

Department of Kinesiology & Physical Education – McGill University

EDKP 446 - Physical Activity and Ageing - Fall 2020 (3 credits)

Prerequisite: EDKP 395 Exercise Physiology

Instructor Information:

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Virtual office hours: Contact Instructor by email for Zoom appointment

Teaching Assistant (TA) Information:

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Instructor Message Regarding Remote Delivery: This course will use a remote delivery format and will not require any on-campus activities. The remote learning context presents new challenges for all involved, and student engagement is of particular concern. I have designed this course to consider the challenges that students may be experiencing due to the pandemic and I am committed to providing a supportive learning environment. Please visit the following links related to the remote delivery of this course: [Student-specific Guidelines for Remote Teaching and Learning](#) and [Remote Learning Resources](#). All requests for technical support should be directed to 514-398-3398 or itsupport@mcgill.ca.

Course Schedule: Monday and Wednesday, 11:35 – 12:55 PM.

Note: Any fixed class sessions will occur during the scheduled class time. In general, we will be meeting on Zoom during each scheduled class time. Please see the course schedule for a description of class sessions that will occur throughout the semester.

Course Overview:

This course is designed to provide a review of age-related changes in cardiopulmonary, musculoskeletal, metabolic, and nervous systems as they relate to functional limitations and the physiological responses to acute and chronic exercise. The course will examine age-related diseases, such as cardiovascular disease, sarcopenia, osteoporosis, arthritis, and diabetes and describe the role of regular exercise and physical activity in mitigating the aging process.

Learning Outcomes:

By the end of this course, students will be able to:

1. Describe the fundamental physiological concepts and theories related to the aging process.
2. Understand the effects of physical activity and exercise on the major physiological systems and on the aging process.
3. Explain the interaction between aging, age-related disease, and physical activity.
4. Define, apply, and evaluate the principles of exercise training and prescription for health, fitness, and physical functioning in older adult populations.
5. Critically appraise the published scientific literature related to physical activity and aging, including identifying research questions and hypotheses, evaluating methodology, interpreting primary research data, and communicating logical conclusions from experimental results.

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6. Design and present an exercise program to promote healthy aging and prevent and manage age-related disease.

Instructional Method: Two fixed class sessions per week. Course activities will vary to include: live Zoom lectures, pre-recorded presentation videos, guest lectures (live and pre-recorded), assigned readings, review questions, quizzes, group discussions, group oral presentations, and case studies. Note: Please review the course schedule closely for a detailed description of the fixed (students participate together online at the same time) and flexible activities and assignments (students participate online at the time of their choosing but there is a due date).

Expectations for Student Participation: Students are expected to use Zoom and myCourses to participate in this course on a regular basis. Please find relevant instructions and tutorials for these technologies at McGill's [Remote Learning Resources](#). Participation will be assessed through your active involvement in the group discussions about the assigned readings, question and answer sessions with the guest speakers, and by attending the group presentations of your peers and asking questions following the presentations. Students are expected to prepare for these sessions by reviewing the assigned readings, slides, and recordings before the fixed class sessions. For students unable to attend these fixed class sessions, you can still engage in the course by reviewing the Zoom lecture recordings, presentation videos, and assigned readings on myCourses and participating in the myCourses discussion forums and/or surveys as directed.

Recording of Sessions: All fixed class sessions will be recorded to accommodate students who are unable to participate in course sessions for reasons such as time zone difference, bandwidth, and caregiver responsibilities. These recordings will be made available to students through myCourses, which limits access to students registered in the course. Students will be informed in all instances that they will be recorded. Please read the Guidelines on Remote Teaching and Learning: <https://www.mcgill.ca/tls/instructors/class-disruption/strategies/guidelines-remote> and the course outline for this course on myCourses. You will be notified through a 'pop-up' box in Zoom if a lecture or portion of a class is being recorded. By remaining in sessions that are recorded, you agree to the recording, and you understand that your image, voice, and name may be disclosed to classmates. You also understand that recordings will be made available in myCourses to students registered in the course.

Required Course Materials:

- a) Course notes on myCourses
- b) Zoom lecture recordings on myCourses
- c) Assigned readings from the scientific literature on myCourses
- d) Additional readings, videos, and resources on myCourses
- e) Device for accessing Zoom (computer, tablet, smartphone) with optional use of a webcam and microphone

Optional Course Materials:

- a) Optional textbook: Danielle R. Bouchard. Exercise and Physical Activity for Older Adults. Human Kinetics, Champaign, IL, USA, 2020

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Course Content:

Course topics are listed on the course schedule. Course materials (slides, presentation videos) will be available on myCourses the day prior to the fixed class sessions for which they will be presented and the Zoom recordings will be available on myCourses soon after the fixed class session. In certain instances, students will be expected to review presentation videos and mandatory assigned readings, and submit written reflections and/or questions for guest speakers prior to fixed classes and will be reminded of these instances at least one week in advance (see Course Schedule). Students are encouraged to review the course notes, recordings/videos, and assigned readings following the fixed sessions to help prepare for quizzes and assignments, clarify content, and reinforce their understanding.

Course Evaluation:

Name of Assignment	Due Date	% of Final Grade
Quizzes	<i>See Course Schedule and myCourses.</i>	30%
Assigned Reading Reflections	<i>See Course Schedule and myCourses.</i>	15%
Group Presentations	Nov. 23 & 25	25%
Open-Book, Take-Home Final Exam	TBD (During Finals Week)	30%

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

University Grading Scale

<u>Letter Grades</u>	<u>Percentages</u>
A	85-100
A-	80-84
B+	75-79
B	70-74
B-	65-69
C+	60-64
C	55-59
D	50-54
F (fail)	0-49

Quizzes: Three quizzes will take place in this course. They will be administered on myCourses and will be worth 30% of the final grade (each quiz is worth 10%). Quizzes will be a combination of multiple-choice, true/false, fill-in-the blank, and short-answer questions and should take approximately 30-45 minutes to complete. The quizzes will include information from the course notes, recordings/videos, assigned readings, and guest speaker lectures. The start and end times for each quiz will be posted on the myCourses calendar. Students will have 24 hours to access and submit their quiz on their own time. The course instructor will be available on Zoom during the designated fixed class time in the event of questions, but there will be no class or formal teaching on these dates (see Course Schedule). All requests for technical support should be directed to 514-398-3398 or itsupport@mcgill.ca. Special accommodation may be granted by the instructor in exceptional circumstances which include illness, participation in athletic/academic events (varsity, national, international), domestic affliction, and religious conviction. It is the student's responsibility to supply proper documentation and/or notification 1 week prior to the

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originally scheduled quiz to support their circumstance. In cases of unforeseen illness, contact instructor no later than the day of the quiz. Personal travel plans and arrangements are not valid reasons for requesting a special accommodation for an quiz. Failure to comply with this policy will result in a grade of zero for the quiz.

Assigned Reading Reflections: Students will prepare four assigned reading reflections based on a scientific article (mandatory assigned readings will be selected by the course instructor), which will be worth 15% of their final grade. Students can discuss the assignment with classmates, but must submit their own independent work as an individual written reflection (details on format to be posted on myCourses). The written reflection must be submitted on myCourses the day before the designated fixed class session (or on the Friday before if the discussion is scheduled for a Monday class) (see Course Schedule). Students should come to the Zoom class session prepared to discuss the readings with other students (i.e., the assigned readings related to “Sarcopenia and Exercise” will involve a group discussion on Wednesday October 7 and therefore the associated written reflection is due on myCourses by Tuesday October 6 by 11:59 pm EST). Each assigned reading reflection will be graded on: the quality of the written content and the student’s preparedness for and participation in the discussion of the article. For students unable to attend the group discussion during the fixed class session, you can still actively participate through myCourses discussion forums and/or surveys as directed. The purpose of these group discussions is to enhance engagement, discuss scientific articles with other students, develop critical appraisal skills, and reinforce understanding of the content.

Group Presentation: There will be one group presentation (worth 25% of final grade) that will be introduced during a fixed class session and posted on myCourses. The assignment will involve designing and presenting an exercise program to promote healthy aging and prevent/manage age-related disease in groups of 3-4 students. The exercise program will be presented by each group in the form of an oral presentation using powerpoint slides. The group oral presentations will be given on Zoom during class time on November 23 and 25 (see Course Schedule). The powerpoint presentations slides must be submitted on myCourses the day before your presentation by 11:59 pm EST. Special accommodation may be granted by the instructor if the previously mentioned exceptional circumstances apply to 1 or more groups members and the group will be expected to provide proper documentation and notification at least one month prior to the scheduled assignment due date.

Open-Book, Take-Home Final Exam: There will be an open-book, take-home final exam in this course during the final examinations period (worth 30% of the final grade) and it should take approximately 3 hours to complete. Students are permitted and expected to refer to information from the course notes, recordings/videos, assigned readings, group discussions, case studies, and guest speaker lectures. The take-home exam must be submitted on myCourses and the submission deadline will match the scheduled exam end time to reduce exam conflicts. Once the exam schedule is published, the release and submission due dates and times will be posted on the myCourses calendar. Students will have 72 hours to access and submit their exam. Failure to complete the final exam without proper approval from the Exam Office will result in a grade of zero for the exam and possible failure in the course.

Student Assessment Policy: The [University Student Assessment Policy](#) exists to ensure fair and equitable academic assessment for all students and to protect students from excessive workloads.

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All students are encouraged to review this Policy, which addresses multiple aspects and methods of student assessment (e.g. timing of evaluation due dates and weighting of final examinations).

Course Communication: Students requiring assistance are encouraged to email any course-related questions to their instructor. While email is commonly used by students to communicate with their instructor, it does limit the effectiveness and efficiency of the communications and may not be the best way for the instructor to answer student questions, especially those requiring an explanation of course concepts or personal concerns. The instructor will remain on Zoom for 5-10 minutes after the end of the fixed class session to answer questions about the lecture. Should you wish to meet with the instructor or TA outside of the fixed class time, please email them to make an appointment to be held on Zoom (or MS Teams if preferred). Students will have the option to access the appointment via the Zoom link or call in by phone. To protect your privacy, the instructor will only reply to you at your official McGill email address. Please be sure to check your McGill email account on a regular basis.

McGill University Policy on Academic Conduct: 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 (see [McGill's guide to academic honesty](#) for more information). 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 (pour de plus amples renseignements, veuillez consulter le [guide pour l'honnêteté académique de McGill](#)). Additional policies governing academic issues which affect students can be found in the McGill Charter of Students' Rights (see [document](#)).

Language of Submission: 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. This does not apply to courses in which acquiring proficiency in a language is one of the objectives. 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).

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

Special Circumstances: The instructor of this course endeavours to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with your instructor and the [Office for Students with Disabilities](#), 514-398-6009.

End-of-Course Evaluations: End-of-course evaluations are one of the ways that McGill works towards maintaining and improving the quality of courses and the student's learning experience.

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You will be notified by email when the evaluations are available. Please note that a minimum number of responses must be received for results to be available to students.

Land Acknowledgement: McGill University is on land which has long served as a site of meeting and exchange amongst Indigenous peoples, including the Haudenosaunee and Anishinabeg nations. We acknowledge and thank the diverse Indigenous people whose footsteps have marked this territory on which peoples of the world now gather. L'Université McGill est sur un emplacement qui a longtemps servi de lieu de rencontre et d'échange entre les peuples autochtones, y compris les nations Haudenosaunee et Anishinabeg. Nous reconnaissons et remercions les divers peuples autochtones dont les pas ont marqué ce territoire sur lequel les peuples du monde entier se réunissent maintenant.

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Course Schedule:

This course schedule, along with fixed class sessions, course materials, and assignment due dates, are subject to change. It is the student's responsibility to check myCourses for schedule updates. Any course changes will be clearly noted in the course announcements or by McGill email. Slides, presentation videos, and assignment instructions will be available on myCourses the day prior to the fixed class sessions for which they will be presented and the Zoom recordings will be available on myCourses soon after the fixed class session.

Week	Date	Fixed Class Session Description (Zoom)	Course Materials on myCourses	Assignments Due
1	Wed. Sept. 2	Introduction to Physical Activity & Aging: <ul style="list-style-type: none">Zoom LectureCourse Outline Summary	<ul style="list-style-type: none">Review course outline on myCourses before class	None
2	Mon. Sept. 7	LABOUR DAY – NO CLASS	None	None
	Wed. Sept. 9	Aging Processes, Theories & Trends: <ul style="list-style-type: none">Zoom LectureLearning Activity/Discussion	None	None
3	Mon. Sept. 14	Age-Related Cardiopulmonary Changes: <ul style="list-style-type: none">Summary of Presentation VideosQuestion & Answer (Q&A) Session with Instructor	<ul style="list-style-type: none">Review presentation videos before class (30-40 minutes)	None
	Wed. Sept. 16	Cardiopulmonary Adaptations to Training: <ul style="list-style-type: none">Zoom LectureLearning Activity/Discussion	None	None
	Fri. Sept. 18	NO CLASS	None	<u>Assigned Reading Reflection #1 Due</u>
4	Mon. Sept. 21	Cardiovascular Disease & Exercise: <ul style="list-style-type: none">Meet the Expert Q&A Session with Dr. Tasuku Terada<i>Assigned Reading Discussion #1</i>	<ul style="list-style-type: none">Review presentation videos before class (30-40 minutes)Submit 2 questions for Dr. Terada by 9amBe prepared to discuss assigned readings	None

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	Wed. Sept. 23	Exercise Programs in Older Adults: <ul style="list-style-type: none"> • Zoom Lecture • Group Assignment Summary 	<ul style="list-style-type: none"> • Review group assignment instructions before class 	None
5	Mon. Sept. 28	QUIZ #1 / NO CLASS Complete quiz on myCourses on own time	Quiz #1 covers content from Sept. 2 - 23	Quiz open from midnight to 11:59 PM EST
	Wed. Sept. 30	Age-Related Muscle Changes <ul style="list-style-type: none"> • Summary of Presentation Videos • Q&A Session with Instructor 	<ul style="list-style-type: none"> • Review presentation videos before class (30-40 minutes) 	None
5	Mon. Oct. 5	Skeletal Muscle Adaptations to Training <ul style="list-style-type: none"> • Zoom Lecture • Learning Activity/Discussion 	None	None
	Tues. Oct. 6	NO CLASS	None	<u>Assigned Reading Reflection #2 Due</u>
	Wed. Oct. 7	Sarcopenia & Exercise: <ul style="list-style-type: none"> • Zoom Lecture • <i>Assigned Reading Discussion #2</i> 	<ul style="list-style-type: none"> • Be prepared to discuss assigned readings 	None
6	Mon. Oct. 12	THANKSGIVING – NO CLASS	None	None
	Wed. Oct. 14	Protein Metabolism & Aging: <ul style="list-style-type: none"> • Guest Zoom Lecture: Prof. Tyler Churchward-Venne (30-40 minutes) • Meet the Expert Q&A Session 	<ul style="list-style-type: none"> • Submit 2 questions for Prof. Churchward-Venne by 9am 	None
7	Mon. Oct. 19	Age-Related Bone Changes <ul style="list-style-type: none"> • Summary of Presentation Videos • Q&A Session with Instructor 	<ul style="list-style-type: none"> • Review presentation videos before class (30-40 minutes) 	None
	Wed. Oct. 21	Bone Adaptations to Physical Activity <ul style="list-style-type: none"> • Zoom Lecture • Learning Activity/Discussion 	None	None

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	Fri. Oct. 23	NO CLASS	None	<u>Assigned Reading Reflection #3 Due</u>
8	Mon. Oct. 26	Osteoporosis & Exercise Interventions: <ul style="list-style-type: none"> Meet the Expert Q&A Session with Prof. Jenna Gibbs <i>Assigned Reading Discussion #3</i> 	<ul style="list-style-type: none"> Review presentation videos before class (30-40 minutes) Submit 2 questions for Prof. Gibbs by 9am Be prepared to discuss assigned readings 	
	Wed. Oct. 28	QUIZ #2 / NO CLASS Complete quiz on myCourses on own time	Quiz #2 covers content from Sept. 30 – Oct. 21	Quiz open from midnight to 11:59 PM EST
9	Mon. Nov. 2	Aerobic Training in Older Adults <ul style="list-style-type: none"> Summary of Presentation Videos Learning Activity/Discussion 	<ul style="list-style-type: none"> Review presentation videos before class (30-40 minutes) 	None
	Wed. Nov. 4	Strength Training in Older Adults <ul style="list-style-type: none"> Summary of Presentation Videos Learning Activity/Discussion 	<ul style="list-style-type: none"> Review presentation videos before class (30-40 minutes) 	None
10	Mon. Nov. 9	Physical Function, Frailty & Aging <ul style="list-style-type: none"> Zoom Lecture Learning Activity/Discussion 	None	None
	Tues. Nov. 10	NO CLASS	None	<u>Assigned Reading Reflection #4 Due</u>
	Wed. Nov. 11	Fall Prevention <ul style="list-style-type: none"> Zoom Lecture <i>Assigned Reading Discussion #4</i> 	<ul style="list-style-type: none"> Be prepared to discuss assigned readings 	
11	Mon. Nov. 16	Balance & Mobility Assessments <ul style="list-style-type: none"> Summary of Presentation Videos Learning Activity/Discussion 	<ul style="list-style-type: none"> Review presentation videos before class (30-40 minutes) 	None

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	Wed. Nov. 18	QUIZ #3 / NO CLASS Complete quiz on myCourses on own time	Quiz #3 covers content from Oct. 26 – Nov. 11	Quiz open from midnight to 11:59 PM EST
12	Mon. Nov 23	Group Presentation Day 1 • Group Presentations on Zoom	None	<u>Group Presentations Due In-Class</u>
	Wed. Nov 25	Group Presentation Day 2 • Group Presentations on Zoom	None	<u>Group Presentations Due In-Class</u>
13	Mon. Nov 30	Masters Athletes • Zoom Lecture • Learning Activity/Discussion	None	None
	Wed. Dec. 2	Nutrition, Diabetes & Aging • Zoom Lecture • Learning Activity/Discussion	None	None
	Thurs. Dec. 3	Course Review • Q&A Session with Instructor and TA	None	None