

POTH 612 APPLIED CLINICAL RESEARCH METHODS

Credits: 4

Pre-requisite: **(Recommended)** An introductory course in research methods and a course in intermediate level statistics or equivalent.

Lecturers: Jill Boruff, Heather Lambert, Nancy Mayo, Barbara Mazer, Anita Menon, Ana Maria Moga, Anik Nolet, Sneha Shankar, Judith Soicher

Course Overview: An intermediate-level research methods course to promote scholarly clinical practice, and to assist students in the design and implementation of their professional Master's project. This course will be delivered in a blended format, with sessions delivered either in-person or remotely.

Expanded Course Description: This course consists of lectures, interactive exercises, and workshops targeting different aspects of research design and methods. Sessions cover foundational principles of research design, writing a research proposal, formulating research objectives, aligning the background and methods with the objectives, sample selection, data collection and measurement, and data analysis. In collaboration with their Master's project supervisor, students will be self-assigned to lectures on specific types of research design (quantitative, qualitative, knowledge translation, or systematic/scoping reviews) and data analysis (quantitative or qualitative), according to the knowledge and skills required for their project.

Course Structure: The course is divided into three parts, as described below. Each week, there will be two 1.5-hour sessions. There will also be a 3-hour workshop period each week to cover specific topics, or for you to work on your research project or course assignments, with course instructors available to answer questions. Zoom breakout rooms will be used for small group meetings and activities.

Part 1: Getting Started - The first 6 weeks of the course will take place entirely online via Zoom, and will consist of pre-class recordings, live lectures and interactive exercises, and workshops.. These sessions will allow students to acquire the foundational knowledge and skills to begin planning their project and writing their research proposal. The first project workshop takes place during this part of the course. **Student groups must meet with their Master's Project supervisor before the fourth week of classes, in order to start planning the research project.**

Note: There are no classes in POTH 612 during week 7 (study break, Oct 10-14) and week 8 (Oct 17-21). This time will be used to prepare for Part 2 of the course.

Part 2: Developing the Project - During weeks 9-11, each student will attend a series of six 1.5-

hour sessions within one of four research design streams (quantitative, qualitative, knowledge translation, scoping and systematic reviews). Each student self-assigns to one design stream, in consultation with their Master's project supervisor. The second project workshop takes place during this part of the course.

Note: There are no classes in POTH 612 during week 12 (Nov 14-18) and there is no class on Monday Nov 21. This time will be used to prepare for Part 3 of the course.

Part 3: Selecting a Data Analysis Strategy – During weeks 13-15, each student will attend two to three 1.5-hour sessions within one of two analysis streams (quantitative or qualitative). Each student self-assigns to one analysis stream in consultation with their Master's project supervisor. The third project workshop takes place during this part of the course.

Message from POTH 612 Instructors: The instructors are committed to fostering a supportive and inclusive learning environment, and we have refined the course content and delivery methods with that goal in mind. If you encounter difficulties with any aspect of this course, please do not hesitate to contact us so we can work together to address the situation. We also encourage you to take advantage of the many teaching and learning resources available to McGill students through [Teaching and Learning Services](#).

Expectations for Student Participation: It is expected that students participate, to the best of their ability, in large- and small-group class activities. During remote sessions, this can be done through either audio or chat functions in Zoom. In advance of all sessions, it is expected that you read or listen to assigned materials, which are outlined in the checklist on the course schedule. It is also expected that you contribute to the class discussion or exercises. Your participation will greatly enhance the value of the sessions and your overall learning.

Session Recordings: You will be notified through a 'pop-up' box in Zoom when a lecture or portion of a class is being recorded. By remaining in sessions that are recorded, you agree to the recording and you understand that your image, voice, and name may be disclosed to classmates. You also agree that recordings will be made available in myCourses to students registered in the course.

If you are not comfortable being in a class that is recorded, you may decide to not take part by logging off Zoom. Instructors will make class video recordings available on myCourses so that students who log off will be able to watch the recording. **In-person classes will not be recorded.**

Learning Outcomes: This course will cover essential OT/PT competencies and milestones related to the roles/domains of scholarship, communication and collaboration. Upon completion of this course, the student will be able to:

Learning Outcomes	OT Role*	PT Domain** (milestones)
Part I – Getting Started		
Describe the overall phases and steps in the research process.	Scholarly Practitioner	Scholarship (6.2.5)
Understand the elements of a research proposal and how to customize the proposal for a specific research project.	Scholarly Practitioner	Scholarship (6.2.5)
Understand the purpose, components, and formulation of research objectives to answer clinical or research questions that will contribute to evidence-based practice.	Scholarly Practitioner	Scholarship (6.2.2)
Carry out a comprehensive literature review on a topic pertaining to rehabilitation research or practice, using recognized databases and other credible resources.	Scholarly Practitioner, Communicator	Scholarship (6.2.3) Communication (2.4.2)
Appraise text by applying principles of scientific writing.	Communicator	Communication (2.2.1)
Describe the features of different quantitative study designs.	Scholarly Practitioner	Scholarship (6.2.5)
Understand the concepts related to maximizing the quality and validity of quantitative studies.	Scholarly Practitioner	Scholarship (6.2.5)
Understand the principles and types of measurement instruments, and their selection and implementation for clinical or research purposes.	Scholarly Practitioner	Scholarship (6.2.5)
Appraise qualitative research according to established principles of methodological rigour, trustworthiness and ethics.	Scholarly Practitioner	Scholarship (6.2.5)
Understand the role of knowledge translation for informed decision-making, clinical practice, and research in rehabilitation.	Scholarly Practitioner	Scholarship (6.1.1, 6.2.6)

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Learning Outcomes	OT Role*	PT Domain** (milestones)
Part I – Getting Started (continued)		
Understand the importance of systematic and scoping reviews to clinical practice.	Scholarly Practitioner	Scholarship (6.1.1)
Identify the key elements of systematic and scoping reviews.	Scholarly Practitioner	Scholarship (6.1.1)
Understand ethical principles and procedures related to clinical research, and describe the ethical considerations specific to the Master's Project.	Scholarly Practitioner	Scholarship (6.2.1)
Overall learning outcomes are listed below for Parts 2 and 3. Each instructor will provide additional objectives customized to their topics.		
Part 2 – Developing the Project (Quantitative, Qualitative, Knowledge Translation, or Systematic/Scoping Reviews)		
Integrate the theoretical principles, practical considerations, and potential biases of specific research methodologies into the development of the Master's research project.	Scholarly Practitioner	Scholarship (6.2.2, 6.2.3, 6.2.4, 6.2.5)
Formulate clear and operational research objectives for the Master's Project.	Scholarly Practitioner	Scholarship (6.2.2)
Write a comprehensive background that integrates findings from the literature review and that includes the rationale for the study.	Scholarly Practitioner Communicator	Communication (2.2.1, 2.3.1, 2.3.3)
Describe the study sample and recruitment procedures. or Describe information sources and how these sources will be selected or critically evaluated (e.g. articles in systematic/scoping reviews).	Scholarly Practitioner	Scholarship (6.2.5)
Select or develop instruments to measure, record or extract data.	Scholarly Practitioner	Scholarship (6.2.5)
Describe procedures for data collection and management.	Scholarly Practitioner	Scholarship (6.2.5)

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Part 3 – Selecting a Data Analysis Strategy (Quantitative or Qualitative)		
Select and describe methods of quantitative or qualitative data analysis, using the appropriate descriptive, inferential or interpretative methods based on the research question and type of data.	Scholarly Practitioner	Scholarship (6.2.5)
Write a formal research proposal for the Master's Project, suitable for submission to a Research Ethics Board.	Scholarly Practitioner, Communicator	Scholarship (6.2.5) Communication (2.2.1, 2.3.1, 2.3.2, 2.3.3)
Prepare written documentation reflective of growing competence in both professional and scientific communication.	Communicator	Communication (2.2.1, 2.3.1, 2.3.2, 2.3.3)
Use relevant information technologies, (e.g. databases and electronic journal databases), to create citations and a bibliography.	Communicator	Communication (2.4.2)
Work collaboratively in research teams, including other students and a faculty supervisor. Teams may also include a clinical supervisor, research assistant, or PhD student.	Collaborator	Collaboration (3.3.3, 3.3.4)

*Refer to the *Profile of Occupational Therapy of Practice in Canada* for a full description of each professional role (<https://www.caot.ca/document/3653/2012otprofile.pdf>)

**Refer to the *2017 Competency Profile for Physiotherapists in Canada* for full description of each numbered milestone (https://physiotherapy.ca/sites/default/files/competency_profile_final_en.pdf)

Course Content: Detailed content and specific learning objectives will be distributed at the beginning of each part of the course, where applicable. A brief synopsis of the course content is presented below.

PART 1: Getting Started – Research Plan, Proposal and Principles

Overview of the course content and schedule; overview of the Master's research project; development of the research proposal; literature search workshop; scientific writing workshop; overview of quantitative, measurement, qualitative, systematic review, knowledge translation, and ethics. *This material will be evaluated by an assignment (submitted by Master's project group) and a midterm examination (individual).*

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PART 2: Developing the Project Objectives, Design and Methods

This part of the course covers the following topics, which are customized according to the self-assigned research design stream (quantitative, qualitative, knowledge translation, or systematic/scoping reviews):

- Formulating the Research Objectives
- Study Design
- Selecting the Sample or Information Sources
- Data Collection and Measurement

PART 3: Selecting a Data Analysis Strategy

This part of the course covers topics in data analysis, which are customized according to the self-assigned analysis stream (quantitative or qualitative).

Parts 2 and 3 of the course will be evaluated by two assignments: 1) a draft version of the research proposal and 2) the final written research proposal in a format suitable for submission to a research ethics board. Both assignments are submitted by the Master's project group.

Required Course Materials: The Evidence-Based Practitioner (eBook 2016) by Catana Brown, available at <http://mcgill.worldcat.org/oclc/972291423> from the "View eBook" link.

Each instructor will also provide students with a list of recordings, articles and/or chapters specific to lecture topics. Readings from the following textbooks may also be assigned:

- Butler-Kisber, L. (2010). Qualitative Inquiry: Thematic, Narrative and Arts- Informed Perspectives, Sage Publications Ltd.
- Portney, L.G. & Watkins, M.P. (2008). Foundations of Clinical Research: Applications to Practice. Pearson Prentice Hall. Also available as an e-book.

Copyright of course materials: Instructor generated course materials (e.g., powerpoint slides, recordings, handouts, notes, summaries, exam questions, etc.) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor. Note that infringements of copyright can be subject to follow up by the University under the Code of Student Conduct and Disciplinary Procedures.

Use of Polling: Polling will be used in this course to enhance engagement and increase interaction among students and instructors. During a class with polling questions, you will respond to questions from the instructor from a personal device (smartphone, tablet, or laptop). Students should come to the class session with their devices charged and [connected to the Internet](#). Instructors may use the polling feature in Zoom or a new tool called Slido. Note that Turning Point is no longer supported.

- To log in: go to [Slido](#), click the **Log in** button on the top-right section of the page, select **Log in with Webex**, and enter your McGill credentials
- Learn more about Slido by watching the video tutorials available in the [Teaching & Learning KB](#)

Student Evaluation and Mark Distribution: Evaluation of learning will be ongoing throughout the term and will include both formative and summative evaluations.

	Assignment/Evaluation	Value	Due Date
Part I – Getting Started	Midterm exam	25%	October 6-9
	Assignment 1	15%	October 14
Part 2 – Developing the Project and Part 3 – Selecting a Data Analysis Strategy	Mid-point course and self evaluation	5%	November 18
	Assignment 2	15%	November 16
Part 4 – Finalizing the Proposal	Research Proposal	40%	December 7

The individual evaluation components are a midterm examination at the end of Part I of the course, and a mid-point course and self-evaluation during Part 2. Assignments will be completed in the Master's project groups. The group assignments include an initial plan of the research objectives, background, and outcomes (assignment 1), a draft version of the proposal (assignment 2), and the final written research proposal. Guidelines for the midterm exam, assignments, and research proposal will be provided.

This course falls under the regulations for individual and group evaluations. In any course which comprises both individual and group evaluation components, each student must achieve a passing grade of B- (65%) in each component, as well as in the overall course, in order to receive a passing grade for the course. If the overall course mark is a failure, the student may be permitted to write a supplemental exam in this course or retake the course.

If the overall course mark is a pass but one component is a failure, the course mark is withheld from the record. The student must undertake remedial work in that failed component and successfully pass an evaluation of that additional work. If the additional work is successfully passed, the original final course mark is then recorded. For further details, please refer to the Master's Student Information Rules and Regulations document at https://www.mcgill.ca/spot/files/spot/master_of_science_applied_in_physical_therapy_rules_and_regulations_2022-23.pdf

Plagiarism/Academic Integrity: McGill University and the Faculty of Medicine and Health Sciences value academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the [McGill University Code of Student Conduct and Disciplinary Procedures](#) and the [Faculty of Medicine and Health Sciences Code of Conduct](#)

L'université McGill et Faculté de Médecine et des Sciences de la Santé attachent une haute

importance à l'honnêteté académique. Ils incombent par conséquent à tous les étudiants de comprendre ce que l'on entend par tricherie, plagiat et autres infractions académiques, ainsi que les conséquences que peuvent avoir de telles actions, selon le [Université de McGill Code de conduite de l'étudiant et des procédures disciplinaires](#) et [Faculté de médecine et des sciences de la santé](#).

Additional policies governing academic issues which affect students can be found in the Academic Rights and Responsibilities.

<https://www.mcgill.ca/students/srr/academicrights>

Language of Submission: In accordance with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

Conformément à la Charte des droits de l'étudiant de l'Université McGill, chaque étudiant a le droit de soumettre en français ou en anglais tout travail écrit devant être noté (sauf dans le cas des cours dont l'un des objets est la maîtrise d'une langue).

Dress Code: Students are expected to demonstrate professional behaviour and wear appropriate attire at all times.

Technology in Class: Your respectful attention is expected during class sessions, therefore it is understood that you will not be using your laptop or cell phone for social purposes during this time (e.g. email, msn, sms, social media). Your cell phone should be on silent during class time and phone calls should only take place during the break or after class.

Inclusive environment: The instructors of this course endeavor to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with the instructor in question and the [Student Accessibility and Achievement](#), 514-398-6009.

In the event of extraordinary circumstances beyond the University's control, the content, mode of delivery, and/or evaluation scheme in this course is subject to change.

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