dynamics (CPD) as an option within existing master's and doctoral degree programs in the Departments of Sociology, Economics, and Epidemiology, Biostatistics and Occupational Health (EBOH) at McGill. Students who have been admitted through their home department or faculty may apply for admission to the option. The option is coordinated by the CPD, in partnership with participating academic units.

Thus, in addition to the rigorous training provided in the Department of EBOH, graduate students who choose this option become Centre on Population Dynamics (CPD) student trainees. This affiliation notably offers opportunities for interdisciplinary research and supervision. The option also provides a forum whereby graduate students bring their disciplinary perspectives together and enrich each other's learning through structured courses, a weekly seminar series, and informal discussions and networking.

With interdisciplinary research being increasingly important to understanding complex social and biological processes, CPD student trainees benefit from both a strong disciplinary foundation from their departmental affiliations, as well as from the sharing of knowledge across disciplinary boundaries through CPD activities.

Required Courses (22 credits)

Option-specific courses are italicized

- EPIB 701 PhD Comprehensive Examination

- EPIB 702 PhD Proposal
- EPIB 703 Principles of Study Design (2 Credits)
- EPIB 704 Doctoral Level Epidemiologic Methods 1 (4 Credits)
- EPIB 705 Doctoral Level Epidemiologic Methods 2 (4 Credits)
- EPIB 706 Doctoral Seminar in Epidemiology (3 Credits)
- EPIB 707 Research Design in the Health Sciences (3 Credits)
- *SOCI 545 Sociology of Population (3 Credits)*
- *SOCI 626 Demographic Methods (3 Credits)*

Complementary Courses (9 credits)

9 credits of coursework, at the 500 level or higher, with a minimum of 3 credits in Biostatistics, 3 credits in Epidemiology, and 3 credits from courses approved for the Population Dynamics Option from the list below:

- ECON 622 Public Finance (3 Credits)
- ECON 634 Economic Development 3 (3 Credits)
- ECON 641 Labour Economics (3 Credits)
- ECON 734 Economic Development 4 (3 Credits)
- ECON 741 Advanced Labour Economics (3 Credits)
- ECON 742 Empirical Microeconomics (3 Credits)
- ECON 744 Health Economics (3 Credits)
- EPIB 648 Methods in Social Epidemiology (3 Credits)
- EPIB 681 Global Health: Epidemiological Research (3 Credits)
- PPHS 525 Health Care Systems in Comparative Perspective (3 Credits)
- PPHS 528 Economic Eval of Hlth Programs (3 Credits)
- PPHS 529 Global Env Hlth&Burden/Disease (3 Credits)
- PPHS 615 Intro:Infectious Disease Epid (3 Credits)
- SOCI 502 Sociology of Fertility (3 Credits)
- SOCI 512 Ethnicity & Public Policy (3 Credits)
- SOCI 513 Soc Aspects HIV/AIDS in Africa (3 Credits)
- SOCI 520 Migration and Immigrant Groups (3 Credits)
- SOCI 535 Sociology of the Family (3 Credits)
- SOCI 588 Biosociology/Biodemography (3 Credits)

Courses must be chosen in consultation with the student's supervisor and/or the degree program's director or adviser.

Please contact the Global Health Option Advisor Amelie Quesnel-Valee for any questions regarding this option.

Chapter 5

Comprehensive Exam

Doctoral students will normally take the Comprehensive Exam (EPIB 701) within 12 to 24 months of entry into the PhD degree program. The Comprehensive Exam is held once a year in June.

5.1 Purpose

(needs revising and expanding)

The exam is intended to test students' ability to synthesize and integrate epidemiological knowledge.

5.2 Content and Structure

(needs revising and expanding)

For details on the Comprehensive Exam, see the course outline for EPIB 701 (not currently available?)

5.3 Evaluation

(needs revising and expanding)

Results of the comprehensive exam will be transmitted to students within 3(2?) weeks of the date of the exam. The exam is graded "Pass" or "Fail". Students with a "Fail" must repeat the exam the following year.

5.4 Resources

(needs revising and expanding)

Chapter 6

Thesis Protocol

6.1 Purpose

All PhD students will prepare and defend a protocol for their thesis project. This is typically after students have passed the Comprehensive Exam after the first year of required coursework, though some students may elect to register for the course before passing their comprehensive examination, while defending their own protocol afterwards. It is intended to provide the student with the experience necessary to propose a comprehensive research project and to convince their peers of its scientific merit and originality. It provides a standardized critical evaluation to supplement the expertise of the student's PhD supervisor and committee and thereby improve the likelihood of the thesis' success.

6.2 Format

The written protocol should emphasize the importance of the research objective(s) and the proposed methods for addressing them. As per McGill University policy, it can be written in English or French. It should provide sufficient background and detail on data sources; research design, statistical analyses, and power/precision/sample size (as applicable) for each of the research objectives; and study limitations. The student should make clear in the protocol text the extent of their original contribution to the proposed research, as well as the likely format ("traditional" vs manuscript-based) of the thesis.

6.3 Assessment

[text likely needs revision] The thesis protocol is reviewed by two faculty members plus an external reviewer with substantive expertise in the student's specific area of research. The student, thesis supervisor(s), and other thesis committee

members are responsible for seeking the participation of the external reviewer. Importantly, the external reviewer must not be a member of the thesis committee, have previously supervised or co-authored a paper with the student, nor have been consulted about any aspect of the proposed research.

Chapter 7

PhD Thesis

[update to include MyThesis guidance?]

Thesis research is normally actively undertaken following successfully passing the comprehensive exam and defending the thesis protocol. It is expected that students will complete their degree within 48 to 60 months of entry into the PhD degree program.

A thesis for the Doctoral degree must constitute original scholarship and must be a distinct contribution to knowledge. It must show familiarity with previous work in the field and must demonstrate your ability to plan and carry out research, organize results, and defend the approach and conclusions in a scholarly manner. The research presented must meet current standards of the discipline and clearly demonstrate how the research advances knowledge in the field. Finally, the thesis must be written in compliance with norms for academic and scholarly expression and for publication in the public domain (see section: withholding a thesis from circulation temporarily). The nature of academic research requires adherence to McGill's policies on research ethics and intellectual property, as described below.

7.1 Nomination of Thesis Examiners

At least 2 months prior to submitting the initial thesis, students, in collaboration with their supervisor(s) and committee, must submit a Nomination of Examiners form that assists the Department in forming the Oral Defence Committee. The details, procedures, and specifications for the composition of the Committee are given below, and a fillable worksheet is available online. Please do not complete the official form posted on the GPS website until your selection of names has been reviewed, approved, and an external examiner has been secured by the department.

7.1.1 Oral Defense Committee

The oral defense committee consists of five voting members: Academic Unit representative (Chair or delegate), Supervisor (or co-supervisor, as appropriate), Internal Examiner, Internal Member, and External Member. The committee is designed to ensure a majority of members have not been closely involved with the thesis. “Closely involved” means serving on the student’s supervisory committee or having meaningful input into the body of work contained in the thesis.

1. **INTERNAL EXAMINER** – submit two names Usually chosen from members of the Department with expertise in the subject area of the thesis. The supervisor must contact both proposed internal examiners and secure from them a commitment (by email) that they are willing to serve in this capacity. The internal examiner must not be in conflict of interest according to McGill’s policy (see University conflict of interest regulations).
2. **EXTERNAL EXAMINER** – submit up to four, but at least two, names in a ranked order The external examiner must hold a PhD degree, or equivalent, and should be from outside McGill. The proposed external examiners should have demonstrated epidemiologic and/or biostatistical expertise, as well as expertise in the substantive area of the thesis. Please clearly indicate their qualifications and your main reasons for choosing them. The Program Committee designate will validate the appropriateness of the proposed choices. In order to minimize any real or perceived conflicts of interest, the Department will contact the external examiner once approved to secure his/her commitment to evaluate the thesis. The student or supervisor should NOT contact any of the proposed external examiners. External examiners must be perceived to be able to examine the student and the thesis at arm’s length, free of conflict of interest from any source. The test of whether or not a conflict of interest might exist is whether a reasonable outside person could consider that a situation could give rise to an apprehension of bias. The candidate’s unit must take reasonable steps to avoid recommending an examiner whose relationship with the candidate, the supervisor, or their research could be seen as jeopardizing an impartial judgment on the thesis. Any individual asked to examine a thesis must declare possible sources of conflict. The following checklist, while not exhaustive, itemizes situations that could represent conflict of interest, and thus need to be declared and generally avoided. It is the responsibility of the unit (student’s supervisor, chair or designate) to complete this checklist in consultation with the nominated examiner and provide it to the Thesis Office along with the Nomination of Examiners form. An answer of YES to any question below would normally exclude this individual as an examiner. Address any queries to the Thesis Office.

- Have you co-authored or otherwise carried out research in collaboration

- with the student or the supervisor (within the last five years)? Yes or No
- Do you knowingly have a financial interest in an entity that could benefit from the thesis research? Yes or No
 - Have you previously read the thesis, or parts of it, or evaluated the student's thesis research (e.g., as an advisor, as a supervisory committee member, evaluator for progress tracking)? Yes or No
 - Have you previously examined or been examined by the student's supervisor (within the last five years), e.g., the former student or former supervisor of the student's supervisor? Yes or No
 - Do you have a former or pending affiliation with the student's academic unit* (within the last five years); e.g., graduated from the same academic program or been offered an academic appointment in the unit*? Yes or No
 - Have you held an academic appointment at McGill within the last five years? Yes or No
 - Have you engaged in (or intend to engage in) discussions/negotiations with student or supervisor relating to future employment or supervision? Yes or No
 - Do you have a personal or financial relationship to the student or the supervisor? Yes or No
 - Relationships that might appear to have a conflict of interest include:
 - A past or present spouse or partner
 - A close family member
 - A past or present business partner
 - Have you engaged in other activities that could be interpreted as conflict of interest? (please specify)
3. INTERNAL MEMBER – submit two names The internal member is a McGill faculty, or affiliated, member who may be associated with the student's unit. You do not need to contact these individuals.
4. EXTERNAL MEMBER – submit two names The external member must not be from the unit and may be from outside McGill. The external member is distinct from the external examiner and does not submit a written report. You do not need to contact these individuals.

7.2 Human Subjects Review

In accordance with university guidelines (Policy on the Ethical Conduct of Research Involving Human Subjects), all research involving human subjects requires ethics approval.

Research involving human participants, animal subjects, micro-organisms, living cells, other biohazards, and/or radioactive materials must have had the appropriate compliance certification. Copies of any certificates of compliance must be retained by the supervisor and student in accordance with McGill's policies

on research ethics. Supervisors indicate on the Nomination of Examiners and Thesis Submission Form that the thesis research has complied with all ethical standards. See the Ethics and Compliance webpage for further information about certification and training requirements.

Even if your supervisor has already obtained IRB approval for the larger research study of which your thesis work forms just a part, the department insists (partly since you defend the thesis as *your* work, partly for training purposes) that you obtain IRB approval of the specific work you are doing, and include this specific approval [form(s) or letter(s)] (in addition to those for the broader project) in your own thesis.

The definition of “research involving human subjects” is broad. See Student Guide To Ethics Review For Research Involving Human Subjects. This document also describes research involving human subjects which does not require ethics review. If still in doubt, additional advice can be obtained from your Program Advisor.

Applications for ethics approval should be directed to the Faculty of Medicine Research Ethics Board (commonly referred to as the Institutional Review Board or IRB) or to one of the following Affiliated Hospital Research Ethics Boards: the McGill University Health Centre, the Douglas Hospital, the SMBD Jewish General Hospital or the St. Mary’s Hospital Centre.

In addition, you must complete the on-line interactive tutorial on research ethics released by the Interagency Advisory Panel on Research Ethics (PRE), a multidisciplinary body mandated by the three granting agencies to further develop the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS). This tutorial is a voluntary independent learning tool covering the first five chapters of the TCPS. It includes case studies, progress checks and a printable certificate of completion. The tutorial is the only one of its kind in Canada on research ethics involving humans and is offered in both French and English. It is intended for researchers, students, members of Research Ethics Boards, administrators, research participants and the general public.

7.3 Thesis Format

“Official” guidelines for doctoral theses are provided by the Office of Graduate and Postdoctoral studies. There are different requirements for traditional “monograph-based” theses and “manuscript-based” theses, the latter of which most students in Epidemiology have published in recent years.

Each year the Department organizes thesis-writing workshops that go over the details related to thesis submission, issues related to formatting, and provide links to resources for writing. The last workshop slides are available [here](#) and [here](#).

Chapter 8

Policies

8.1 Progress Tracking

Each year the Department requires PhD students to submit an annual tracking form. This is to be done in collaboration with your supervisor(s). and helps the Department to monitor your progress toward completing your degree as well as providing a shared opportunity to set goals and review progress with your supervisor(s).

This is a mandatory policy and procedure to track the research progress of graduate students. Students should familiarize themselves with this policy by reviewing the full text available on the GPS website.

Timeline: May 15 of each year.

With the first tracking form, students should submit proof of completion of the Tri-Council Policy Statement 2 (TCPS2) Course on Research Ethics (CORE) (see below for details).

8.2 Research Ethics

As of January 15, 2016, all McGill University students (undergraduate, graduate, postdoctoral), faculty and staff engaging in human subjects research must complete human research ethics training prior to submitting an application for ethics review.

This requirement can be fulfilled by completing the Tri-Council Policy Statement 2 (TCPS2) Course on Research Ethics (CORE).

To complete the online CORE tutorial go to the TCPS2 website and create an account. Select McGill as your institution and use your McGill email address to complete the training.

If you are new to McGill and have already completed the CORE tutorial with another institution, you can change your profile information to McGill University by logging onto the tutorial and modifying your Account Details to revise your affiliation and email address. Completion can then be verified online by the McGill Research Ethics Office.

You will also be able to print a certificate of completion for your records. The tutorial is available in English and French. The contact person for the program is

Contact: Ilde Lepore, Ethics Officer (email) Faculty of Medicine Research, Graduate Studies and IRB 514-398-8302

8.3 Fast-Track from MSc to PhD

The transfer policy applies ONLY to students in Epidemiology and Biostatistics programs. A student who has been accepted into the MSc program can request transfer into the PhD program. The formal transfer into the PhD program should occur within 12 months of initial enrollment in the Master's program.

In order to transfer from the MSc to the PhD program, the MSc student must complete all required courses for the MSc program with a minimum GPA of 3.7.

REQUIRED DOCUMENTS

- A three to five-page outline of the proposed PhD thesis proposal including:
 - Research question
 - Background and brief literature review indicating the importance of the proposed - research
 - Preliminary research design
 - Data source
 - Preliminary analysis plan
 - A timeline for completion of the PhD program
- Letters of support from the current MSc supervisor(s) and proposed PhD supervisor(s). In cases where this is the same person, one additional letter from a faculty member in the Department is required. The letter from the proposed PhD supervisor(s) must include a statement of financial support for the candidate and research.

The transfer application material must be submitted by **April 25** to gradadmin.eboh@mcgill.ca.

8.4 Policy on Departmental Seminars

Updated November 9th, 2015 The Department considers attendance at its seminars an important component of training and expects all students to attend as frequently as possible.

All Epidemiology and Public Health graduate students will be expected to attend 60% of the Epidemiology Seminars each term irrespective of their program year. Attendance at seminars will be mandatory to maintain “good standing” during academic studies. This means that attendance at seminars will be required to maintain eligibility for Departmental support for prizes, financial aid, travel awards, studentship applications, etc. Attendance at Biostatistics or at other seminars on campus or in teaching hospitals will be encouraged as always depending on one’s areas of interest but will not be mandatory.

Students who will be unable to attend 60% of the seminars should send a request for an exemption to the chairs office justifying their absence (eg. residing outside of Montreal, travel relating to their studies, family reasons).

8.5 Policy on Email

University Policy Concerning E-Mail As An Official Means Of Communication With Students. E-mail is an official means of communication between McGill University and its students.

In order to satisfy the need for timely and efficient communication, and to provide a better service to its students, McGill University has instituted a policy that establishes e-mail as an official means of communicating with students.

Upon registration at McGill, each student is assigned an official McGill e-mail address and a McGill e-mail box. This address may be viewed and verified via Minerva, under the Personal menu.

The McGill E-mail Address points to the McGill e-mail box by default for all students. As with all official University communications, it is the student’s responsibility to ensure that time-critical e-mail is accessed, read, and acted upon in a timely fashion. If a student chooses to forward University e-mail to another e-mail mailbox, it is that student’s responsibility to ensure that the alternate account is viable.

This policy applies to all McGill students and employees who manage official communications with students.

For confidential and official communication requiring an original signature, communication is by (physical) mail. Therefore, please ensure that your current postal address is updated on Minerva. Students must also inform the Student Affairs Office and complete the details in Minerva.

****Please keep in mind that although we do our best to keep all the information**

on the website up to date, we may have missed something. If you ever have questions about anything please contact the Student Affairs Office to clarify.

Chapter 9

Funding

9.1 Departmental Obligations

The Department, jointly with the PhD student's supervisor, offers an annual funding package valued at a *minimum* of \$25,000 for a *maximum* of four years. For international PhD students, the Department will use different mechanisms such as Differential Fee Waivers, to cover the International Differential tuition so that they pay tuition at the same level as Canadian students.

Financial support is conditional upon academic performance, as well as **student efforts to apply for all external/internal graduate fellowship funding for which they are eligible**, including CIHR, FRQS, SSHRC, NSERC, etc., as well as the McGill Faculty of Medicine & Health Sciences and Hospital Research Institute competitions.

9.2 External Awards

[would be helpful to provide some brief guidance or background for relevant agencies or competitions]