

**Kinesiology & Physical Education**

**EDKP 446 - Physical Activity and Ageing (Winter 2020)**  
(3 credits; Tuesday and Thursday, 8:35-9:55 AM, CURRIE 408/9)

**Prerequisite for this upper-level undergraduate course:** EDKP 395 Exercise Physiology

**Instructor Information:**

Professor: Jenna C. Gibbs, Ph.D.

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Office hours: Contact instructor by email for appointment

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

**Instructional Method:** Two lectures per week; Lecture format will vary to include formal lectures, group discussions, case studies, guest lectures, and active learning sessions. **After March 30th due to the extraordinary circumstances of COVID-19, the course will be delivered in an online format (via Zoom, pre-recorded lectures, and myCourses).**

**Course Materials:**

- a) Course notes.
- b) Mandatory: Assigned readings from the scientific literature.
- c) Optional textbooks: -Albert W. Taylor and Michel J. Johnson. Physiology of Exercise and Healthy Aging. Human Kinetics, Champaign, IL, USA, 2008.  
-Debra J. Rose. Physical Activity Instruction of Older Adults – 2<sup>nd</sup> edition. Human Kinetics, Champaign, IL, USA, 2019.

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d) Additional readings and resources on myCourses.

### Course Content:

Course topics are listed on the course schedule. Course notes and assigned and suggested readings will be available on myCourses prior to the scheduled class session. You are encouraged to prepare for the lecture by reading the course notes and any assigned and suggested readings before or directly following the class session.

### Course Schedule:

This course schedule, along with lectures and due dates, are subject to change. It is the student's responsibility to check myCourses for corrections or updates to the outline. Any course changes will be clearly noted in course announcements or through McGill email.

Week	Date	Class Description
1	Tues. Jan 7	Introduction, Review Course Outline
	Thurs. Jan 9	Aging Processes, Theories & Physical Activity Trends
2	Tues. Jan 14	Cardiopulmonary System: Age-related Changes
	Thurs. Jan 16	Cardiopulmonary System, Aging & Training
3	Tues. Jan 21	Cardiovascular Disease: Physical Activity Interventions*
	Thurs. Jan 23	Skeletal Muscle: Age-related Changes
4	Tues. Jan 28	Skeletal Muscle, Aging & Training
	Thurs Jan 30	Sarcopenia & Frailty: Physical Activity Interventions*
5	Tues. Feb 4	Bone Health: Age-related Changes
	Thurs. Feb 6	Bone Health, Aging & Training
6	Tues. Feb 11	Review/Q&A Session
	Thurs. Feb 13	<b>MID-TERM EXAM</b>
7	Tues. Feb 18	Osteoporosis: Physical Activity Interventions*
	Thurs. Feb 20	Designing Exercise Programs for Older Adults
8	Tues. Feb 25	Aerobic Endurance Training
	Thurs. Feb 27	Muscular Fitness & Flexibility Training
<b>BREAK</b>	<b>Tues. Mar 3</b>	<b>STUDY BREAK</b>
	<b>Thurs. Mar 5</b>	<b>STUDY BREAK</b>
9	Tues. Mar 10	Assignment Workshop
	Thurs. Mar 12	Falls Prevention*
10	Tues. Mar 17 -	<del>Balance &amp; Mobility Assessments</del>

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	<b>CANCELLED</b>	
	Thurs. Mar 19 - <b>CANCELLED</b>	<del>Nutrition, Diabetes &amp; Aging*</del>
<b>11</b>	Tues. Mar 24 - <b>CANCELLED</b>	<del>Group Presentations—Day 1 Group Written Report Due by March 23 at 11:59 PM</del>
	Thurs. Mar 26 – <b>CANCELLED</b>	<del>Group Presentations—Day 2</del>
<b>12</b>	Tues. Mar 31- <b>ONLINE</b>	Nutrition, Diabetes & Aging* (Zoom Lecture @ 8:35 AM) <i>Written Reflection #4 is due by April 1 at 11:59 PM</i>  <i>Guest lectures will be posted on myCourses (<u>for students to view independently</u>):</i> <i>-Balance &amp; Mobility Assessments (Dr. Paquette)</i> <i>-Protein Metabolism &amp; Aging (Dr. Churchward-Venne)</i>
	Thurs. Apr 2 - <b>ONLINE</b>	Masters Athletes (Zoom Lecture @ 8:35 AM) <i>Group Written Report + Presentation Slides due by April 3 at 11:59 PM</i>
<b>13</b>	Tues. Apr 7 - <b>ONLINE</b>	Arthritis & Exercise* (Zoom Lecture @ 8:35 AM) <i>Written Reflection #5 is due by April 6 at 11:59 PM</i>
	Thurs. Apr 9 - <b>ONLINE</b>	Review/Q&A Session (Zoom @ 8:35 AM)

**Note:** “\*” indicates a scheduled class session involving a written reflection submission on myCourses and in-class discussion of assigned readings (**in-person discussions cancelled for final two assigned readings**).

**Course Evaluations:**

- |   |   |            |
|---|---|------------|
| 1) Midterm Exam   | Thurs. Feb 13 (In-class)                      | 30%        |
| 2) Assigned Reading Reflections                                     | Details to be presented in-class              | 10%        |
| <b>3) Group Assignment</b>  | <b>Due on April 3 at 11:59 PM (myCourses)</b> | <b>25%</b> |
| <b>4) Final Exam (Alternative Format) During Final Exams Period</b> |   | <b>35%</b> |

*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

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**Exams:** Two exams will take place over the semester. They will be worth 30% (midterm) and 35% (final exam) of the final grade. Both tests will be a combination of multiple-choice, true/false, and short-answer questions. The tests will include information from the class lectures, assigned readings, group discussions, case studies, hands-on learning activities, and guest speaker lectures. Attendance is mandatory at all exams. The date and time of each exam will be provided on myCourses. **An alternative format for the final exam is being explored so that it will not involve an in-person sit-down examination on campus. Details on the final exam will be communicated to students as soon as clear information becomes available.** Special accommodation may be granted by the instructor in exceptional circumstances which include illness, participation in athletic events (varsity, national, or international), domestic affliction, and religious conviction. It is the student's responsibility to supply proper documentation and/or notification prior to the originally scheduled exam to support their circumstance. Personal travel plans and arrangements are not valid reasons for requesting a special accommodation for an exam. Failure to comply with this policy will result in a grade of zero for the exam and possible failure in the course. In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.

**Assigned Reading Reflections:** Students will prepare five assigned reading reflections based on a scientific article (mandatory assigned readings will be selected by the course instructor), which will be worth 10% 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 presented in-class and posted on myCourses). The written reflection must be submitted on myCourses the day before the designated class session and students are required to come to class prepared to discuss the readings with other students (i.e., the assigned readings related to "Sarcopenia & Frailty: Physical Activity Interventions" will involve an in-class discussion on Thursday January 30 and therefore the associated written reflection is due on myCourses by January 29 at 11:59 pm). Each assigned reading reflection will be graded on: the quality of the written content and the student's preparedness for and participation in the classroom discussion of the article. The purpose of these interactive sessions is to enhance engagement, discuss scientific articles with other students, develop critical appraisal skills, and reinforce understanding of the course content. **For assigned reading reflections #4 and #5, the in-class discussions are cancelled and students will be evaluated solely on their submitted written reflections (see revised Course Schedule for new deadlines).**

**Group Assignment:** There will be one group assignment (worth 25% of final grade) that will be introduced in-class 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 4-5 students. **The exercise program will be prepared by each group in the form of a written report and a powerpoint presentation. The written report and presentation slides must be submitted by each group on myCourses by April 3 at 11:59 pm (see revised Course Schedule). Since oral communication is less of a core objective for the course, students will be required to submit a written script of the presentation in the notes section of the powerpoint slides or in a separate word document (see updated assignment instructions on myCourses).** Special accommodation may be granted by the instructor for the previously mentioned exceptional circumstances with proper documentation and notification prior to the originally scheduled assignment due date to support their circumstance. Late

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assignments can be handed in on myCourses, and the date and time at which the assignment was submitted will be recorded. Late assignments will be penalized 10% for each day or part of a day that they are late.

### Special Notes:

**Contacting the Instructor:** Students requiring assistance are encouraged to speak with their instructor during class. Should you wish to meet with the instructor outside of class time, please email the instructor to make an appointment. **Note: Appointments will be held virtually after March 30<sup>th</sup> (instructions for attending virtual office hours and appointments with your instructor will be posted on myCourses).** 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 concepts covered in this course or personal concerns. Your instructor will inform you about the expectations concerning emails.

**Course Communication:** The course is on myCourses. Students are expected to regularly check myCourses for course updates and information, especially regarding exams, assignments, and due dates. As well, students are encouraged to read and print out a copy of each day's lecture materials prior to class. 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 [www.mcgill.ca/students/srr/honest/](http://www.mcgill.ca/students/srr/honest/) 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 site [www.mcgill.ca/students/srr/honest/](http://www.mcgill.ca/students/srr/honest/)).

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, handouts, summaries, exam questions, etc.) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the

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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.

**Mobile Computing and Communication Devices:** Any surfing of the internet during lectures that is not directly related to the class discussion is distracting and is strictly forbidden. Additionally, the use of any electronic devices for emailing, texting, etc., is strictly forbidden.

**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. 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.