

# School of Physical and Occupational Therapy



B.Sc. (REHABILITATION SCIENCE); MAJOR IN PHYSICAL THERAPY:
COURSE GUIDE 2011-2012

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# I. B.Sc. (Rehabilitation Science), Major in Physical Therapy

## A. Important Dates

#### **FALL 2011**

June 9 – September 13 U1 Registration period

April 5 – September 13 U2 Registration period

March 31 – September 13 U3 and QY Registration period

September 1 Classes officially begin

September 13 Course add/drop deadline

December 7 Study day Wednesday

December 8 Exams begin

December 22 Classes and Exams end

#### **LEGAL HOLIDAYS**

September 5 Labour Day

October 10 Thanksgiving Day

#### **WINTER 2012**

January 9 Classes begin

January 18 Course add/drop deadline

February 20 - 24 Study Week

April 16 Classes end Monday

April 14 & 15 Study days Saturday and Sunday

April 17 Exams begin Tuesday

April 30 Exams end Monday

#### **LEGAL HOLIDAYS**

New Year's Day Sunday

January 1 (Administrative offices will be closed

Monday January 2)

April 6 Good Friday

April 9 Easter Monday

# B. Curriculum Plan 2011-2012: Courses given within School of Physical and Occupational Therapy

PT Seminars	3cr
Introduction to Professional Practice	3cr
Neurophysiology	3cr
Musculoskeletal Biomechanics	3cr
(previously Biomechanics of Injury)	
Research Methods	3cr
PT Orthopedic Management	7cr
PT Neuro Rehabilitation	4cr
Strategies in PT Professional Practice	3cr
Integrated Ortho Management	7cr
Integrated Neuro Rehabilitation	5cr
Cardiorespiratory Rehabilitation	4cr
	Introduction to Professional Practice  Neurophysiology  Musculoskeletal Biomechanics (previously Biomechanics of Injury) Research Methods  PT Orthopedic Management PT Neuro Rehabilitation Strategies in PT Professional Practice  Integrated Ortho Management Integrated Neuro Rehabilitation

# C. Course Guides

The following course guides are meant to provide an overview of each course. Please be sure to confirm course details with the appropriate course instructor or coordinator at the start of the term.

#### PHTH 245 PHYSICAL THERAPY SEMINARS

Credits: 3

#### **Instructor/ Coordinator:**

Crystal Garnett, M.Sc. PT Office: Davis House Room 311 Office hours: by appointment 514-398--4400 ext. 09678 crystal.garnett@mcgill.ca

**Course Description:** Introduction to physical therapy and its domains of practice through interactive seminars.

**Expanded Course Description:** Students will be introduced to physical therapy through interactive seminars, site visits and practicum at the simulation center. Physical therapists from diverse clinical fields and areas of research will present their contribution to promoting the health and well-being of individuals across the life span.

Course Structure: The course comprises 3 hours per week. A variety of formats will be presented including lectures, site visits, practical sessions, small group participation and seminars with guest speakers (clinicians, researchers, beneficiaries and students with international clinical experience). On several occasions, classes will be combined inter-professionally with the occupational therapy students.

**Overall Objective:** Students will understand the role of the physical therapist in various rehabilitation settings including the role of team member within a multidisciplinary and an interprofessional health care team. Students will recognize domains of practice and the contribution of the PT to health and wellbeing. Students will participate in the building of a professional identity through active involvement in teaching and learning environments.

**Learning Outcomes:** On completion of this course the student will be expected to:

- 1. Describe:
- Physical therapy principles and practice
- Physical therapy practice guidelines and performance
- The importance of health promotion and wellness
- Professional accountability
- 2. Understand:
- Specific perspectives of the PT in patient care, including inter-professional practice and client and family-centered care
- Common ethical, personal, and professional issues that arise in physical therapy practice
- The role of the PT in motivating and educating patients for self- management
- 3. Demonstrate adequate competency in:
- Collaborative effective communication
- Observational skills
- Interviewing skills
- Teaching and learning principles (Identifying, summarizing and communicating new knowledge)
- Understanding and respecting others' values and beliefs
- Cultural diversity and discrimination issues
- 4. Compare and contrast the role of PT in various settings using evidence to support findings.

**Course Content:** Through seminars and group work, students will be introduced to the role of physical therapists in the Quebec health care system. Physical therapists from various fields and persons who have received PT interventions will be invited to present.

Students will be exposed to various learning environments used to prepare active participation in a seminar. These techniques will address issues pertaining to a) preparation prior to attendance, b) observations of clinicians in practice, c) active listening during the seminar, d) asking pertinent and clear questions immediately following the seminar, e) identifying new knowledge obtained through the seminar, and f) applying new knowledge.

Students will also be exposed to aspects of professionalism and professional practice in physical therapy including a) teaching and learning strategies, b) professional issues, c) professionalism and ethics, d) interviewing.

Course Materials: WebCT

#### **Student Assignment and Evaluation:**

	Assignments	Value %	Due date
#1	Reading Assignment & Quiz	5%	September 16 <sup>th</sup> 2011, at 5 pm
#2	Journal entry	15%	Nov 21 <sup>th</sup> 2011, at 5 pm
#3	Communication exercise	30%	Dec 5 <sup>th</sup> 2011, at 5 pm
#4	Final Exam	50%	During Exam period (TBC)

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 C+ (60%) must be obtained as a total course mark. Please refer to Section 3.6 Examinations, of the 2011-2012 McGill University Health Sciences Calendar for information on University regulations regarding final examinations and supplementals.

This course falls under the regulation concerning individual and group evaluation. Please refer to the section on marks in the Rules and Regulations.

**Plagiarism/Academic Integrity**: 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. For more information please refer to:

www.mcgill.ca/files/integrity/Code\_of\_Student\_Conduct.pdf

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

**Attendance**: Attendance at all classes is expected. A student who misses in excess of 10% of compulsory seminars or site visits will lose 10 marks on the final course mark.

**Right to Submit in English or French**: 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, except in courses in which acquiring proficiency in a language is one of the objectives.

Consequences of Not Completing Assignments as Requested: Late submissions will be penalized 5% per day, including weekends. Papers must be submitted before 5 p.m. on the due date.

**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 398-6009 before you do this.

#### POTH 250 Introduction to Professional Practice

**Credits**: 3 credits

**Prerequisites:** Successful completion of OT Seminars OCC1 245 or PT

Seminars POTH 245.

**Instructors:** Marie-Eve Bolduc, OT, M. Sc. Crystal Garnett, PT, M. Sc.

Office: Hosmer 303B Davis Room 311

(514) 398-1021 (514) 398-4400 ext.09678 marie-eve.bolduc@mcgill.ca crystal.garnett@mcgill.ca

Please make appointments by email.

**Day, place and time of classes**: This course will be offered once a week for 3 hours/week for 13 weeks or equivalent. The course is scheduled on Mondays from 14h30 to 17h30 in room LEA COCK 232, except for massage labs, in which students will be placed <u>in one of four groups</u>: see WebCT for group schedules.

Course description: This course introduces students to the fundamentals of professionalism and professional behaviour. Students will be introduced to the principles of massage and therapeutic touch, and will learn the basic skills necessary to conduct a profession specific initial interview. Students will practice these interviewing skills during four weekly-visits with a client in the community, and will reflect upon their experiences through journal writing. Other topics addressed in this course include cultural competence and its application to clinical practice, patient /therapist relationship, and web searching

**Course Structure:** This course will incorporate three (3) hours a week of lectures and small group discussions seminars. This course is offered in U1 winter term.

**Learning Objectives:** By the end of this course the student will:

- List and define the principles of professionalism in health care.
- List and define the major principles of cultural competence and how they apply to various client scenarios.
- Identify the roles that occupational and physical therapists play in primary health care.
- Visit an elderly client 4 times throughout the duration of the course.
- Apply basic literature search principles.
- Apply the principles of interviewing skills to history taking.
- Apply basic patient/therapist interactions.

- Apply basic massage skills incorporating indications and counter indications.
- Apply the principles of portfolio development by maintaining a reflective journal based on client visits.
- Shadow an M1 Student in a clinical setting for 3 hours.

Course Content: This course is a follow-up course to the OT/PT seminar given in the fall. It introduces students to the fundamentals of professionalism. It also introduces the concept of cultural competence and how it applies to clinical practice. In this course students will develop the basic skills necessary to conduct an initial interview with a client by practicing these skills during four (4) weekly client visits with a client. Specific topics addressed in the course include interviewing, massage, journal writing and portfolio development.

#### **Course Materials:**

- No text is required for this course.
- Suggested and required readings, handouts and lecture notes will be posted on WebCT.

#### Student Assignment and Evaluation:

Assignments	%
Quiz	10%
Assignment 1	10%
Assignment 2	10%
Individual Reflective Journal	40%
Final Exam	30%

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 C+ (60%) must be obtained as a total course mark. Please refer to Section 3.6 Examinations, of the 2011-2012 McGill University Health Sciences Calendar for information on University regulations regarding final examinations and supplementals.

This course falls under the regulation concerning individual and group evaluation. Please refer to the section on marks in the Rules and Regulations.

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www.mcgill.ca/files/integrity/Code of Student Conduct.pdf

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

**Attendance**: Attendance at all classes is expected.

**Right to Submit in English or French:** 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, except in courses in which acquiring proficiency in a language is one of the objectives.

Consequences of Not Completing Assignments as Requested: Marks will be deducted at a rate of 5% per day for late assignments. All 4 visits have to be completed to receive full grade for the Individual Reflective Journal. A 10% deduction will be applied for each visit missed.

**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 398-6009 before you do this.

#### **POTH 455 NEUROPHYSIOLOGY**

Credits: 3

**Prerequisites**: PHGY209 Mammalian Physiology 1 – 3 credits and PHGY210

Mammalian Physiology 2-3 credits or an equivalent

knowledge base as judged by the professors.

**Instructors:** Philippe Archambault, OT, PhD

Office: Davis 34B

Office Hours: By appointment

(514) 398-7323

philippe.archambault@mcgill.ca

Hugues Barbeau PT, PhD

Office: Hosmer 103

Office hours: By appointment

(514) 398-4519

hugues.barbeau@mcgill.ca

Lesley Singer, PT

lesley.singer@mail.mcgill.ca

Course Objective: To provide the student with neurophysiological principles, concepts and mechanisms underlying normal and pathological functioning of the individual. These principles will be illustrated by reference to normal brain functions in animals and man as well as through illustrations of the effects of their disruption in diseases and other conditions that compromise the normal functioning of the nervous system. At the end of this course, the student will understand the function of major brain structures and will have learned signs and symptoms of some important neurological disease processes that illustrate principles of brain function.

**Course Structure:** Two (2), two-hour sessions per week totalling four hours. Sessions will consist of didactic lectures and sessions that use case histories, student presentations and discussion questions to link neurophysiological principles to neurological conditions.

**Student Learning Objectives:** Upon completion of this course the students will be able to:

- 1. **Describe** <u>neurophysiological concepts</u>, <u>principles and mechanisms</u> underlying normal functioning and **explain** their relationships to normal and pathological functioning of the individual.
- **2. Identify** <u>key components</u> of the etiology, the epidemiology and the clinical characteristics of common neurological conditions associated with malfunctioning of brain structures and **appreciate** factors leading to a differential diagnosis.
- 3. **Identify** <u>key components</u> of the medical treatment and surgical interventions associated with common neurological conditions and **understand** the impact of such treatment on the functional outcome of clients.
- 1. **Organize** available information about the neurological conditions presented and **select** information that is potentially important in regard to their needs as future rehabilitation specialists.
- 2. **Recognize** the <u>main impairments</u> associated with common neurological conditions and **appreciate** how rehabilitation intervention can address the resulting disabilities.

# Course Content (by class period):

Period	Date	Topics & Structure
1	09-07	A) Course Introduction     B) The Neurological Exam
		C) Neuroembryology D) Circulation and Cerebrospinal Fluid
2	09-12	A) Blood-Brain Barrier and Cell Death
		B) Peripheral Nerve Function
3	09-14	A) Spinal Cord Function – General Introduction and Spasticity
		B) Case 1: Traumatic Spinal-cord Injury
4	09-19	A) Spinal Cord Function – The Motor Unit
		B) Case 2: Non-Traumatic Spinal-cord Injury
5	09-21	A) Spinal Cord Function – Spinal Reflexes and Neuroplasticity
		B) Cases 3-4: Spina Bifida and Hydrocephalus
6	09-26	A) Student presentations 1-2: Guillain-Barré Syndrome & Muscular Dystrophy
		B) Review Session
7	09-28	A) Quiz: Periods 1-6 & Cases 1-4
		B) Autonomic Nervous System
8	10-03	A) The Great Neuromodulatory Systems
		B) Student presentations 3-4: Multiple Sclerosis & Amyotrophic Lateral Sclerosis
9	10-05	A) Brainstem, Cranial Nerve Functions, vestibular function, Sleep and Consciousness
		B) Case 5: Autonomic Dysreflexia
10	10-10	No class
11	10-12	A) Localization of Higher Brain Functions
		B) Student presentations 5-6: Diabetic Neuropathy & Brachial Plexus Avulsion
12	10-17	A) Somatosensory System
		B) Case 6: Stroke Signs & Symptoms
13	10-19	A) The Special Senses - Olfaction, Vision and Audition
		B) Student presentations 7-8: Stroke Pathophysiology &

		Treatment for stroke
14	10-24	A) Mechanisms of Pain
		B) Case 7: Fibromyalgia
15	10-26	A) Emotions
		B) Student presentations 9-10: Secondary Stroke Prevention & Thalamic Tumor
16	10-31	A) Mental Health – Neural Mechanisms
		B) Student presentations 11-12: Schizophrenia & Addiction
17	11-02	A) Review Session
		B) Review of Self-learning modules
18	11-07	A) Disorders of the Extra-pyramidal System
		B) Case 8: Parkinsonism
19	11-09	A) Disorders of the cerebellum
		B) Cases 9-10: Traumatic Brain Injury and Meningitis
20	11-14	A) Brain plasticity – Learning and Memory
		B) Case 11: Alzheimer's disease
21	11-16	A) Sensory-motor integration
		B) Motor Learning
22	11-21	A) Speech
		B) Case 12: Speech disorders
23	11-23	A) Sexuality
		B) Student presentations 13-14: Cerebellar Disorders & Executive function
24	11-28	A) Attention Deficit/Hyperactivity Disorder, Autism
		B) Student Presentation 15-16: Whiplash Injury & Cerebral Palsy
25	11-30	A) Review session - Topics determined by students and instructors
		B) Review of self-learning modules
26	12-05	ТВА

#### **Course Materials:**

Purves, D, Augustine G.J., Fitzpatrick D, Hall W.C., Lamantia A-S, McNamara J.O., Williams S.M. (2004) *Neuroscience* (3rd ed) Sinauer Associates: Sunderland, MA.

Plus assigned readings.

#### **Student Assignment and Evaluation:**

Quiz 15% (scheduled very early in the course) Final Exam 40% (to be scheduled during exam period)

Assignments 45%

- o Preparation for clinical presentations: (20% of final mark)
  - Online (WebCT) guizzes (10% of final mark)
  - Self-learning report (10% of final mark)
- Case presentations: (25% of final mark)
  - Oral (10% of final mark)
  - Written (10% of final mark)
  - Peer Evaluation (5% of final mark)

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 C+ (60%) must be obtained as a total course mark. A supplemental exam is permitted in this course. Please refer to the appropriate section in the Health Sciences Calendar on University regulations regarding final and supplemental examinations.

This course falls under the regulations concerning individual and group evaluation. Please refer to the section on marks in the Rules and Regulations. The modalities used for remedial work will be determined by the instructors on a per case basis.

**Plagiarism/Academic Integrity**: 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. For more information please refer to: www.mcgill.ca/files/integrity/Code\_of\_Student\_Conduct.pdf

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

**Attendance:** The instructors reserve the right to request attendance in classes where student participation is expected.

**Right to Submit in English or French:** 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, except in courses in which acquiring proficiency in a language is one of the objectives.

Consequences of Not Completing Assignments as Requested: An individual who does not complete a required assignment and who does not have a university recognized reason for deferral will receive a 0 in that portion of the course. Assignments submitted late will receive a deduction of 2% per day, including weekends.

**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 398-6009 before you do this.

#### POTH 434 Musculoskeletal Biomechanics

Credits: 3

**Prerequisite:** EDPK 206 (Biomechanics of Human Movement)

**Instructor:** Richard Preuss pht PhD

Office: H308 (by appointment)

514-398-4400 x00652 richard.preuss@mcgill.ca

Day: Mondays & Wednesdays

Place: McIntyre Medical Building 521

**Time**: 2:35 - 3:55

Course Description: This is a lecture-based course, primarily covering the biomechanical properties of musculoskeletal tissues, the mechanical factors involved in their injury, and their potential for adaptation and recovery. Some fundamental principles of motion will also be reviewed, with the aim of integrating the biomechanics of motion with the properties of the biological tissues involved. The students will learn how these principles relate to traumatic and chronic injury, and begin to incorporate them into scientifically-based clinical evaluations and treatments. Students are expected to have a firm understanding of the topics covered in the prerequisite course EDPK206 (Biomechanics and Human Movement), and the much of the content of POTH434 will expand on this previous material.

Course Structure and Instructional Method: The course will take place over two (2) 1.5-hour sessions each week, for 13 weeks. The course will be primarily lecture-based, with any additional instructional methods and approaches to be announced.

**General Learning Objectives:** At the end of the course, the student will be able to:

- 1. Describe, compare and contrast the fundamental biomechanical properties of various musculoskeletal tissues.
- 2. Compare and contrast the mechanisms through which various musculoskeletal tissues become injured, recover, and adapt to specific loading conditions.

- 3. Integrate these principles with prior knowledge of anatomy, physiology, physics and mathematics.
- 4. Describe the potential effects of exercise interventions, as well as other therapeutic techniques, on the health and biomechanical properties of various musculoskeletal tissues.
- 5. Begin to integrate the requirements for functional movement with the biomechanical properties of the musculoskeletal system.
- 6. Begin to integrate each of these concepts into their analysis and critique of the current scientific and clinical literature.

#### N.B. Specific learning objectives will be outlined prior to each section

#### **Course Content:**

- Review Tissue Mechanics
- Connective Tissue Ultrastructure
- Bone
- Articular Cartilage
- Synovial Fluid and Joint Lubrication
- Fibrocartilage
- Meniscus
- Labrum
- Intervertebral Disc
- Ligament
- Tendon
- Peripheral Nerves
- Skeletal Muscle
- Joint Stability
- Coordinated Movement

# **Class Schedule:**

January 4 (W)	Tissue Mechanics
January 9 (M)	${\bf Tissue\ Mechanics\ (cont)\ \&\ Connective\ Tissue\ Ultrastructure}$
January 11 (W)	Bone
January 16 (M)	Bone (cont.)
January 18 (W)	Articular Cartilage
January 23 (M)	Articular Cartilage (cont.)
January 25 (W)	Ligament
January 30 (M)	Joints
February 1 (W)	Review for exam 1
February 6 (M)	Exam 1
February 8 (W)	Fibrocartilage
February 13 (M)	Menisci & Labra
February 15 (W)	Intervertebral Disc
February 20 & 22	Reading Week
February 27 (M)	Intervertebral Disc (cont.)
February 29 (W)	Peripheral Nerves
March 5 (M)	Peripheral Nerves (cont.)
March 7 (W)	Tendon
March 12 (M)	Review for exam 2
March 14 (W)	Exam 2
March 19 (M)	Skeletal Muscle
March 21 (W)	Skeletal Muscle (cont.)
March 26 (M)	Skeletal Muscle (cont.)
March 28 (W)	Joint Motion and Stability
April 2 (M)	Dynamic stability
April 4 (W)	Posture
April 9 (M)	Easter Monday
April 11 (W)	Gait
April 16 (M)	Review for final exam
April 17 - 30	Final exam period

#### Course Materials:

**Handouts:** The instructor's PowerPoint presentation notes, and supplementary materials, will be available through WebCT Vista during the semester.

**Textbook:** No required text.

**Additional Readings:** References will be provided for each topic, which the students may use as readings to supplement the lecture material.

Specific resources and materials will be placed on reserve at the Health Sciences Library.

#### **Summative Evaluation:**

Exam 1	25%
Written; multiple choice and short answer format	
Exam 2	25%
Written; multiple choice and short answer format	
Final Exam	50%
Written; multiple choice and short answer format	
	Total: 100%

# Special Requirements for Course Completion and Program Continuation: In order to pass the course, a grade of at least C+ (60%) must be obtained as a total course mark. Please refer to Section 3.6 Examinations, of the 2011-2012 McGill University Health Sciences Calendar for information on University regulations

regarding final examinations and supplementals.

This course falls under the regulations concerning theoretical and practical evaluation as well as individual and group evaluation. Please refer to the section on Marks in the Rules and Regulations.

**Plagiarism/Academic Integrity**: 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. For more information please refer to:

www.mcgill.ca/files/integrity/Code\_of\_Student\_Conduct.pdf

**Attendance:** Students are expected to attend all lectures.

Right to Submit in (English or in) French: 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.

**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 398-6009 before you do this.

#### **POTH 401 RESEARCH METHODS**

Credits: 3

**Prerequisites**: Successful completion of previous year courses.

**Instructor**: Judith Soicher, PT, PhD (coordinator)

Office: Davis House 22

(514) 398-8577

judith.soicher@mcgill.ca

Guest lecturers (see course schedule)

**Course Objective:** The purpose of this course is to expand knowledge and skills related to rehabilitation research, in order to critically appraise scientific evidence and to actively participate in clinical research projects.

Course Structure: Two (2) 1.5 sessions per week for 13 weeks. Lectures or self-directed sessions as appropriate.

**Student Learning Objectives:** Upon completion of this course the student will be able to:

- 1. Describe strengths, weaknesses, sources of bias and applications of various research designs and statistics.
- 2. Understand questionnaire and survey design.
- 3. Discuss factors considered when selecting a measurement tool for clinic/research.
- 4. Classify the current evidence on the effectiveness of an intervention according to specific guidelines and synthesize this information for clinical applicability.
- 5. Design an evaluation of an existing or a new program.
- 6. Describe the concepts of cost, cost effectiveness and cost benefit and how they relate to intervention studies.
- 7. Acquire a basic understanding of research ethics guidelines.

Course Content: See class schedule

#### **Course Materials:**

Suggested text: <u>Foundations of Clinical Research: Applications to Practice</u>. 3<sup>rd</sup> ed. Portney LG, Watkins MP. Appleton & Lange; Norwalk, Connecticut, 2008.

Additional readings: Additional readings may be assigned during the course.

#### **Student Assignment and Evaluation:**

1. Midterm exam 40 marks

2. Final exam 60 marks

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 C+ (60%) must be obtained as a total course mark. Please refer to the appropriate section in the Health Sciences Calendar on University regulations regarding final and supplemental examinations. The student's mark will be affected by late submission of the assignment.

This course falls under the regulations concerning individual and group evaluation. Please refer to the section on marks in the Rules and Regulations for Student Evaluation and Promotion of the Occupational and Physical Therapy Course Guides.

**Plagiarism/Academic Integrity**: 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. For more information please refer to: <a href="https://www.mcgill.ca/files/integrity/Code">www.mcgill.ca/files/integrity/Code</a> of Student Conduct.pdf

**Right to Submit in English or French:** 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, except in courses in which acquiring proficiency in a language is one of the objectives.

Consequences of Not Completing Assignments as Requested: An individual who does not complete a required assignment and does not have a university recognized reason for deferral would receive a 0 in that portion of the evaluation.

**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 398-6009 before you do this.

#### PHTH 550 PHYSICAL THERAPY ORTHOPEDIC MANAGEMENT

Credits: 7

**Prerequisites:** Successful completion of all U2 courses <u>or</u> admitted to the

qualifying year of PT program

**Instructors:** Isabelle Pearson, PT, MSc, Cert. Sport PT (Co-coordinator)

Office: H201

514-398-4400 Ext: 09214 isabelle.pearson@mcgill.ca

Richard Preuss PT, PhD (Co-coordinator)

Office: H308

514-398-4400 ext. 00652 richard.preuss@mcgill.ca

**Course Description:** This course is the first in a series of three where an integrated approach is used to provide the students with the necessary competencies to familiarize them with common musculoskeletal conditions across the lifespan and provide them with Physical Therapy skills for evaluation and treatment.

Course Structure: Weekly:

2-1/2 hour lecture

Two 1 ½ hour Clinical Reasoning Workshops

Two 3 hour clinical skills lab

**General Learning Outcomes:** On completion of this course the student will be able to evaluate and treat clients with known conditions affecting the musculoskeletal system.

**Specific Learning Outcomes:** On completion of this course the student will:

- 1. Demonstrate evidence of theoretical knowledge and practical skills in the following areas relevant to musculoskeletal rehabilitation:
  - a. Anatomy and biomechanics of the musculoskeletal and peripheral nervous systems, including surface anatomy and palpation
  - b. Psychometric properties of assessment tools
  - c. Principles of massage and soft tissue mobilization
  - d. Principles and stages of wound healing

- e. Principles of exercise testing and prescription
  - i. Aerobic / Cardio-respiratory
  - ii. Resistance (for strength, power, local muscle endurance)
  - iii. Flexibility
  - iv. Balance & Proprioceptive
- f. Gait assessment and training\*
  - i. Mobility aids
- g. Postural assessment\*
  - i. Positional / postural control
  - ii. Alignment of body segments
- h. Principles of joint assessment
  - i. Range of motion (including goniometry)
  - ii. Strength (including manual muscle testing)
- i. Aetiology, epidemiology, pathophysiology and management of:
  - i. Fractures
  - ii. Arthroplasties
  - iii. Limb Amputations
  - iv. Osteoarthritis†
  - v. Rheumatoid Arthritis and other Rheumatic Diseases
  - vi. Burns
  - vii. Low Back Pain†
- j. Pharmacological management of the conditions above:
  - i. Classes of medication
  - ii. Principal and side effects of medication
  - iii. Relevance to physiotherapeutic management
- k. Biophysical agents\*
  - i. Ultrasound
  - ii. Interferential currents
  - iii. Thermal modalities

<sup>†</sup>Topic will be introduced, with additional information presented in PHTH-560 and PHTH-623.

- 2. Integrate the theoretical knowledge and practical skills described above in order to perform a physiotherapy assessment of clients with known musculoskeletal conditions affecting the extremities.
  - a. Develop and demonstrate verbal and written communication skills in order to:
    - i. Interact with clients, care-givers and other health care professionals
    - ii. Conduct an appropriate and thorough client interview, including:

<sup>\*</sup>Topic will overlap with PHTH-551

- 1. relevant past medical history
- 2. relevant subjective information
- 3. individual and environmental factors which may affect management
- iii. Document a client assessment and intervention using the SOAPIE format
- iv. Document the findings of standardized outcome measures
- b. Identify subjective and objective findings in order to:
  - i. Develop a clinical impression
  - ii. Assess the nature, severity and irritability of the condition
  - iii. Develop a problem list based on the WHO International Classification of Functioning, Disability and Health Model
  - iv. Determine a realistic prognosis
- c. Ensure a safe environment for client and therapist at all times.
  - i. Identify contraindications in the management of specific conditions
  - ii. Ensure appropriate use of transfer and mobility aids
- 3. Develop and apply an evidence-informed intervention plan for clients with known musculoskeletal conditions affecting the extremities.
  - a. Make use of treatment protocols and clinical practice guidelines
  - b. Identify short and long-term client-centered goals
  - c. List appropriate outcome measures
  - d. Educate client regarding his/her condition and its management
    - i. Promote active self-management
  - e. Adapt the interventions based on the client's response and progress
  - f. Recognize the need for referral to other services
  - g. Estimate when client discharge is appropriate

#### Course Content: TBA

#### **Course Materials:**

- 1. Biel A. (2010) *Trail guide to the body* (4<sup>th</sup> Edition), Books of Discovery, Boulder, CO.
- 2. Kisner C. and Colby L. (2007), *Therapeutic exercise: Foundations and techniques* (5<sup>th</sup> Edition), F.A. Davis, Philadelphia, PA.
- 3. Course pack by McGill Ancillary Services

#### **Reference Texts:**

- 1. Van Ost L. (2010) Cram session in goniometry: A handbook for students & clinicians, Slack Inc., Thorofare, NJ.
- 2. Brotzman S. and Wilk K. (2007), *Handbook of orthopaedic rehabilitation* (2<sup>nd</sup> Edition), Mosby (Elsevier), Philadelphia, PA
- 3. Kendall F., McCreary E., Provance P., Rodgers M. and Romani W. (2005), Muscles: Testing and function with posture and pain (5<sup>th</sup> Edition), Lippincott Williams and Wilkins, Philadelphia, PA

#### Student Assignment and Evaluation: TBA

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: For U3 students, in order to pass the course, a grade of at least C+ (60%) must be obtained as a total course mark. For QY students, in order to pass the course, a grade of at least B- (65%) must be obtained as a total course mark. Please refer to the appropriate sections in both undergraduate and graduate calendars on University regulations regarding final and supplemental examinations.

This course falls under the regulations concerning theoretical and practical evaluation as well as individual and group evaluation. Please refer to the section on marks in the Rules and Regulations for Student Evaluation and Promotion of the Physical Therapy Course Guides.

**Plagiarism/Academic Integrity**: 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. For more information please refer to: www.mcgill.ca/files/integrity/Code of Student Conduct.pdf

**Dress Code:** Appropriate clothes (like shorts and T-shirt) will be required for all labs.

**Attendance:** Students who have missed more than 10% of laboratory or small group sessions, or who miss any required professional workshop or seminar,

without prior approval, will receive 0/10 for participation in the course. If a course does not have a participation mark, then the final course mark will be deducted by a 10% mark. This rule applies to labs and to all required workshops, seminars or professional activities.

**Right to Submit in English or French:** 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, except in courses in which acquiring proficiency in a language is one of the objectives.

Consequences of Not Completing Assignments as Requested: An individual who does not complete a required assignment and does not have a university recognized reason for deferral would receive a 0 in that portion of the evaluation.

**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 398-6009 before you do this.

#### PHTH 551 PHYSICAL THERAPY NEUROLOGICAL REHABILITATION

Credits: 4

**Prerequisites:** For the students entering the qualifying year of the M.Sc. (A)

PT program, knowledge of basic neuroanatomy and

neurophysiology is required. Self-directed learning modules in basic neuroanatomy and neurophysiology are available to

students via webCT once registered.

For students currently registered in the B.Sc. Rehabilitation Science (major PT) program, successful completion of POTH 455 and ANAT 321 is required to register for PHTH 551.

**Instructors**:

Co-coordinators:

Mindy Levin, PT, PhD Adriana Venturini PT, MSc

Office: Hosmer House room 303 Davis House room 44

514-398-5734 514-398-5541

mindy.levin@mcgill.ca adriana.venturini@mcgill.ca

Lab coordinator: Claire Perez, PT, MSc

Office: Davis House room 44

514-398-5541

claire.perez@mail.mcgill.ca

Other instructors:

Isabelle Gagnon, PT, PhD, Anuja Darekar, PT, PhD(c), Jadranka Spahija, PT, PhD, and Mike Trivino PT, MSc.

Access to Instructors: WebCT email preferred.

Course Description: This four-credit course introduces the principles of neurological rehabilitation pertinent to physical therapy. By emphasizing the fundamentals of neuro-assessment, problem analysis, clinical reasoning, treatment planning and progression in various neurological conditions, this course builds a conceptual framework that continues into the winter semester course PHTH 561 where more conditions and treatment methods will be presented. The fall semester course PHTH 551 incorporates the foundations of best evidence, informed practice,

rehabilitation science, motor learning and neuroplasticity to develop a clientcentered approach for the evaluation and management of neurological impairments and dysfunctions.

Course Structure: The course includes two 3-hour classes per week for 13 weeks. Both weekly lectures and smaller group laboratory sessions (labs) or clinical reasoning workshops (CRW's) provide the theoretical knowledge base and the opportunity for clinical skill development and practice. There are also two clinical site visits and optional open labs where an instructor is present for additional clinical skills practice.

**Learning Outcomes:** Following attendance and active participation in lectures, labs and CRW's, the student will be able to:

- 1. recognize the principles of neurological rehabilitation across the life span and explain the underlying assumptions and scientific basis for intervention;
- 2. appraise the principles of normal development and aging and apply basic neuroscience concepts in the appraisal;
- 3. apply the International Classification of Functioning (ICF) model/framework to neurological populations and recognize the individual bio-medical, psychological, social, environmental and contextual factors which can influence health, treatment, rehabilitation and disease management;
- 4. describe the components of a physical therapy neuro-assessment (including postural and balance control, motor (tone) and sensory evaluations and functional mobility assessments) and interpret assessment results and objective findings;
- 5. demonstrate the appropriate choice and application of selected standardized assessment tools and (re-) evaluation techniques for neurological pediatric and adult populations;
- 6. appraise the results/findings from initial and on-going clinical assessments; demonstrate clinical reasoning, problem-solving abilities and sound rationales for goal setting, treatment planning, as well as for treatment modifications and progressions;
- 7. outline the essential pathophysiology and basis for sensori-motor dysfunctions and treatment for selected pediatric and adult movement disorders and neuromuscular conditions (like muscular dystrophy, Guillain Barré Syndrome, Multiple Sclerosis, *Amyotrophic Lateral Sclerosis*,

- Spinal Muscular Atrophy, Post-polio Syndrome) as well as for traumatic and non traumatic lesions of the spinal cord;
- 8. describe the cardiovascular and respiratory pathophysiological alterations that may occur in neurological conditions and demonstrate some management techniques;
- 9. comprehend the concepts and philosophies of individualized care including prevention, restoration, remediation, compensation, maintenance, health promotion and self-management;
- 10. document neuro-assessment results (impairments and activity limitations), analysis of results, clinical impression/prognosis, treatment goals and intervention plans with skill and competency;
- 11. develop and demonstrate professional and effective communication (verbal, non-verbal and written) during both the assessment and application of treatment for selected neurological conditions in pediatric and adult populations;
- 12. develop and demonstrate basic clinical skills related to the performance of selected assessment procedures and some basic treatment methods (hands-on skills, task-oriented approaches and neurofacilitation techniques).

#### **Instructional Methods:**

**Lecture:** Didactic lecture with assigned readings and power point presentations available through webCT.

**Labs:** Hands-on practical skill laboratories for clinical assessment and some basic treatment techniques. Preparatory work/reading is required. Attendance is compulsory.

Clinical reasoning workshops (CRW): Generally case-based workshops where problem-solving skills are practiced. Preparatory work/reading is required. Attendance is compulsory.

Clinical site visits: With the guidance of a physical therapist, students visit two of the following health care settings to observe neurological assessments and treatments: acute care, in-patient rehabilitation, out-patient and either pediatric or a community setting.

**Open labs:** These are optional labs for students to practice the learned hands-on skills. The labs are staffed by clinical instructors or teaching assistants.

**Neurophysiology tutorials:** Optional tutorials for students working through self-learning modules in neuroanatomy and neurophysiology.

**Course Content:** Refer to webCT for weekly schedule and content. Below is an outline of major topics discussed.

- Frameworks for neurological assessment and models of clinical reasoning and care
- Charting initial and re-evaluation findings, problem analysis, planned intervention and progress notes (SOAPIE format)
- Normal development and movement acquisition across the lifespan
- Motor learning principles
- Control of balance and posture
- Control of mobility and gait functions
- Assessment of basic sensory function
- Assessment of muscle tone
- Functional mobility assessment and training using neuro-facilitation approach (ie. PNF)
- Concepts and application of evidence-informed practice
- Assessment and management of specific neuromuscular diseases and neuro-degenerative conditions and movement disorders (pediatric and adult)
- Spinal Cord Injury

#### **Course Materials:**

**Required textbooks:** can be purchased through the McGill Chapters bookstore. The following textbooks are required for PHTH 561:

Shumway-Cook, A. and Woollacott, M. (2012). *Motor control: Translating research into clinical practice*. (4<sup>th</sup>ed.). Lippincott, William & Wilkins.

Umphred, D.A. (2007) (Ed.) *Neurological rehabilitation*. (5<sup>th</sup>ed) St. Louis: Mosby Elsevier.

**Online coursepack**: available through webCT. Contains required readings, lab and CRW material for the course.

Recommended: O'Sullivan, SA and Schmitz, TJ, (2009). *Improving functional outcomes in physical rehabilitation*. Davis. Other textbooks, suggested readings, articles and websites may be added.

#### **Student Assignment and Evaluation:**

- 10% Report on clinical site visits

  Two charting reports using SOAPIE format. One report is submitted for formative feedback and the second report is graded. Details will be discussed in class before the clinical site visits.
- 10% Individual and Group Reading Assessment Tests (IRAT & GRAT) pre & post selected laboratory sessions
- In-class test -1, Tuesday, October 4th, 14:30-16:00
   Content until September 30th
   Multiple choice questions based on lectures, case studies and vignettes.
- In-class test -2, Friday, November 2nd
   Content from Oct 7th-Oct 28th
   Multiple choice questions based on lectures, case studies and vignettes.
- 20% Evidence-informed practice group project.

  Current topics of discussion in the physical therapy community will be assigned to groups of 3-4 students last week of Oct. Powerpoint presentations due on/before November 18<sup>th</sup>. Oral presentation (Nov 18<sup>th</sup>) graded by instructor and peers.
- 40% OSCE (Objective Structured Clinical Examination) held during exam period Dec 6–21.

Please note that, 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: For U3 students, in order to pass the course, a grade of at least C+ (60%) must be obtained as a total course mark. For QY students, in order to pass the course, a grade of at least B- (65%) must be obtained as a total course mark. Please refer to the appropriate sections in both undergraduate and graduate calendars on University regulations regarding final and supplemental examinations.

This course falls under the regulations concerning theoretical and practical evaluation as well as individual and group evaluation. Please refer to the section on marks in the Rules and Regulations for Student Evaluation and Promotion.

**Plagiarism/Academic Integrity**: 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. For more information please refer to: <a href="https://www.mcgill.ca/files/integrity/Code">www.mcgill.ca/files/integrity/Code</a> of Student Conduct.pdf

**Dress Code:** Students are expected to demonstrate professional behavior and wear appropriate attire at all times. During lab sessions students are expected to be dressed appropriately for practicing and demonstrating clinical skills.

**Attendance:** Students who have missed more than 10% of laboratory sessions, clinical reasoning workshops or clinical site visits without a university-sanctioned reason for their absence, will see their final course mark reduced by 10%. Please refer to section on attendance in the Rules and Regulations guide.

Right to Submit in (English or in) French: 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, except in courses in which acquiring proficiency in a language is one of the objectives

Consequences of Not Completing Assignments as Requested: An individual who does not complete a required assignment and does not have a university recognized reason for deferral would receive a 0 in that portion of the evaluation. Assignments submitted late will receive a penalty of 2% per day late, including week-ends.

#### PHTH 570 STRATEGIES IN PHYSICAL THERAPY PROFESSIONAL PRACTICE

Credits: 3

**Prerequisites:** Successful completion of OCC1-245 and POTH-250 or

admission to qualifying year of entry-level professional

masters program.

#### **Lecturers/Coordinator:**

C. Storr (OT) M. Hunt (PT)

Office: D2 H205

398-6561 398-4400 ext. 00289

caroline.storr@mcgill.ca matthew.hunt@mcgill.ca

**Access to the Instructors:** Office hours by appointment. Please email or call ahead to make appointment.

**Course Description:** Study and analysis of strategies and systems which impact the role of the occupational and physical therapy professional in health service delivery settings. This course includes selected topics on healthcare environments, service delivery models, professional competence, ethics, global health, administration, management and patient safety.

Course Structure: This course offered in the Fall U3/QY term will be hybrid in nature consisting of lectures, self-learning modules, case work, seminars and site visits for clinical reasoning/skill development. Lectures will be scheduled on Tuesday afternoons of varying duration with the exception of the first two weeks of October. This is the third of seven professional development courses offered in the combined undergraduate and master's professional program.

**Course Objective:** This course is intended to prepare students for the 4 Clinical Practica Courses and future practice by offering foundational knowledge and skills for developing, leading and managing OT/PT practice, both in the public and private healthcare sectors.

It incorporates an understanding of organizational and change theory, as well as professional competence at the level of the person, organization and policy.

Students will learn where and how to obtain the supports, mentoring and resources to fulfill the responsibilities related to practice which may be required in the work

situation. The students will be exposed to both the Canadian and the Quebec health care system as students are expected to learn in this Quebec environment for their 4 related clinical practicum courses.

### **Student Learning Outcomes:** The students will be able to:

- 1. define and analyze personal leadership attributes and competencies related to respective profiles of practice;
- 2. understand and analyze the current social, economic, political, geographic and demographic factors that promote the provision of OT/PT services and health promotion;
- 3. understand the human, physical and financial resources needed for delivery of a service program;
- 4. describe the principles of effective team work with colleagues, clients, employers;
- 5. understand and apply principles of patient education, safety (including PDSB), and professionalism;
- 6. understand the principles of evidence-base and best practice in PT/OT client-centred management;
- 7. understand and apply ethical practice guidelines;
- 8. apply the principles of OT/PT advocacy in practice domains;
- 9. apply the principles of reflective practice, mentoring and professional portfolios.

## **Course Schedule:**

Date	Topic	Assignments	Readings	Lect.
Sept. 6 McMed 504	Course Introduction; National Essential Competency Profiles, Reflective Practice (including professional portfolios, leadership)	<ul> <li>Reflective Journal Assignment introduced</li> <li>Final Assignment introduced</li> </ul>	1.Discipline specific national competency document 2.On-line module on reflective practice (to be completed by Sept 20 <sup>th</sup> )	C. Storr/M. Hunt/ J Soicher
Sept 13 McMed 504	Global Health and Rehab (including intro to international fieldwork opportunities)	- Debate groups, topics and dates assigned	On WebCT	M. Hunt
Sept 20 McMed 504	Health Promotion and Well-Being (chronic disease model)	- Online module to be completed by this date	On WebCT	S. Ahmed
Sept 27 McMed 504	Evolving Canadian and Quebec healthcare and rehab	<ul><li>Reflective Journal Assignment Due</li><li>Group Case Assignment introduced</li></ul>		C. Storr
Oct 5 (1/2 of class)	IPE workshop: Interprofessional Teams (1/2 class)			
Oct 11 McMed 504	OEQ: legal and ethical issues for OT	Attendance Compulsory	Code of Ethics of OEQ (WebCT)	OEQ (Jacques Gauthier)
Oct 12	IPE workshop: Interprofessional Teams(1/2 class)			
Oct 13 (2pm) McMed 504	OPPQ: legal and ethical issues for PT	Attendance Compulsory	Code of Ethics of OPPQ (WebCT)	OPPQ (Maude Laliberté)

Oct 18 McMed 504	Practice Manager	- Group Case Assignment due - Team and topics for Final Assignment should be reviewed with C Storr or M Hunt by this date	Customer service/marketing, patient education/disability tax credits/resource management	C. Storr
Oct 25 McMed 504	Quality Assurance and Patient Safety/PDSB theory	Attendance Compulsory	1.PDSB text	M. Daly/ F. Pennino
Nov 1 McMed 504	Ethics for Practice		On WebCT	M. Hunt
Nov 8 Hosmer CH + Rooms TBA	PDSB lab/Advocacy CRW	Attendance Compulsory/Debate	Debate readings	F. Pennino/C. Storr/M. Hunt/M. Auais
Nov 15 Hosmer CH + Rooms TBA	PDSB lab/Advocacy CRW	Attendance Compulsory/Debate	Debate readings	F. Pennino/C. Storr/M. Hunt/M. Auais
Nov 22 Hosmer CH + Rooms TBA	PDSB lab/Advocacy CRW	Attendance Compulsory/Debate	Debate readings	F. Pennino/C. Storr/M. Hunt/M. Auais
Nov 29 Hosmer CH + Rooms TBA	PDSB lab/Advocacy CRW	Attendance Compulsory/Debate Final Assignment Due on <u>December 5th</u>	Debate readings	F. Pennino/C. Storr/M. Hunt/M. Auais

## **Required Texts:**

1. Required readings will be posted on WebCT and/or placed on reserve in the McIntyre medical library.

2. PDSB Participants Workbook: "Principles for moving patients safely" 2004 version ASSTSAS.

### Student Assignment and Evaluation:

Reflective Journal Assignment	15%
Self-directed learning (On-line module)	5%
Group Case Analysis	25%
Debate	20%
Group Final Assignment	25%
Participation (PDSB, OEQ/OPPQ & class activities)	10%

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 C+ (60%) must be obtained as a total course mark. A supplemental assignment is permitted in this course. Please refer to Section 9.4.7, Examinations, pages 154-155 of the 2010-2011 McGill University Health Sciences Calendar for information on University regulations regarding final and supplemental examinations.

Plagiarism/Academic Integrity: 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. For more information please refer to:

www.mcgill.ca/files/integrity/Code of Student Conduct.pdf

**Dress Code**: Professionalism with respect to dressing is encouraged throughout the professional program. It is each student's responsibility to have appropriate, professional attire during lectures, presentations and site visits.

**Attendance:** Students are expected to attend every lecture. Attendance is compulsory for all debates/PDSB/ OEQ and OPPQ content and will be marked accordingly.

**Right to Submit in English or French:** 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, except in courses in which acquiring proficiency in a language is one of the objectives. Group poster presentations are to be given in English as they are a group learning activity.

Consequences of Not Completing Assignments as Requested: Assignments are due on dates posted on the schedule. Late assignments will be penalized by two (2) marks deducted for each day late.

#### PHTH 560 INTEGRATED ORTHOPEDIC MANAGEMENT

Credits: 7

**Prerequisites**: Successful completion of PHTH 550

**Instructor**: Isabel Audette, Pht, FCAMT, MSc (Coordinator)

514 398-4511

isabel.audette@mcgill.ca

Isabelle Gagnon, Pht, PhD (Coordinator)

 $514\ 398-4400 \ge 099057$ isabelle.gagnon8@mcgill.ca

Frangiska Xenopoulos Pht, FCAMT, MSc (Coordinator)

frangiska.xenopoulos@mcgill.ca

Heidi Clavet Pht, MSc (Course Lecturer)

**Course Description:** This course is the second in a series of three where more complex musculoskeletal conditions will be addressed in order to provide students with higher level of Physical Therapy skills in patient evaluation and treatment.

Course Structure: Weekly:

Lecture: 2h30 (Monday 8h30 to 11h)

Clinical Reasoning Workshop: 2 x 1h30 (Tuesday and Wednesday 8h00 to 9h30)

Practical/Lab class: 2 x 3h (Tuesday and Wednesday 9h30 to 12h30)

General Learning outcomes: Building on previously learned orthopaedic knowledge, the student will be able to evaluate and treat clients of different ages with simple conditions affecting the musculoskeletal system

**Specific Learning Outcomes**: On completion of this course the student will be able to:

- 1. Demonstrate evidence of theoretical knowledge and practical skills in the following areas relevant to musculoskeletal rehabilitation:
  - a. Theory and foundation of Manual Therapy
    - i. Historical perspective

- ii. Evidence-informed application to the practice of physiotherapy
  - 1. Role of joint and soft-tissue mobilisation
  - 2. Principles of joint mobilisation
    - a. Osteokinematics and arthrokinematics
    - b. Passive accessory glides
    - c. End feel normal vs. abnormal
- b. Simple musculoskeletal pathologies
  - i. Paediatric
  - ii. Adult
- c. Components of a physiotherapy scan/assessment:
  - i. Neurological exam
  - ii. Extremities
  - iii. Spine (regional)
  - iv. Specific assessment for the pediatric population
- d. Special tests related to simple musculoskeletal pathologies
  - i. Application
  - ii. Interpretation
    - 1. psychometric properties
    - 2. individual vs. multiple tests
- 2. Integrate the theoretical knowledge and practical skills described above in order to perform a physiotherapy assessment of clients with complex musculoskeletal conditions affecting the extremities and spine.
  - a. Demonstrate effective verbal and written communication skills in order to:
    - i. Interact with clients, care-givers and other health care professionals
    - ii. Conduct an appropriate, thorough and focussed client interview, including:
      - 1. relevant past medical history
      - 2. relevant subjective information
      - 3. individual and environmental factors which may affect management

- i. Document a client assessment and intervention using the SOAPIE format
- ii. Document the findings of standardized outcome measures
- b. Select subjective and objective findings in order to:
  - iii. Develop a clinical impression
  - iv. Assess the nature, severity and irritability of the condition
  - v. Appropriately identify, apply and interpret manual therapy techniques and special tests
  - vi. Develop a problem list based on the WHO International Classification of Functioning, Disability and Health Model
  - vii. Determine a realistic prognosis
- c. Ensure a safe environment for client and therapist at all times.
  - viii. Identify contraindications to manual therapy
    - ix. Identify "red flags" which indicate the presence of serious pathology (and need for physician referral).

# 3. Demonstrate and apply clinical reasoning skills in order to establish a physiotherapy diagnosis

- a. Analyse the subjective and objective findings
- b. Elaborate simple working hypotheses / differential diagnoses
- c. Select an evidence-informed physiotherapy diagnosis

# 4. Develop and apply an evidence-informed intervention plan related to the physiotherapy diagnosis

- d. Determine short and long-term client-centered goals
- e. Apply appropriate outcome measures
- f. Educate client regarding his/her condition and its overall management
  - i. Promote active self-management
- g. Adapt the interventions based on the client's response and progress
- h. Explain the need for referral to other services
- i. Determine when client discharge is appropriate

**Course Content:** Professional and ethical as well as functional and psychosocial issues will be considered when assessing and treating patients in different age groups with different conditions/injuries.

**Instructional Method:** A case/problem-based approach, emphasizing evidence-base practice, will be used to discuss an interdisciplinary approach in the overall

managements of patients. The course comprises 12 hrs per week of a combination of lectures, small group discussions and clinical skill labs.

### **Required Texts:**

Whitmore, S., Gladney, K. & Driver, A. (2008) *The upper quadrant: A workbook of manual therapy techniques*, 2nd Edition. Whitmore Physiotherapy Consulting Inc. Canada.

Whitmore, S., Gladney, K. & Driver, A. (2008) *The lower quadrant: A workbook of manual therapy techniques*, 2nd Edition. Whitmore Physiotherapy Consulting Inc. Canada.

Paediatric content from coursepack shared with PHTH 561.

**Optional Text:** will be available at the library

Dutton, M. (2008). Orthopaedic Examination, evaluation and intervention. 2<sup>nd</sup> ed. McGraw-Hill.

#### **Student Evaluation:**

Participation	2%
Spot checks	

Practical exam (OSCE)

Date TBA

Midterm Exam: Module 1 (Peds & 2 LE)

Date TBA	
Written exam	35% (12% Peds; 23% LE)
Date TBA	

25%

1 20/

Final Exam: Module 3 (UE)

Practical exam	15%
Date TBD	
Written exam	23%

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 C+ (60%) must be obtained as a total course mark. Please refer to Section 9.4.7, Examinations, pages 154-155 of the 2010-2011 McGill University Health Sciences Calendar for information on University regulations regarding final and supplemental examinations.

This course falls under the regulations concerning theoretical and practical evaluation as well as individual and group evaluation. Please refer to the section on Marks in the Rules and Regulations.

Plagiarism/Academic Integrity: 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. For more information please refer to:

www.mcgill.ca/files/integrity/Code of Student Conduct.pdf

**Dress Code:** Appropriate clothes (i.e. shorts and T-shirt) will be required for all labs.

**Attendance:** Students who have missed more than 10% of laboratory or small group sessions, or who miss any required professional workshop or seminar, without prior approval, will receive 0/10 for participation in the course. This rule applies to labs and to all required workshops, seminars or professional activities

**Right to Submit in English or French:** 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, except in courses in which acquiring proficiency in a language is one of the objectives.

Consequences of Not Completing Assignments as Requested: An individual who does not complete a required assignment and does not have a university recognized reason for deferral would receive a 0 in that portion of the evaluation.

#### PHTH 561 INTEGRATED NEUROLOGICAL REHABILITATION

Credits: 5

**Prerequisites:** Successful completion of PHTH 551 Physical Therapy -

Neurological Rehabilitation, given in the Fall semester.

**Instructors:** 

Course coordinator: Adriana Venturini, PT, MSc

Lab/Clinical visit coordinator: Claire Perez, PT, MSc

Other instructors: Anouk Lamontagne, PT, PhD, Joyce Fung, PT PhD (on

sabbatical), Isabelle Gagnon, PT, PhD, Mindy Levin, PT, PhD, Sara Ahmed, PT, PhD., Jadranka Spahija, PT, PhD., Richard Preuss, PT, PhD, Philippe Archambault OT, PhD, Isabelle

Gelinas, OT, PhD., Elizabeth Dannenbaum, PT, MSc.

#### Access to Instructors:

Adriana Venturini

Office: Davis House, Rm. 44

514-398-5541

adriana.venturini@mcgill.ca or via webCT mail function

(preferred)

All instructors are available through their McGill email accounts, unless otherwise specified in class.

Course Description: This five-credit course pursues the integration of the principles of neurological rehabilitation as applied to complex neurological conditions. Emphasis is on evidence-based practice, interdisciplinary and client-centered care as well as health promotion and prevention of secondary conditions pertaining to neurological conditions. This practical and problem-based course fosters clinical reasoning skills for the PT assessment and treatment of complex problems and multiple handicaps encountered by patients with neurological conditions.

**Course Structure:** The course includes three classes each week of 3-hour duration. Classes are divided between lectures, clinical reasoning workshops and laboratories. Clinical site visits are included within this time frame.

**Learning Outcomes:** Following attendance and active participation in class, the student will be able to:

- 1. Recognize key principles of different neurological rehabilitation models and how these are applied to the physiotherapy assessment and treatment of complex neurological conditions across the lifespan. Complex neurological conditions may include multiple handicaps and secondary conditions.
- 2. Appraise how the motor, cognitive and social domains interact with each other during normal and abnormal development, in motor learning and throughout the ageing process.
- 3. Explain the essential pathophysiology and basis for movement dysfunction in conditions such as stroke, head injuries (TBI), movement disorders (Parkinson's disease), vestibular dysfunction, chronic pain as well as most common paediatric conditions.
- 4. Demonstrate the components of a physiotherapy neurological assessment for the conditions listed under objective 3, as well as for the assessment of complex neurological cases.
- 5. Formulate treatment goals which are objectively measurable, client-centered and functional.
- 6. Elaborate and justify a treatment plan integrating manual techniques, rehabilitation technology and biophysical agents as well as patient and family education for cases presenting the neurological conditions listed under objective 3.
- 7. Demonstrate skill and competence in carrying out a treatment for the neurological conditions described under objective 3.
- 8. Evaluate the effectiveness of a treatment and recognize the need to modify treatment parameters.
- 9. Appraise the importance of inter-disciplinary teams in the intervention of multiple handicaps resulting from complex neurological problems.
- 10. Describe and apply principles of health promotion and prevention of secondary conditions as key aspects of neurorehabilitation.

- 11. Explain the alterations in cardiovascular and respiratory pathophysiology as well as in exercise response for complex neurological conditions.
- 12. Demonstrate skill and competence in the cardiorespiratory assessment and treatment of complex neurological conditions.

**Course Content:** The topics listed below are not necessarily presented in order. A detailed schedule will be posted on WebCT on the first day of class. Unless otherwise specified, the topics are presented in the format of a lecture.

- 1. Framework in neurorehabilitation
- 2. Paediatric assessment and treatment principles (lecture & lab)
- 3. Assessment & treatment of common paediatric conditions (lecture & lab)
- 4. Paediatric rehabilitation setting (clinical site visit)
- 5. Multidisciplinary approaches to chronic neurological conditions across the lifespan
- 6. Assessment and management of movement disorders such as Parkinson's disease
- 7. Stroke rehabilitation: general principles & approaches
- 8. Stroke assessment & treatment (lab)
- 9. Chronic diseases & health promotion (CRW)
- 10. Aging & CNS control of posture & movement (Inter-professional education)
- 11. Advanced balance & mobility (lab)
- 12. Advanced sensory & UE functional tests (lab)
- 13. Traumatic brain Injury
- 14. Traumatic brain injury: assessment and treatment (one site visit)
- 15. Neurological physiotherapy intervention in acute care and intensive functional rehabilitation (two clinical site visits)
- 16. Integration of PT rehabilitation concepts for cardiorespiratory/pediatrics/ neurotrauma cases and complex case analysis (Cases, CRW)
- 17. SCI cardiorespiratory techniques for secretion clearance (lecture/lab)
- 18. Acute neuro/ICU mobilizing, positioning (lab/Sim Centre)
- 19. Pain mechanisms & pharmacology
- 20. Assessment and management of chronic pain conditions.
- 21. Principles of functional electrical stimulation and sensory electrical stimulation (TENS)
- 22. Applications of (functional) muscle electrical stimulation and TENS (Labs)
- 23. Vestibular rehabilitation (two sessions lecture & lab)
- 24. Assistive technologies in rehabilitation (To be determined)
- 25. Cognitive rehabilitation

- 26. Geriatric rehabilitation/Pharmacology
- 27. Open laboratories and tutorials (optional)
- 28. OSCE preparation (Cases/Lab)

#### **Instructional Methods:**

**Lecture:** Didactic lecture with assigned readings and power point presentations available through webCT.

**Labs:** Hands-on skills laboratories requiring previous preparation. Attendance is compulsory.

Clinical reasoning workshops (CRW): Generally case-based workshops where problem-solving skills are practiced. Preparation includes pre-class case history discussion and/or readings. Attendance is compulsory.

Clinical site visits: Students visit an acute care centre (McGill University Health Centre) and two in-patient rehabilitation centres (Jewish Rehabilitation Centre, Institut de Réadaptation Gingras-Lindsay de Montreal (IRGLM) and one other TBD), Centre de Réadaptation Marie-Enfant (a paediatric rehabilitation centre) to participate in the assessment and treatment of TBI, paediatric and other adult neurological conditions. The students will be in small groups and asked to prepare an assignment based on the visit.

**Open labs:** These are optional labs for students to attend to practice the skills learned to date. The labs are staffed by clinical instructors or teaching assistants.

#### **Course Materials:**

**Required textbooks:** can be purchased through the McGill Chapters bookstore. The first two textbooks are also required for PHTH 551.

- Shumway-Cook, A. and Woollacott, M. (2012). *Motor control: Translating research into clinical practice*. (4<sup>th</sup> ed.) William & Wilkins
- Umphred, D.A. (2007) (Ed.) Neurological rehabilitation (5<sup>th</sup> ed) St. Louis: Mosby Elsevier.
- Manual describing the Chedoke-McMaster Stroke Assessment. Details available the first week of class.

 Coursepack from PHTH 550 is used for Functional Electrical Stimulation and TENS.

# Student Assignment and Evaluation (final version to be presented the first day of class)

Final OSCE	50%
Assignment	15%
Test 1(content wk 1-7)	20%
Test 2(content wk 8-11)	10%
Site visits – clinical reports	5%

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:

For U3 students, in order to pass the course, a grade of at least C+ (60%) must be obtained as a total course mark. For QY students, in order to pass the course, a grade of at least B- (65%) must be obtained as a total course mark. Please refer to the appropriate sections in both undergraduate and graduate calendars on University regulations regarding final and supplemental examinations.

This course falls under the regulations concerning theoretical and practical evaluation as well as individual and group evaluation. Please refer to the section on marks in the Rules and Regulations for Student Evaluation and Promotion.

PHTH 551 and PHTH 561 need to be successfully completed before attending a clinical placement.

**Plagiarism/Academic Integrity**: 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. For more information please refer to:

www.mcgill.ca/files/integrity/Code\_of\_Student\_Conduct.pdf

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

**Attendance**: Students who have missed more than 10% of laboratory sessions, clinical reasoning workshops or clinical site visits without a university-sanctioned reason for their absence, will see their final course mark reduced by 10%. Please refer to section on attendance in course guide.

**Right to Submit in English or French:** 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, except in courses in which acquiring proficiency in a language is one of the objectives.

Consequences of Not Completing Assignments as Requested: An individual who does not complete a required assignment and does not have a university recognized reason for deferral would receive a 0 in that portion of the evaluation. Assignments submitted late will receive a penalty of 2% per day late, including week-ends.

#### PHTH 552 CARDIORESPIRATORY REHABILITATION

Credits: 4

Coordinator: Jadranka Spahija PhD

Office: Hosmer 300 (by appointment please)

McGill: (514) 398-4922

Lab: Hôpital Sacré-Cœur de Montreal: (514) 338-2222 x 3654

jadranka.spahija@mcgill.ca

**Course Description:** Theoretical knowledge pertaining to the pathophysiology of various medical and surgical cardiorespiratory conditions, including evaluation and treatment will be acquired.

**Expanded Course Description:** The general objectives of the course are to enable the students to i) acquire and integrate theoretical knowledge pertaining to the pathophysiology of various medical and surgical cardiorespiratory conditions, and ii) acquire the practical skills necessary for evaluating and treating such acute and chronic conditions in individuals of all ages.

**Course Structure:** The course consists of a combination of lectures, small group teaching and practical laboratory, totalling 6 hours per week.

**Overall Objective:** This course provides an integrative approach to the physiotherapy management of cardiorespiratory conditions. In addition to learning the practical techniques used in cardiopulmonary physiotherapy, students will develop and integrate their knowledge-base of anatomy, pathology as well as respiratory, cardiovascular, muscle and exercise physiology using a case-based approach and evidence-based practice. This will facilitate critical thinking and provide students with the necessary competencies for assessing and treating cardiorespiratory clients.

**Learning Outcomes:** On completion of this course, the students will be able to:

- 1. understand the pathophysiology underlying various cardiopulmonary conditions;
- 2. evaluate a patient's cardiopulmonary status by integrating findings from the physiotherapy assessment, standardized outcome measures, and diagnostic tests;

- 3. plan and implement a physiotherapy treatment program based on the above findings, taking into account any relevant contraindications to treatment;
- 4. perform physiotherapy treatment techniques used in cardiopulmonary care, and be able to justify their use based on knowledge of evidence-based practice;
- 5. modify a treatment program based on the patient's response and/or change in clinical status;
- 6. recognize when to notify another team member in the event of an acute deterioration in patient status;
- 7. recognize when referral to another health care professional is necessary for comprehensive patient care and discharge planning;
- 8. apply skills in literature searching, information retrieval, and critical appraisal to (i) update knowledge of clinical conditions/procedures and (ii) evaluate the effectiveness of physiotherapy treatment techniques.

#### **Course Content:**

Week	Lecture (3 hours) Mon. 8:30-11:30 am	Clinical reasoning workshop/Practical (3 hours) Fri. 8:30-11:30 am (unless otherwise indicated)
1	Intro: Course outline and objectives Respiratory system anatomy, physiology, mechanics, control of breathing	Investigative techniques: Radiography, arterial blood gases, pulmonary function tests, electrolytes, blood count, blood glucose
2	COPD Restrictive pulmonary disease	Surface anatomy, muscle palpation Respiratory assessment I: History taking, symptoms assessment, dyspnea.
3	Restrictive: atelectasis, pleural disease, chest trauma, infectious conditions Medications	Respiratory assessment II: Inspection, palpation, mediate percussion, voice sounds, diaphragm excursion and chest expansion.
4	Pulmonary rehabilitation  Normal and abnormal exercise responses	Respiratory assessment III: Auscultation, pulse oximetry
5	Surgery: Effects of anesthesia, patient- related risk factor identification, thoracic	Treatment I: Positioning (dyspnea, V/Q); Breathing exercises: PLB, lateral costal

	surgery; Chest tubes; Exam #1	expansion, segmental expansion, diaphragm breathing; Energy conservation / relaxation; Trunk mobility exercises.
6	Surgery II: Heart/Heart-Lung transplantation Ventilatory muscle strength and endurance testing; Critical Care I - Hemodynamic monitoring, catheters	Treatment II: Secretion clearance: ACBT/ huffing/supported coughing/PEP/ Flutter, Acapella, Vest and other devices.
7	Study Break	Study Break
8	Critical Care II – Oxygen therapy, respiratory failure/ mechanical ventilation, sepsis, ARDS, medications, effects of bed rest	Treatment III: Postural drainage, percussion, vibration, rib springing.
9	Cardiovascular System: anatomy, physiology,mechanics, hemodynamics, conduction system/ neural control Lifestyle/acquired cardiac conditions: Atherosclerosis, coronary artery disease (CAD), hypertension, obesity, dyslipidemia, diabetes, lipid profile, cardiac enzymes	Lab : McGill Simulation Center ICU, suctioning
10	Electrical activity of heart (ECG analysis)  Exam #2	Lab: McGill Simulation Center Cardiac assessment I: ECG interpretation, HR and BP measurement, heart sounds Patient interview via teleconference.
11	Cardiac interventions & Surgery: angioplasty, atherectomy, stents, coronary artery bypass grafts (CABG), valve repair/replacements, heart transplant, cardiac assistive devices: intra-aortic balloon pump, ventricular assist devices, mechanical hearts  Phase 1 Cardiac rehab  Cardiac medications	Lab: McGill Simulation Center Physiotherapy post cardiac surgery: Mobilization, transfers, positioning
12	Cardiac disease: Myocardial ischemia (MI)/infarction, heart failure, valvular disease, pericarditis, tamponade, myocarditis, infectious endocarditis, cardiomyopathies Peripheral arterial disease (PAD), Abdominal aortic aneurysm (AAA), chronic venous insufficiency, BP measurement, heart sounds	Cardiac assessment II: Fitness assessment, body composition, risk factor modification, Canadian CV Society Functional Classification of Angina, New York Heart Association Classification of Cardiac Function Cases

13	Cardiac rehabilitation: indications / contraindications, exercise prescription.	Good Friday
14	Easter Monday	Cardiac exercise prescription, cases
15	Early developmental & childhood respiratory disorders	
	Congenital heart diseases	

**Required text:** (can be purchased through the McGill Chapters bookstore):

Frownfelter, D. & Dean, E. (2006). Cardiovascular and pulmonary physical therapy. Evidence and practice. St. Louis: Mosby.

# Other suggested reference texts (NOT Mandatory Reading unless stipulated in class):

- DeTurk, W.E., Cahalin, L.P. (2004) Cardiovascular and pulmonary physical therapy: An Evidence-Based Approach; McGraw- Hill, New York.
- Irwin, S.& Tecklin, J.S. (2004). Cardiopulmonary physical therapy- A guide to practice (4<sup>th</sup> ed.). St. Louis: Mosby.
- Reid, W.D. & Chung, F. (2004) Clinical management notes and case histories in cardiopulmonary physical therapy. Thorofare, NJ: Slack Inc.
- Smith, M. & Ball, V. (1998). Cardiovascular / respiratory physiotherapy. Philadelphia/London: Mosby.
- Hillegass, E.A. & Sadowsky, H.S. (2001) Essentials of cardiopulmonary physical therapy (2nd ed) W.B. Saunders Company, Philadelphia.
- Pryor, J.A., Prasad, S.A. (2002) *Physiotherapy for respiratory and cardiac problems* (3rd ed.), Churchill Livingstone, Edinburgh; New York.
- West, J.B. (2000) Respiratory physiology: The essentials, (6th ed), Williams & Wilkins, Baltimore.
- West, J.B. (2003) *Pulmonary pathophysiology: The essentials*, (6th ed), Williams & Wilkins, Baltimore.

**Equipment Required:** A stethoscope and a watch with a second hand. Stethoscopes can be purchased at the McGill Bookstore and at Dufort & Lavigne Ltée.

**Student Assignment and Evaluation:** Students are evaluated by their performance in two components:

Theoretical:

Mid-term exam 1	20%
Mid-term exam 2	20%
Quizzes	10%
Final written exam:	20%

Practical:

Final practical (OSCE) exam 30% Total 100%

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:

For U3 students, in order to pass the course, a grade of at least C+ (60%) must be obtained as a total course mark. For QY students, in order to pass the course, a grade of at least B- (65%) must be obtained as a total course mark. Please refer to the appropriate sections in both undergraduate and graduate calendars on University regulations regarding final and supplemental examinations.

This course falls under the regulations concerning theoretical and practical evaluation. Please refer to the section on marks in the Rules and Regulations for Student Evaluation and Promotion.

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**Dress Code:** Students are required to wear shorts and T-shirt or tank top is required for all practical laboratory sessions. For clinical site visits, the same dress code as clinical affiliation applies.

**Attendance:** Students who have missed more than 10% of laboratory or small group sessions, or who miss any required professional workshop or seminar, without prior approval, will receive 0/10 for participation in the course.

**Right to Submit in English or French:** 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, except in courses in which acquiring proficiency in a language is one of the objectives.

Consequences of Not Completing Assignments as Requested: Will lose 5 marks per day unless a prior agreement with the professor is reached.