PhD Program Leadership

2021-08-04

Contents

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

This provides an overview of the PhD program in Epidemiology at McGill.

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;

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.

Chapter 2

Coursework

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

2.1 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.

2.2 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.

2.3 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 2.1: 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.

2.4 Example curriculum

The timing and choices to fulfill the course requirements will likely be unique for each student. 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:

```
library(tidyverse)
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.1 --
```

```
## v ggplot2 3.3.5     v purrr   0.3.4
## v tibble  3.1.2     v dplyr   1.0.7
## v tidyr   1.1.3     v stringr 1.4.0
## v readr   1.4.0     v forcats 0.5.1
```

```
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
library(readxl)
library(kableExtra)
```

```
##
## Attaching package: 'kableExtra'
## The following object is masked from 'package:dplyr':
##
##     group_rows
```

Chapter 3

Program Requirements

Basic requirements to complete the PhD include (1) Required and elective coursework; (2) Passing a comprehensive exam; (3) Developing and defending an original thesis proposal; (4) Writing, submitting, and defending the thesis research.

3.1 Coursework

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

3.1.1 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.

3.1.2 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 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.

3.2 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.

While there is much flexibility in what constitutes such a course, certain requirements must be met before work can begin.

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:

a. 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.

b. 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.

Table 3.1: EBOH Electives as of Fall 2021

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BIOS 612 Advanced Generalized Linear Models	4	Biostatistics
BIOS 624 Data Analysis & Report Writing	4	Biostatistics
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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
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PPHS 684 Special Topics: Foundations of Health Promotion	3	Epi/Substantive

c. 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.

d. A timetable indicating when the student and faculty supervisor will meet.

Students will be expected to submit for approval in advance material that provides the objectives and methods to be used for the IS/DR work.

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.

3.3 Example curriculum

The timing and choices to fulfill the course requirements will likely be unique for each student. 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)

3.4 Concentration Coursework

As described previously, there are presently 3 options for PhD students that wish to pursue concentrated work in substantive areas related to either Global Health, Pharmacoepidemiology, or Population Dynamics. These options all

require additional courses to be completed *in addition to* the required courses for all Epidemiology PhD students.

3.4.1 Global Health Option

This option will provide enhanced training in global health to graduate students registered in the Ph.D. 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.

Program Requirements

Thesis

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 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; as well, the thesis must 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. The thesis must be relevant to global health and approved by the Global Health Coordinating Committee.

Required Courses (22 credits)

EPIB 681 Global Health: Epid. Research 3 Credits EPIB 701 Ph.D.Comprehensive Examination EPIB 702 Ph.D. Proposal EPIB 703 Principles of Study Design 2 Credits EPIB 704 Doctoral Level Epib Methods 1 4 Credits EPIB 705 Doctoral Level Epid Methods 2 4 Credits EPIB 706 Doctoral Seminar:Epidemiology 3 Credits EPIB 707 Res Design in Health Sci 3 Credits PPHS 511 Fundamentals of Global Health 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 Comprehensive Exam (EPIB 701)

Students will normally take the Comprehensive Exam (EPIB 701) within 12 to 24 months of entry into the Ph.D. degree program. The Comprehensive Exam is held once a year in June. The exam is intended to test students' ability to synthesize and integrate epidemiological knowledge. For details on the Comprehensive Exam, see the course outline for EPIB 701. The exam is graded "Pass" or "Fail". Students with a "Fail" must repeat the exam the following year.

Protocol Defense (EPIB 702)

The comprehensive exam and the above required courses are usually completed before submitting and defending the thesis research protocol in EPIB 702. For details on the Protocol Defense, see the course outline for EPIB 702. The exam is graded "Pass" or "Provisional Pass" or "Fail".

Students with a "Provisional Pass" (some deficiencies noted but not enough to stop progress on the thesis) are recommended to undertake (in consultation with their supervisor), specific remedial steps to address the areas of weakness identified in the exam. These could include additional courses, essays, assignments, and short courses. After satisfactory completion of these remedial steps the student will be considered to have a "Pass" on the Comprehensive Exam/Protocol Defense. Students are permitted to continue with their normal progression through the program.

Students with a "Fail" must repeat the exam the following year.

Thesis Research

Thesis research is normally actively undertaken following the comprehensive Exam. It is expected that students will complete their degree within 48 to 60 months of entry into the Ph.D. degree program.

GH Advisor: Dr. M. Pai

3.4.2 Pharmacoepidemiology Additional Reqired Courses

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 harm) 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.

Program Requirements

Thesis

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 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; as well, the thesis must 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.

Required Courses (25 credits)

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 Credits EPIB 701 Ph.D.Comprehensive Examination EPIB 702 Ph.D. Proposal EPIB 703 Principles of Study Design 2 Credits EPIB 704 Doctoral Level Epib Methods 1 4 Credits EPIB 705 Doctoral Level Epid Methods 2 4 Credits EPIB 706 Doctoral Seminar:Epidemiology 3 Credits EPIB 707 Res Design in Health Sci 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. To assist you in your course selections see the Ph.D. Epidemiology Electives Guidelines page.

Comprehensive Exam (EPIB 701)

Students will normally take the Comprehensive Exam (EPIB 701) within 12 to 24 months of entry into the Ph.D. degree program. The Comprehensive Exam is held once a year in June. The exam is intended to test students' ability to synthesize and integrate epidemiological knowledge. For details on the Comprehensive Exam, see the course outline for EPIB 701. The exam is graded "Pass" or "Fail". Students with a "Fail" must repeat the exam the following year.

Protocol Defense (EPIB 702)

The comprehensive exam and the above required courses are usually completed before submitting and defending the thesis research protocol in EPIB 702. For

details on the Protocol Defense, see the course outline for EPIB 702. The exam is graded "Pass" or "Provisional Pass" or "Fail".

Students with a "Provisional Pass" (some deficiencies noted but not enough to stop progress on the thesis) are recommended to undertake (in consultation with their supervisor), specific remedial steps to address the areas of weakness identified in the exam. These could include additional courses, essays, assignments, and short courses. After satisfactory completion of these remedial steps the student will be considered to have a "Pass" on the Comprehensive Exam/Protocol Defense. Students are permitted to continue with their normal progression through the program.

Students with a "Fail" must repeat the exam the following year.

Thesis Research

Thesis research is normally actively undertaken following the comprehensive Exam. It is expected that students will complete their degree within 48 to 60 months of entry into the Ph.D. degree program.

PE Advisor: Dr. R. Platt

3.4.3 Population Dynamics Additional Required Courses

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 programs in the Departments of Sociology, Economics, and Epidemiology, Biostatistics and Occupational Health (EBOH) at McGill University. 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.

Program Requirements

Thesis

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 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; as well, the thesis must 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.

Required Courses (22 credits)

EPIB 701 Ph.D.Comprehensive Examination EPIB 702 Ph.D. Proposal EPIB 703 Principles of Study Design 2 Credits EPIB 704 Doctoral Level Epib Methods 1 4 Credits EPIB 705 Doctoral Level Epid Methods 2 4 Credits EPIB 706 Doctoral Seminar:Epidemiology 3 Credits EPIB 707 Res Design in Health Sci 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: Epid. Research 3 Credits PPHS 525 HlthCare Systems in Comp Persp 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 525 HlthCare Systems in Comp Persp 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.

Comprehensive Exam (EPIB 701)

Students will normally take the Comprehensive Exam (EPIB 701) within 12 to 24 months of entry into the Ph.D. degree program. The Comprehensive Exam is held once a year in June. The exam is intended to test students' ability to synthesize and integrate epidemiological knowledge. For details on the Comprehensive Exam, see the course outline for EPIB 701. The exam is graded "Pass" or "Fail". Students with a "Fail" must repeat the exam the following year.

Protocol Defense (EPIB 702)

The comprehensive exam and the above required courses are usually completed

before submitting and defending the thesis research protocol in EPIB 702. For details on the Protocol Defense, see the course outline for EPIB 702. The exam is graded "Pass" or "Provisional Pass" or "Fail".

Students with a "Provisional Pass" (some deficiencies noted but not enough to stop progress on the thesis) are recommended to undertake (in consultation with their supervisor), specific remedial steps to address the areas of weakness identified in the exam. These could include additional courses, essays, assignments, and short courses. After satisfactory completion of these remedial steps the student will be considered to have a "Pass" on the Comprehensive Exam/Protocol Defense. Students are permitted to continue with their normal progression through the program.

Students with a "Fail" must repeat the exam the following year.

Thesis Research

Thesis research is normally actively undertaken following the comprehensive Exam. It is expected that students will complete their degree within 48 to 60 months of entry into the Ph.D. degree program.

PDO Advisor: Dr. A. Quesnel-Vallée

Chapter 4

Milestones

- 25 course credits (16 required + 9 elective)
- Comprehensive Exam
- Protocol Defense
- Thesis Defense

Options (additional 6 credits + conditions):

- Global Health
- Population Dynamics
- Pharmacoepidemiology

Funding

- CIHR (early October)
- FRQS (mid October)
- SSHRC (early November)
- McGill internal studentships (April 15)
- TAships (required, once)
- RAships (12 hrs/week?)
- Should mention how "guaranteed funding" works here.

Tracking Forms

- Supervisor nomination form (May 15)
- Annual submission (May 15)

Required coursework: Year 0 (prep):

- 601 Intro Epi
- 602 Foundations of Pop Health
- 605 Critical appraisal of Epi studies
- 607 Biostats I
- 613 Software

- 603 Intermediate Epi
- 621 Biostats II

Year 1

- Fall:
  - 703 Study Design (Basso Kramer/Tamblyn)
  - 704 Methods I (Kaufman)
- Winter:
  - 705 Methods II (Chevrier / Infante-Rivard)
  - 706 Seminar (Harper)
- Summer:
  - 701 Comprehensive Exam (June)

Year 2

- Fall:
  - 702 PhD proposal (Nandi / Abrahamowicz)
  - 707 Research Design (Basta / Wolfson)
- Winter:
  - 702 PhD proposal (Nandi / Abrahamowicz)

Elective coursework (9 credits):

- 500-level or higher
- 3 credits in biostatistics (minimum)
  - Bayesian
  - Correlated
  - Causal
  - Survival
  - Others to come (e.g., GIS, prediction modelling, ID modelling)
- 6 credits in epidemiology and/or substantive topic (normally related to the thesis topic). Courses must be chosen in consultation with the student's supervisor and/or the degree program's director or adviser.
  - Evidence synthesis
  - Social
  - Clinical
  - Cancer…
  - Psychiatric
  - Pharmaco
  - Impact Evaluation

Ethics Requirement

- Tri-Council Policy for Ethical Conduct of Research (TCPS-2)

PhD Thesis Protocol

- Ideally in Winter of Year 2
- 10 page written proposal
- Oral defense with instructors and 1 added committee member

Thesis

- Original work (manuscripts or "book")
- Committee requirements

PhD Defense:

- External evaluation
- Oral defense
- See GPS for "official" guidelines

Chapter 5

Policies

5.1 Progress Tracking

5.2 Research Ethics

5.3 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 M.Sc. program can request transfer into the Ph.D. program. The formal transfer into the Ph.D. program should occur within 12 months of initial enrollment in the Master's program.

In order to transfer from the M.Sc. to the Ph.D. program, the M.Sc. student must complete all required courses for the M.Sc. program with a minimum GPA of 3.7.

REQUIRED DOCUMENTS Biostatistics A three-page outline of the proposed Ph.D. thesis proposal; Letters of support from the current M.Sc. supervisor(s) and proposed Ph.D. 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 Ph.D. supervisor(s) must include a statement of financial support for the candidate and research. Epidemiology

A three to five-page outline of the proposed Ph.D. 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 Ph.D. program Letters of support from the current M.Sc. supervisor(s) and proposed Ph.D. 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 Ph.D. 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.

5.4 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).

5.5 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 6

Funding

6.1 Deparmental 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 Deferential 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.

6.2 External Awards