POTH 624 MASTER'S PROJECT

Credits: 6

Coordinator: Barbara Mazer, BSc(OT), PhD (Co-coordinator)
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Course Structure: Team Projects (typically four or five students per project) will be supervised by Faculty and Clinical Supervisors.

TIME FRAME: Fall M1 – End of Summer M2

General course requirements: Course content within the Advanced Research Methods course will include information and assignments related to the conduct of the individual research projects, when possible. Class sessions will take place throughout the year and content may include the following:

- U3/QY April: information session to discuss project execution
- M1 September: orientation to the course, including guidelines for submission to a Research Ethics committee, project development and requirements
- M1 Fall within POTH 612: one block on development of a protocol for the project will specifically target methodology related to protocol development and requirements for submission to Research Ethics Committee. Other blocks will provide information on research methodology, analysis, etc.

Specific course requirements: Each team will be required to meet with their Supervisor(s) consistently over the year:

- Development of an action plan, complete agreement forms (September, M1)
- Project progress report(s) (October-December, M1)
- Completion of documents for ethics submission (December, M1, at end of POTH-612, and submission by February-March, M1)
- Project progress report(s) (March-April, M1)
- Team meetings during data collection period, as necessary; approximately once per month (May-July, M2)
- Submission of rough draft of paper, in article format, for a specific journal (end July, M2)
- Final Paper, including Individual Component (end of August, M2)
- Oral Presentation (end of August, M2)

Purpose and Objectives:

The purpose of this Master's project is to conduct a scholarly piece of work that yields information related to rehabilitation. The specific goal for the student is to develop research knowledge and skills that are clinically relevant.

Upon completion of this course, the student will be able to:

1. Design a research question that is pertinent to rehabilitation or to the development of a clinical program
2. Conceptualize a project that is pertinent to rehabilitation
3. Conduct a research study that yields information related to rehabilitation, and that can be presented at national or international conferences, and/or is suitable for publication in a clinically related journal.

Examples of Project Categories:

1. **Survey**: Plan and conduct a survey of students, patients, informal caregivers, health professionals and others on a topic related to rehabilitation
2. **Qualitative Study**: a proposal that would include rationale, literature review and methods for qualitative research of a question relevant to rehabilitation that may include collection and/or analysis of data in a limited scope (preliminary focus groups etc).
3. **Clinical Practice Guidelines (CPG)** Take existing clinical guidelines, or a critical care map for a specific condition, and review and update supporting evidence in a formal written recommendation for practice that includes a full and documented rationale.
4. **Program Evaluation**: In collaboration with a clinical department, plan an evaluation of a specific program that might include development of a survey, analysis of pre-existing data sets, development of data sets, review of the literature, case studies or preliminary data.
5. **Systematic Review**: Systematically examine the research related to a specific clinical question using a defined protocol and criteria for evaluation, review the evidence on a topic, and prepare your findings for publication and presentation.
6. **Knowledge Translation**: Develop a website or CD module related to rehabilitation for use by patients, caregivers, teachers or health professionals. Develop a teaching aid for patients, caregivers, or health professionals.
7. **Measurement Development**: Evaluate the psychometric properties of a measure or tool used in the practice of physical or occupational therapy. May include a small pilot study requiring data collection and/or data analysis.
8. **Quantitative Study**: Development and implementation of research methodology, and collection and analysis of data to answer a specific research question.

Relationship to Core Competencies in Physiotherapy: Over the course of the research project, the student will meet the following objectives related to the core competencies for physiotherapists[1] in clinical practice.

Communicator

1. When indicated, produce a written application to be submitted to a research ethics board that effectively communicates the objectives, methods, and ethical implications of the research project.
2. Produce a written research report that effectively communicates the rationale, methods, results and conclusions of the research project, as well as the implications of these findings.
3. Give an oral presentation of the rationale, methods, results and conclusions of the research project, as well as the implications of these findings, to clinicians and other stakeholders at the clinical site where the project is conducted (or, when not conducted at a clinical site, for another appropriate audience).
4. Give a brief oral presentation, summarizing the main findings and implications of the research project, to their peers and faculty members.
5. For 2 and 3, make appropriate use of slides and/or other visual tools to support the oral presentation

Collaborator

6. Work collaboratively with a faculty supervisor, clinical supervisor, and other physiotherapy (and/or occupational therapy) students for each aspect of the research project.
7. When indicated, work collaboratively with clinical supervisor, and other clinicians, at the site where the project is conducted, to recruit volunteer participants for the research project.

Manager

8. Effectively manage the timeline of the research project to meet specific deadlines outline in the "Timeline for project completion", below.

[1] Essential Competency Profile for Physiotherapists in Canada, October 2009.

Scholarly practitioner

9. Understand and apply the principles of research methodology.
10. Critically evaluate the quality of scientific evidence from the literature.Participate in the formulation of a clinically-relevant research question.
11. Actively collaborate in clinical research design and implementation.
12. Depending on the nature of the research project (see "Examples of Project Categories", above) the student may be required to:
    a. Synthesize available evidence for a clinical assessment or treatment approach
    b. Understand the principles of, and their role in, knowledge translation.
    c. Produce a plan to integrate research findings into practice.
    d. Promote evidence-informed approaches to practice.
    e. Select optimal assessment methods and outcome measures, and promote the incorporation of these into practice.
    f. Participate in program evaluation and quality assurance activities.

Professional

13. Contribute to the development of the profession, by sharing knowledge and experience with other members of the profession through an oral presentation of the rationale, methods, results and conclusions of the research project, as well as the implications of these findings, at the clinical site where the project is conducted.

Required Text: No specific text is required. Students are expected to read information relevant to their specific topic and to the methodology used.

Student Assignment and Evaluation: There is a written and oral part to the evaluation; the written portion is worth 70% (Report: 50%; Individual component 20%) and the oral portion is worth 30%. The project must include at least 10 of the 33 learning objectives listed below. In addition, the following are required:

- Attendance and active participation at group meetings
- Summary reports of the group meetings and key decisions
- Each participant will have to write an additional component independently; this will be graded separately.
- Attendance at class meetings for POTH 624

Students must successfully pass the 3 parts of the evaluation; the written report, the individual component, and the oral presentation.

The **oral presentation** must be done at the clinical site where the project is conducted or for any other appropriate audience. The presentation takes place at the end of August and should be approximately 30-35 minutes long. There should also be time for a question and answer period.

The **written report** is written as a manuscript for submission to a scientific journal for publication, if applicable. This will provide an experience of writing for publication and will facilitate submission to a journal. It should include all sections that would normally be in an article (abstract, introduction, literature review, methods, results, discussion, tables and figures). If this is not appropriate (e.g. design of a clinical program), then the project should be written as a research report. In all cases, an abstract must be included. The written report is due before the beginning of the M2 clinical placements; date must be confirmed with the Faculty supervisor.

The **individual component** is required. The aim is to enable each student to demonstrate their knowledge of the material and integration of the findings. Each student may select a topic of interest to them that is related to the research project; it can be an overall discussion of the results, a more in-depth discussion of a particular aspect of the results, methodology, measurement, or clinical implications of the study. Topics must be approved by the Faculty supervisor.

Faculty supervisors are responsible for evaluating all aspects of the project. The grade reported on the student transcript is either a Pass or Fail and Supervisors must submit the final grade to the Course Coordinators at the completion of the project. Supervisors are required to provide feedback throughout the project as well as on the final written report and the presentation. The following guideline may be helpful for feedback purposes:

Written Presentation (70%)

- Introduction (research question, rationale)
- Background / literature review
- Methodology
- Results
- Discussion
- *Individual component (as determined by the supervisors) 20%
- General presentation (quality of language, organization of text)

Comments:

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TOTAL: /70

Oral Presentation (30%)

Visual presentation

- Appropriateness of material (tables, figures, etc.)
- Quality of language
- Organization of information and overall appearance

Oral presentation

- Selection of important aspects of project
- Demonstration of knowledge
- Clarity of presentation
- Capacity to answer questions

TOTAL: /30

Comments:

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Learning Objectives/Evaluation Criteria

Must meet a minimum of **10** of **33** learning objectives, including the 5 marked "required"

INTRODUCTION / BACKGROUND	
Formulate a research question / program objective	Required
Conduct a literature search	Required
Review the literature (overview of the literature)	Required
Extensive and critical review of the literature	
Develop background information supporting research question/program	Required
Present/ apply a theoretical model of the relationships under study	
Conduct a systematic literature review	
METHODOLOGY/ DATA COLLECTION	
Choose measures to answer the question / evaluate clinical program	
Develop a measure	
Develop or refining a questionnaire	
Test the measurement properties of a measure or questionnaire	
Write a consent form/prepare documents for ethics committee	
Develop clinical program plan	
Develop promotional or educational material for clinical program	
Implement clinical program	
Evaluate clinical program	
Recruit subjects into a research study	
Collect data through interviews / physical tests / focus groups	
Manage and co-ordinate study	
Choose a design to answer the question	
Create a computerized method of managing the data (database design)	
Enter data into a computerized data base	
Verify accuracy and completeness of data	
RESULTS AND ANALYSIS	
Manipulate data to create new variables	
Calculate descriptive statistics	
Perform basic inferential statistics (e.g. t-tests, Chi-square tests, etc.)	
Use complex statistical models	
Perform basic qualitative analyses (e.g. categorizing and contextualizing, reflexivity, transparency, constant comparison, etc.)	
Perform complex qualitative analyses (e.g. ethnography, art-based analyses, etc.)	
PRESENTATION OF RESULTS AND CONCLUSION	
Interpret results from statistical or qualitative analyses / systematic literature review	
Create tables to present results	
Create graphs of results	
Create PowerPoint presentation for conference or clinical rounds	Required
Write article for journal publication	

Project Selection Process

A list of projects is available for selection by each student in late May (M1). The students will attend an orientation meeting where the projects will be briefly described and the selection process explained to them. Each student will select 5 projects that are of interest to them. Prior to the first week of school in September, the project teams will be announced.

***NB*: Students must select a project that is identified as being within their discipline (PT or OT) or interdisciplinary (PT and OT). Faculty and Clinicians will identify how many OT and PT students are required for each project**

The projects will be selected from a list of projects put forth by clinicians and faculty, and the final selection will be determined by the breadth and diversity of the projects as well as the balance for Occupational and Physical Therapy students.

The Advisory Committee

Students will develop their group projects under the direction of their Project Advisory Committee and the coordinator of the POTH 624 course. The committee will be made up of a Supervisor from the Faculty of SPOT, and a clinical supervisor/consultant, if applicable.

Specific Duties

Primary Faculty Supervisor: The primary faculty supervisor provides advice and assistance in refining the research question (with the clinical consultant), that will be developed by the student group, into a research project. The supervisor is responsible for the following:

- Ensuring necessary procedures with respect to permission, ethics, institutional and academic requirements are met
- Reading and commenting on progressive documents of the project
- Assisting with arrangements for research committee meetings
- Attending research committee meetings and the final research day presentation
- Grading of the project
- Liaising with any outside consultants or agencies required for completion of the project

Clinical Supervisor/ Consultant: If appropriate, a health care professional (Physical Therapist, Occupational Therapist, Physician, etc) in rehabilitation or other area of service delivery, will be appointed as a clinical supervisor to assist in the development and completion of the project. S/he will serve as an advisor and will contribute to the evaluation of the completed project. The role of the clinical consultant will include reading and commenting on progressive documents of the project, attending relevant research meetings and the final research day presentation.

Timeline for project completion

August -September M1

- Selection of projects completed
- POTH 612: selection of blocks
- Meeting 1 with Advisory committee

September M1-December M1

- Initial work on research projects (e.g. literature review, ethics proposal, etc)
- Meetings with advisors, development of project in conjunction with assigned modules in POTH 612; organize paper work for scientific review and ethics (where necessary)
- Final requirement for POTH 612 includes completing a concept map for the project, conducting and writing up a short literature review (2-3 pages), a brief research proposal including a summary of the methods, and a timeline of the project (preparation for ethics submission)

March-April M1

- Meeting with Supervisory committee to evaluate progress, finalize plan for data collection, target goals for winter semester, and to complete Ethics forms if necessary
- Present project to Ethics Committee where necessary and make corrections as required

May – July M2

- Conduct the project/ Data collection
- Meetings with Advisory Committee to discuss progress, present and discuss results, and prepare written report and presentation

August M2

- Writing of final report (journal article) (50%) and individual component (20%) [Total= 70%]
- Submission of abstract to McGill
- PowerPoint presentation to be presented at the clinical site (30%)
- Short presentation (7 minutes + 2 minutes for questions) at McGill during Research Presentation Day (no grade) (Date to be determined)
    - Determination of award winners
- Evaluation of projects: oral and written

Funding:

Each project has a budget of $250 to be used toward expenses related to the project. **Receipts must be retained** in order to be reimbursed. At the end of the project, the faculty supervisor should reimburse the students for any expenses they incurred and they then can submit their receipts to McGill. Only faculty may submit receipts for reimbursement.

Literature Review:

All groups must use the program Endnote for their literature searches and literature review. This program will facilitate keeping track of the literature and recording of the references in the written report.

Website

The abstracts of all Masters Research projects will be uploaded onto the McGill School of Physical and Occupational website.

Guidelines for Time Commitment for Working on the Project and For Summer Vacation:

All students must plan to be available to work on their project approximately **35-40 hours per week with at least 25 hours available during weekday daytime hours** (Monday-Friday 8-5) in order to work together with their team supervisors, and to complete the tasks that must be done during the work day (meeting with staff, doing data collection, etc).

Each student is entitled to **2 weeks of vacation** over the 4 months of summer (May-August). The timing of this vacation must be approved by the Faculty Supervisor as well as the other students in the group to ensure that their absence will not affect the progress of the project.

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

Special Requirements for Course Completion and Program Continuation:

In order to pass the course, a grade of at least B- (65%) must be obtained as a total course mark. Students must pass the each of the three parts of the evaluation: the oral presentation, the written report, and the individual written component.

Plagiarism/Academic Integrity: [Amended by Senate on April 17, 2013]**:** McGill University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures.
L'université McGill attache une haute importance à l'honnêteté académique. Il incombe 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 Code de conduite de l'étudiant et des procédures disciplinaires.

Dress Code: Professionalism with respect to dress is required throughout the course of the semester. It is each student's responsibility to have appropriate attire during all class assignments and learning activities.

Right to submit in English or French written work that is to be graded: In accord 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).

Disability: If you have a disability please contact the instructor to arrange a time to discuss your situation. It would be helpful if you contact the Office for Students with Disabilities at 514-398-6009 before you do this."

Technology in Class: Your respectful attentive presence is expected, therefore while you are permitted to use your laptop in class, it is understood that you will not be using your laptop or cell-phone for social purposes during class time (e.g. email, msn, sms). Your cell phone should be on silence during class time and phone calls should only take place during the break or after class.