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HEALTH RESEARCH METHODOLOGY GRADUATE PROGRAM

Ph.D. STUDENT GUIDE TO GRADUATE STUDIES

FACULTY OF HEALTH SCIENCES
McMASTER UNIVERSITY
HAMILTON, ONTARIO

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HEALTH RESEARCH METHODOLOGY GRADUATE PROGRAM GUIDE TO PhD GRADUATE STUDIES

This guide outlines the policies and procedures followed by the Health Research Methodology (HRM) Graduate Program which operates within the Faculty of Health Sciences at McMaster University as a component of the Health Sciences Graduate Programs. Graduate studies in the Faculty of Health Sciences are administered by the Graduate Policy and Curriculum Committee under the auspices of the School of Graduate Studies as described in the current **SCHOOL OF GRADUATE STUDIES CALENDAR**. This Guide is a supplement to the SGS Calendar and **does not provide a comprehensive set of binding** regulations. This document is not intended to replicate or modify the information found in the School of Graduate Studies (SGS) Calendar (available at <http://graduate.mcmaster.ca/graduate-calendar>). **If there is any discrepancy between this document and the SGS Calendar, then the School of Graduate Studies Calendar shall prevail.** Students and faculty are encouraged to look at the SGS Calendar for information about:

- Graduate study at McMaster
- General regulations of the School of Graduate Studies
- University regulations
- Graduate fees and financial assistance
- University regulations affecting graduate students
- University services
- Fellowships, scholarships, bursaries and other awards
- University governing bodies
- Student appeals
- Degree programs (including degree requirements).

Updates, along with, news and announcements are also posted on the HRM website - please check the website regularly for new information: <http://www.fhs.mcmaster.ca/hrm>.

HRM Program Leadership and Administration

The Department of Clinical Epidemiology and Biostatistics (CEB) is the administrative and intellectual home of the HRM program, although the HRM faculty come from across the Faculty of Health Science.

The Associate Dean for Health Sciences Graduate Studies is jointly appointed by the School of Graduate Studies and the Faculty of Health Science to oversee graduate programs in health sciences.

The Assistant Dean for HRM is a faculty member in the Department of Clinical Epidemiology and Biostatistics who provides faculty-level leadership and oversight of the HRM program.

Each field of specialization has a Field Leader. The field leaders make recommendations about field specific curriculum changes and approve education plans for students in the field.

The HRM Program Manager oversees the day-to-day management of the HRM program and works with the Assistant Dean in developing the curriculum. The Program Manager supervises other HRM staff. The Program Manager is normally the first point of contact for students who need help in managing their time in the program.

Decision-making and Getting Help.

- Your Supervisor is usually first person to approach with academic or personal problems. She or he carries the overall responsibility for all aspects of your degree work.
- Questions about policies and procedures are best directed to the HRM Program Manager. HRM program staff will sometimes direct inquiries to the Assistant Dean. Most policies and procedures are summarized on the HRM website and contacts for specific inquiries are provided.
- Students may consult the Assistant Dean regarding a variety of matters beyond routine procedural inquiries. These may include interpreting the applicability of regulations and policies, concerns about supervision or personal problems affecting work, or if the student wishes to deviate from regulations in consideration of a particular circumstance. In such cases of petitions for special consideration, the Assistant Dean is normally required to approve the student’s request, which is then adjudicated by the Associate Dean (HSGS). As such, the support of the Assistant Dean does not guarantee that a request for special consideration will be approved.

I.THE FIELDS OF SPECIALIZATION

The HRM program can provide students the opportunity to *specialize* in one of five ‘fields of specialization’. The five fields are: clinical epidemiology, biostatistics, health services research, public and population health and health technology assessment. All five fields are offered at the MSc and PhD level except for Biostatistics, which is offered at the PhD level only.

The establishment of fields of specialization within the HRM program is first and foremost a *student-centred* initiative that emerged in part as a response to informal specialization by students. Students who opt for a field of specialization align themselves with a specific area of expertise and focus on the acquisition of corresponding core knowledge and skills. In so doing, individuals optimize the impact of HRM training on their overall professional development and graduate with formal recognition on their degree.

Students who prefer not to specialize should enrol in “*HRM Classic*”. Students in HRM classic pursue a general methods degree, or explore other areas such as medical education research, health informatics or health ethics, and this field offers maximum flexibility in degree requirements.

How to Select a Field

An overview of each of the five fields is provided below. Degree requirements for all fields are as follows:

	MSc (Thesis Based)	MSc (Course Based)	PhD
No. of Required Courses	5	7	3
Research internship	✓	✓	
Scholarly Paper		✓	
Comprehensive Exam			✓
Thesis	✓		✓

Further information about field specific requirements can be obtained from the HRM website and/or the relevant field leader. Please note that applicants interested in more than one field are advised to select HRM Classic.

Clinical Epidemiology

The field of clinical epidemiology employs sound research principles, tempered with practicality, to find the best answers to “real world” questions about clinical practice and health care. These key questions have to do with:

- how to screen for and diagnose disease and risk factors for disease;
- how to prevent, treat, ameliorate, or rehabilitate health problems;
- how to predict the course of disease;
- how to determine the cause of health problems;
- how to measure “burden of illness,” “quality of life,” and the effects of health services innovations;
- how to systematically summarize evidence from research; and
- how to increase the quality of health care and improve outcomes.

Individuals training in the field of clinical epidemiology (who usually have a clinical background) will acquire the knowledge and skills required to undertake research to address these fundamental questions. Individuals training in this field receive lectures from world leading clinical epidemiologists who are conducting their research all over the world and changing the way medicine is practiced globally. This field also offers individuals supervision from the same renowned clinical epidemiologists to allow individuals the practical experience of designing, organizing, and conducting clinical research.

The field of clinical epidemiology in the Health Research Methodology Program offers a unique opportunity to learn and work with the best clinical epidemiologists in the world, thus enabling graduates to make profound contributions to the practice of clinical medicine through research. Students can enter the clinical epidemiology stream if they fulfill the following criteria:

1. They have a designation of a health care provider based upon a degree or diploma (e.g., doctors, physiotherapists, nutritionists).
2. Their HRM degree research primarily focuses on studies directly relevant to patients (e.g., randomized controlled trials, observational studies, or systematic reviews of health related questions).

If a student is not a designated health care provider and wants to appeal these criteria then towards the end of their HRM training they can submit a summary of the research (eg., course papers, studies and research) they have undertaken to the Clinical Epidemiology Stream Committee. The committee will review the student’s request to determine if it merits the designation of the clinical epidemiology stream.

Biostatistics (PhD only)

The HRM Biostatistics PhD field targets applicants with an MSc in Mathematics and/or Statistics who wish to pursue doctoral work in Biostatistics. The field aims to provide graduates with the skills needed to conduct independent research into biostatistical topics, provide leadership as biostatistical collaborators in clinical, health systems and population health investigations and effectively teach biostatistics. Graduates will possess the following skills:

- a strong foundation in biostatistical concepts/techniques and their application in study designs and data analysis;
- the ability to critically appraise methodologic aspects of research proposals and manuscripts;
- the ability to develop or contribute to the development of grant proposals as methodologists;

- the ability to teach or communicate biostatistical concepts effectively to non-biostatisticians; and
- the ability to adapt existing statistical techniques or to develop new techniques to solve problems.

In addition to coursework related to research design, all students participate in a course on Biostatistical Collaboration. The aim is to develop the skills needed for successful collaborative research in the role of biostatistical consultant. These include communication of biostatistical concepts and the provision of leadership with respect to research design, analysis and reporting.

Health Services Research

The main goals of health services research are to identify the most effective ways to organize, manage, finance, and deliver high quality clinical and health care, reduce medical errors and improve patient safety. Its research domains are individuals, families, organizations, institutions, communities, and populations.

Graduates of the health services research field are expected to acquire the research design and analysis skills (both quantitative and qualitative) needed to conduct rigorous research in the following areas:

- patterns of care/ process of care: identifying factors that are most likely to have an effect on patient outcome;
- small area variation studies: how and why rates of health care use and events vary over well-defined geographic area;
- appropriateness of care: whether medical interventions are or are not appropriate;
- knowledge translation (also knowledge transfer/ exchange; quality improvement): how and why new knowledge does and does not get used;
- economic analysis of health care: how health services are financed and funded, and the costs and cost effectiveness of care;
- service & system organization: how care pathways are coordinated and systems structured; and
- patient experience: how patients make sense of their health care experiences.

Population & Public Health

Canada faces many public health challenges, including emerging and existing infectious diseases and alarming increases in many chronic diseases. Research to address the determinants of these health problems is of paramount importance to maintaining a healthy population. The field of population and public health provides students with the methodological expertise needed to conduct cutting edge research, including investigations into the biological, economic, and social factors that protect, precipitate or perpetuate disability and disease, and to improve public health.

Graduates will be expected to acquire the following skills:

- a strong foundation in health research methodology and biostatistics;
- the ability to critically appraise and interpret evidence, formulate research questions, justify research and analysis methods, and be knowledgeable about ethical issues involved in Population and Public Health Research.
- the ability to conduct research into biological, social, cultural, and environmental determinants of health;
- the ability to conduct basic or applied research in public health aimed at improving the health of individuals, populations, and communities; and,
- the ability to apply population and public health methodologies across a range of types of disease conditions, including infectious, non-infectious, and chronic diseases.

Health Technology Assessment

Health Technology Assessment (HTA) is defined as the evaluation of the clinical effectiveness, cost-effectiveness, and broader impact of drugs, medical technologies, and health systems, both on patient health and the health care system. HTA has gained increasing importance in health care decision making locally and around the world and over the last decade there have been a numerous important methodological advances in the techniques of HTA. As a result there is a growing gap between the need for HTA and the availability of researchers with the skills and knowledge required to conduct HTAs.

The goal of the HTA field specialization is to train individuals who, upon graduation, will have acquired sufficient skills to be actively involved in independent and collaborative research in the field of HTA. Graduates will be expected to:

- develop skills in advanced decision analysis;
- apply research methods derived from health economics;
- understand and use basic and advanced biostatistics; and
- utilize health services research and health policy analysis concepts and methods.

Students will be expected to collaborate with one of the many research groups conducting HTA at McMaster University.

HRM Classic

Students who don't wish to declare a field of specialization should enroll in HRM Classic. The advantage centres on the high level of flexibility HRM Classic offers, enabling students to tailor their educational plan to their own unique needs and interests. Students pursue a general methods degree, or explore other exciting emerging fields. For example, applicants interested in medical and health sciences education research can work with faculty in the Program for Educational Research and Development on research related to the evaluation of clinical competence. Alternatively, students in HRM Classic might work on medical informatics and knowledge translation research topics, investigating the use of evidence by different professional groups such as health care providers, health systems administrators and government policy-makers, and contributing to an improved understanding of the behavioural and contextual factors that determine effective knowledge uptake. Many other areas, including health ethics, can be selected as the focus of study.

II. REQUIREMENTS FOR Ph.D. DEGREE COMPLETION

A candidate for the Ph.D. degree must comply with the School of Graduate Studies Regulations for the Degree Doctor of Philosophy, including completion of the equivalent of one and one-half 700-level full courses, as the minimum course requirement (i.e., 3 one-term half courses)

Required courses for each field are specified in the table below. Elective courses may be chosen from among any other HRM course, in consultation with the student's supervisor. With the permission of the Assistant Dean on the recommendation of the supervisory committee, a student may take graduate courses from other programs at McMaster or at another University in lieu of an HRM elective course. The list of courses is available on the HRM website and in the Graduate Calendar.

Additional "Make-up" courses:

Admission to the PhD program normally assumes that a student has a background in the fundamentals of health research methods at the MSc level, as would be obtained by students who have completed or transferred from the HRM MSc program. Students who have not completed relevant course work may be

required to complete HRM courses to make-up these core competencies. These “make-up” courses are *additional* to the required minimum of 3 courses. All students are expected to have completed introductions to health research methods (equivalent to HRM 721) and biostatistics (equivalent to HRM 702). Other required course equivalents are listed in the course requirement table below. Students who believe that they have obtained the required competencies in ways that are not reflected in their previous graduate coursework may, with the written support of their supervisory committee, request to the Assistant Dean, HRM that the requirement for a make-up course be waived.

Requests for alternate course requirements:

If a student has the equivalent of an HRM course, the student can submit a special petition to request approval that the equivalent course requirement has been completed. Please note that this special petition request is not to reduce the number of HRM courses a student is required to complete for the HRM degree. This process is typically initiated by students who have completed similar courses at other institutions and would like to count previously completed coursework towards the prerequisites and the student can register for other, more advanced HRM course(s). This is determined on a case-by-case basis and supporting documentation (i.e. course syllabus and signed petition form) must be provided. The special petition form is available from the School of Graduate Studies website: <http://graduate.mcmaster.ca/current-students/forms>

Candidates must also:

1. Obtain a grade of at least B- in all courses.
2. Pass a Comprehensive Examination between twelve and twenty-four months for full-time and twelve to thirty-six months for part-time students following the start of doctoral studies at McMaster. The examination will test the student’s ability of acquire, evaluate critically, handle and conceptualize major issues in the discipline or sub-discipline to which their field of research belongs. They must include at least two of the aforementioned areas but these cannot be related directly to the thesis topic.
3. Complete a dissertation or thesis on an approved topic based on research carried out within the program and defend the thesis at a final oral examination. The thesis will demonstrate the student's ability to develop new methodology, or to advance one or several competing existing methodologies in a challenging new area of health care/health services research.

Students may be asked to meet additional requirements of the program, including participation in special seminars or colloquia.

Maximum Time Allowed to Complete the Degree

HRM Ph.D. students are normally expected to complete their degree within 12 terms (4 years) of full-time study or 18 terms (6 years) of part-time study. Financial support to full-time students is normally limited to 12 terms. The prospects for completion with the expected time are a consideration in assessing student progress.

Notwithstanding the expectations in HRM, the graduate calendar further specifies that students will be withdrawn from PhD studies if they do not complete the program within 18 terms of full-time study or 24 terms of part-time study. Please consult the Graduate Calendar for details.

As outlined in the policy on comprehensive evaluations, students *must* complete their comprehensive examinations between 12 and 24 of full-time study and between 12 and 36 months of part-time study.

DEGREE REQUIREMENTS FOR FIELDS OF SPECIALIZATION

Please see the attached degree requirement table for clarification regarding the specific courses for each field.

Fields Initiative – PhD Curriculum Requirements

(Jan 17, 2012)

		FIELDS OFFERED AT THE PhD LEVEL					
DEGREE REQUIREMENTS		HRM Classic	Clinical Epidemiology	Biostatistics	Health Services Research	Population & Public Health	Health Technology Assessment
PhD	COURSEWORK						
	Common Courses	← no common course →					
	Field Specific Courses		742	739	751 or 748	748	740
	Elective(s)	3	2	2	2	2	2 <i>(Usually 787, 743)</i>
	Possible Additional Make-up Courses	721 702 730 or 751	721 702 730 and 751 743	721	721 702 762	721 702 751	721 702 730 or 751 737 741
	COMPREHENSIVE EXAMINATION	Seminar Independent Study	← Seminar Independent Study is appropriate for field →				
	THESIS	Thesis	← Thesis topic is appropriate for field →				

POLICY – OVERLAP in HRM PROGRAM:

This is intended to clarify the Health Research Methodology program policy regarding the overlap between topics used in course assignments, theses and PhD comprehensive exams.

From time to time, faculty and students have had difficulty interpreting the current policy regarding overlap. Therefore, at the May 2005 GEC meeting we reviewed our policy and unanimously adopted the following policy interpretation statement.

The HRM program “adopts the principle that students avoid duplication, but we do allow overlap (methodological or content area) in courses and theses; adjudication is the responsibility of the students’ Supervisory Committee”.

Although the members of the GEC agreed that there can be overlap among course projects and thesis topics, there was no agreement regarding comprehensive examinations. GEC members felt that the Board of Comprehensive Examination Chairs (BCEC) should decide whether a PhD student can use similar topics for their examination.

III. SUPERVISION AND THE SUPERVISORY COMMITTEE

Each HRM PhD student will be supervised by a **Supervisor** who is a member of Graduate Faculty. The Supervisor, assisted by a **Supervisory Committee**, will provide leadership and guidance to the student throughout the time that the student is registered in the Program. The supervisor and members of the supervisory committee must be faculty who have been approved by the School of Graduate Studies to be involved in the supervision of HRM students. The HRM publishes an online list of the faculty who have been approved for PhD supervision.

The School of Graduate Studies graduate calendar outlines the responsibilities of graduate students, their supervisors and the expectations of a graduate student-supervisor relationship in section 2.7, and section 2.7.1.

FIRST MEETING AND EDUCATION PLAN:

The supervisor is responsible for assembling a Supervisory Committee. The committee must meet with the student within a maximum of **six** months from the time that the student first registers in the Program. For the PhD student, the committee consists of the supervisor, who will chair the committee, and at least two other members of graduate faculty. Please note: the second member must be approved HRM graduate faculty and the third member must be either approved HRM graduate faculty or from another Department in which he/she is entitled to supervise graduate students. Additional committee members may be added as required.

After discussing possible Supervisory Committee members, the supervisor then informs the Assistant Dean - HRM to ensure that a Supervisory Committee has been chosen which is appropriate for the student’s proposed research. The Assistant Dean - HRM will advise the supervisor if the intended committee is appropriate or inadequate as necessary. An Education Plan will be completed by the student in consultation with his/her supervisor in the first three months of the program (<http://www.fhs.mcmaster.ca/grad/hrm/forms.htm>). The Education Plan will name the chosen committee members, summarize the student's thesis topic, indicate field of specialization, identify the Graduate Courses (M, D or EC) to be taken by the student, and provide the date of the first supervisory committee meeting. In the event of any change in the Education Plan, please submit the Education Plan - Addendum Form to the

HRM Program Office, HSC-2C1.

COMMITTEE MEETINGS:

Each HRM student is expected to meet with his/her Supervisory Committee **once every six months** unless the committee believes that more frequent meetings are necessary. A Supervisory Committee meeting may be particularly important if the student is having difficulties with their course work or research project. On these occasions, an extraordinary meeting can be called by either the supervisor or the student.

COMMITTEE REPORTS:

It is the responsibility of both the supervisor and student to ensure that Supervisory Committee meetings take place and are officially recorded by completing a PhD Supervisory Committee Meeting Report form which may be downloaded at: <http://www.mcmaster.ca/graduate/deptforms.html>. The original report form must be completed and delivered to the HRM Program Office, HSC-2C1 after each committee meeting. On the report, each committee member must indicate whether the progress made by the student respecting course work and thesis research has been 'excellent', 'good', 'marginal' or 'unsatisfactory'. Students must summarize their committee report on page 3 of the PhD form and submit it for the committee meeting. PhD students must have a committee meeting at least once during the academic year or the supervisor will be penalized in the amount of \$8,000 for the funding of that student or another student in a subsequent year. If an 'unsatisfactory' or 'marginal' rating is given by any one member, another committee meeting must be held within three months to re-assess the student's progress; the Assistant Dean – HRM may be invited to attend this meeting (as a non-voting member) at the invitation of either the student or the supervisor. If students remains rated as 'unsatisfactory' or 'marginal' by one or more committee members, the supervisor will confer with the Assistant Dean - HRM to decide what further course of action to take. The Graduate Calendar provides in Section 3.6 that a student whose work is unsatisfactory may at any time be required to withdraw from the University.

SUPERVISOR'S ABSENCE:

If the supervisor leaves the University temporarily, or is on extended research leave, or is required by the University to perform other duties which prevent effective supervision, the supervisor must make formal arrangements for an interim supervisor (usually another Supervisory Committee member) in consultation with the Assistant Dean - HRM. Written copies of this agreement will be given to the student, to Supervisory Committee members and to the Associate Dean of Graduate Studies (Health Sciences). If the supervisor leaves the University permanently, the supervisor is expected to arrange with the co-operation of the student, the Assistant Dean - HRM and the Associate Dean of Graduate Studies (Health Sciences), to transfer the supervisory duties permanently to another member of graduate faculty (usually a Supervisory Committee member).

In the event of pending retirement, the supervisor will nominate to the Associate Dean of Graduate Studies (Health Sciences) a graduate faculty member who is willing to accept formal responsibility for the supervision of the student. However, Emeritus Faculty may continue *de facto* supervision of their existing students. In special cases, for example that of early retirees, emeritus faculty may be permitted to accept new students or transfer their MSc students to the PhD stream, but only after recommendation by the Associate Dean of Graduate Studies (Health Sciences), and approval from the Dean of the Faculty and the Dean of Graduate Studies of an "Application for Post-Retirement Supervision of a Graduate Student"
<http://www.mcmaster.ca/graduate/deptforms.html>.

STUDENT GRIEVANCE:

Generally, if a graduate student is having a disagreement with another person(s) to the extent that present or intended studies/research are upset or interrupted, the student should seek advice from the thesis supervisor. If the conflict directly involves the supervisor, the student should then consult either another member of the Supervisory Committee or the Assistant Dean - HRM. In cases where disharmony exists between student and supervisor, an extraordinary meeting of the Supervisory Committee may be called by either the supervisor or student. The Assistant Dean - HRM may wish to initiate and attend the meeting on these occasions.

In rare cases where the conflict cannot be resolved informally by the involvement of the Assistant Dean-HRM, the University provides for formal mechanisms of appeal. Please refer to section 6.3 of the School of Graduate Studies calendar where the appeal procedures are described and directly at the Student Appeals procedure: <http://www.mcmaster.ca/policy/Students-AcademicStudies/StudentAppeal.pdf>

CHANGE OF SUPERVISOR:

It may be possible for a student to change his/her supervisor or the membership of her/his Supervisory Committee although this is rare. Changes to either supervisor or the Supervisory Committee are at the discretion of the Assistant Dean – HRM. A request in writing to change the supervisor may be made by the supervisor or the student to the Assistant Dean – HRM.

If a student feels that she/he is receiving unsatisfactory supervision, she/he should consult the Assistant Dean – HRM, or if the matter is not resolved by this consultation, the Associate Dean of Graduate Studies (Health Sciences) .

Refer to section 2.7 Supervision of the SGS Graduate Calendar:
http://academiccalendars.romcmaster.ca/content.php?catoid=4&navoid=191#2.7_Supervision

WITHDRAWAL FROM THE PROGRAM:

A student wishing to withdraw for personal reasons is expected to write a letter to the supervisor, the Assistant Dean – HRM detailing the reasons for withdrawal. A “Request for Change in a Graduate Student’s Status” form must be completed and is available at: <http://www.mcmaster.ca/graduate/deptforms.html>.

IV. GRADUATE COURSES

The courses you take should be planned with the help of your supervisor (and your supervisory committee, when formed). Students are required to complete the equivalent of one and one-half 700-level full courses, as the minimum course requirements. The specific recommended courses would depend on the student’s field of specialization, and their interest in exploring focused areas in depth. Please see the requirements for PhD degree completion on page 6 and the PhD curriculum requirements on page 7.

SGS 101 - ACADEMIC RESEARCH INTEGRITY AND ETHICS – and SGS 201 Accessibility for Ontarian with Disabilities Act (AODA) training are required modules for all graduate students. All graduate students including part-time students, must complete both SGS #101 and SGS #201. The HRM program requires registered students to complete the training modules before the last drop date in Term 1. **A graduate student may not obtain a graduate degree at McMaster without having passed this course.**

COURSE REGISTRATION:

Students must register for courses and add or drop courses in mosaic (<http://www.mcmaster.ca/mosaic/>). If students have completed all of their course requirements they must still access mosaic to register and select SGS 700 (if full-time) or SGS 701 (if part-time) to indicate that they are Research/Writing.

Refer to the SGS Graduate Calendar, section 2.6 for Graduate Course Work:

- i. Averaging of letter grades
- ii. Course levels and types
- iii. Course categories
- iv. Failing Grades and Incomplete Grades

ILLNESS OR UNAVOIDABLE ABSENCE DURING COURSE-WORK:

If a student is ill or legitimately absent (e.g. for personal or family reasons) prior to an examination or course deadline, please contact the **Course Coordinator** as early as possible, so that arrangements can be made for an extension or deferral.

The HRM Program Attendance Policy includes the following:

- Any absence must be due to a reasonable excuse that is exceptional and out of the control to some extent of the student (illness, death in family, special exams etc).

- One absence from a tutorial with a legitimate excuse is reasonable, 2 may be acceptable at the discretion of the instructor, but if you miss 3 or more tutorials you will not obtain credit for the course. You will be required to withdraw from the course before the last drop deadline or you will receive an 'F' in the course.

- Attendance is considered in the assignment of participation grades. In cases where participation is credited for each session, you will normally receive 0 for participation for any day you are absent.

Please note that student's should consult the course material for the specific attendance policy as this is the minimum requirement and each course may have additional requirements for attendance and participation.

V. Ph.D. COMPREHENSIVE EXAMINATION

All PhD students are required to pass a Comprehensive Examination as part of the requirements for a doctoral degree. For **complete details** please refer to the "**Health Research Methodology Graduate Program Comprehensive Examination Purpose And Procedure Booklet**" which is available from the HRM web site: http://fhs.mcmaster.ca/hrm/info_resources.html.

The comprehensive examination process has two educational components: a Ph.D. seminar of approximately 20 sessions, providing students with the opportunity to engage in broadly interdisciplinary learning, and an independent study, involving part time work over 10 months, to allow students to demonstrate their competence in an area of specialization. The Ph.D. seminar addresses the student's need to demonstrate breadth of learning, and the independent study empowers the student to demonstrate their depth of specialization.

Full-time students will complete both components of the exam in the second year of their Ph.D. studies. Part-time students may elect to spread the comprehensive examination process over years 2 and 3, completing the Ph.D. seminar and independent studies in alternate years, as appropriate. Failure to successfully complete the

Comprehensive Examination within two years of commencing the Ph.D. program for full-time students or by the end of the 36th month for part-time students, without approval of the delay by the HRM Board of Comprehensive Examiners, will require withdrawal from the program.

VI. Ph.D. THESIS REQUIREMENTS AND DEFENSE

For PhD students, the thesis may either take the traditional form or alternatively, be constructed around a core of papers published or submitted for publication (sandwich thesis). For either format, the entire length of the thesis must not exceed 300 type-written, double-spaced pages on letter-sized paper, **including** all figures, tables, references and appendices. The student should consult the booklet "**Guide For The Preparation of Theses**", published by the School of Graduate Studies available at the following web site: <http://www.mcmaster.ca/graduate/thesint.htm> which explains the style and format preferred by the School. Theses which do not comply with the regulations will not be accepted for defense. Please refer to the School of Graduate Studies Graduate Calendar for specific guidelines re the thesis examining committee: http://academiccalendars.romcmaster.ca/content.php?catoid=4&navoid=193#4.4_Thesis_ (section 4.4)

ETHICS PROPOSAL

Each student is expected to include in their graduate thesis a section (of varying length according to the research) addressing the ethical considerations associated with their project including ethical concerns about the hypothesis, question and findings, as well as the ethical issues related to the proposed methodologies.

It could be assumed that any faculty member with suitable expertise to supervise a student in a given topic would also be capable of providing guidance and support regarding the ethical considerations of the methodologies and subject area selected by the student. Where the supervisor feels added support would be needed this could be provided by a suitable alternative, without needing to be part of the supervisory committee in a formal way. Please direct any questions to Dr. Lisa Schwartz, Arnold L. Johnson Chair in Health Care Ethics and Associate Professor, Department of Clinical Epidemiology and Biostatistics (schwar@mcmaster.ca).

GUIDELINES FOR PREPARATION OF SANDWICH THESES (HRM policy statement approved at GPCC and updated based on the School of Graduate Studies Graduate Calendar)

A sandwich thesis consists of material that is previously published or prepared for publication as one or more journal articles or parts of books. Please refer to the SGS guidelines (http://graduate.mcmaster.ca/images/files/Guide_for_the_Preparation_of_Theses_May2011.pdf) for the School of Graduate Studies requirements, the clarifications here are not meant to replace the SGS guidelines but to clarify the sandwich thesis in the HRM context.

Process

1. All work contained in sandwich thesis papers must have been undertaken as part of the PhD research work. Work submitted for graduate courses or comprehensive exams is not eligible for inclusion in the main body of the thesis although these papers may be included as appendices if directly related to the research conducted for the thesis.
2. Permission to submit a sandwich thesis is required from the student's supervisory committee. The School of Graduate Studies should be informed that a sandwich thesis is in preparation at the time the "Nomination of an External Examiner" form is submitted. This information is necessary for advising the potential external examiner on the nature of the thesis.

Content of Thesis

1. Introductory Chapter that sets the context for the research, outlines the general theme and the overall objectives and the implications of the work. Why was this question important to answer?
2. A **minimum of 3 papers each in their own chapter**. These papers can be in any of the following formats and may vary from chapter to chapter:
 - a. a manuscript that is ready for submission for publication
 - b. a manuscript that is written in the form of a publishable paper but is ‘expanded’ to contain more details than the submitted paper would include. This option would apply, for example, when specific details of the methods appear in a referenced paper. To illustrate, in a paper ready for submission for publication, the reliability and validity of a data collection tool may be described briefly along with a reference to the paper that describes its psychometric properties in detail. In the ‘expanded’ version of the paper, the reliability and validity of the instrument would be described in detail so that examiners do not need to search out a secondary reference. After the oral defense, it is expected that preparation of the paper for submission should merely involve the shortening of these ‘expanded’ sections.
 - c. a manuscript that has been submitted for publication
 - d. a manuscript that has been accepted for publication
 - e. a published paper (if the paper is published, please refer to the School of Graduate Studies Guide for the Preparation of Theses for specific guidelines regarding whether to include the paper as it appears in the journal or as a printed copy of the word processing file and see the same guide for instructions for including copyright material in the thesis)

Note: the SGS guidelines, highlight that normally at least one of the papers must be published or in press at the time the thesis is submitted.

If there is multiple authorship of the separate articles, there must be a preface to the thesis that documents clearly the student’s contribution to each of the papers, and the student’s contribution to the originality of the work thereby clarifying in what way this work becomes the student’s thesis.

3. **Discussion Chapter** that draws out the overall conclusions and implications of the research **across** the papers and outlines how closely they support the thesis objectives.

The decision about which type(s) of paper to include in the thesis should be made in close collaboration with the thesis committee. For example, a thesis committee may insist that all papers be ‘expanded’ versions so that they can examine detailed aspects of the student’s research.

One advantage of not submitting the papers for publication before the defense is that the external examiner may make valuable suggestions at the oral defense that the student may want to incorporate into the papers.

If planning to prepare a sandwich thesis, please refer to the University Guidelines for specific details.

PROCEDURE LEADING TO PhD DEFENSE

The defense of the HRM PhD thesis is coordinated by the School of Graduate Studies. Please refer to the SGS website for the procedures and guidelines for completing your degree: <http://graduate.mcmaster.ca/current-students/completing-your-degree>, including:

- Thesis Defence FAQs
- Writing
- Defending
- Final Submissions
- Forms
- PhD Chair
- Timeline

- Contact information and where to go to for help

VII. ACADEMIC INTEGRITY

The HRM program is committed to the McMaster University policies and procedures regarding academic integrity. The integrity policy is available at <http://www.mcmaster.ca/academicintegrity>. The School of Graduate Studies requires all students to complete an online course regarding the integrity policy (SGS 101) and it is the student's responsibility to be familiar with the nature of academic dishonesty and the policies that govern the investigation and adjudication of academic integrity matters. When in doubt about the limits of collaborative work or acceptable conduct, the student should consult course coordinators or the Assistant Dean.