

Kinesiology & Physical Education

EDKP 446 - Physical Activity and Aging (Winter 2019)
(3 credits; Tuesday and Thursday, 1:05-2:25 PM, STBIO S3/4)

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: Wednesdays 2:00 – 3:00 PM or by 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 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 prepare a report on 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, question & answer sessions, and hands-on workshops/tutorials.

Course Materials:

- a) Course notes.
- b) Required textbook: Albert W. Taylor and Michel J. Johnson. Physiology of Exercise and Healthy Aging. Human Kinetics, Champaign, IL, USA, 2008.
- c) Mandatory: Assigned readings from the current literature.
- d) Additional readings and resources on myCourses.

Course Content:

Course notes will be available on myCourses prior to the class session. Textbook and other assigned readings relevant to class sessions are indicated below in the course schedule. You are encouraged to prepare for the lecture by reading the corresponding sections of the course textbook and any assigned readings posted on myCourses before the scheduled class session.

Course Schedule:

This course schedule, along with lectures, assignments 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	Assignments and/or Readings Due
1	Tues. Jan 8	Introduction, Review Course Outline	NONE
	Thurs. Jan 10	Aging Processes, Theories & Physical Activity Trends	Introduction
2	Tues. Jan 15	Cardiopulmonary System: Age-related Changes	Chapter 1
	Thurs. Jan 17	Cardiopulmonary System, Aging & Training	Chapter 1
3	Tues. Jan 22	Cardiovascular Disease: Physical Activity Interventions	See Assigned Readings*
	Thurs. Jan 24	Skeletal Muscle: Age-related Changes	Chapter 2
4	Tues. Jan 29	Skeletal Muscle, Aging & Training	Chapter 2
	Thurs Jan 31	Sarcopenia: Physical Activity Interventions	See Assigned Readings*
5	Tues. Feb 5	Bone Health: Age-related Changes	Chapter 6
	Thurs. Feb 7	Bone Health, Aging & Training	Chapter 6
6	Tues. Feb 12	Osteoporosis: Physical Activity Interventions	See Assigned Readings*
	Thurs. Feb 14	Review Session/Q&A	NONE*
7	Tues. Feb 19	MID-TERM (IN-CLASS)	NONE
	Thurs. Feb 21	Functional Approach to Exercise	Chapter 7
8	Tues. Feb 26	Training for Aerobic & Anaerobic Fitness	Chapter 8
	Thurs. Feb 28	Literature Search Tutorial/Assignment Workshop	Hands-on Workshop (check myCourses)*
BREAK	Tues. Mar 5	STUDY BREAK	NONE
	Thurs. Mar 7	STUDY BREAK	NONE
9	Tues. Mar 12	Training for Muscular Fitness	Chapter 9

	Thurs. Mar 14	Exercise Adherence & Safety Measures	Chapter 10, Appendix
10	Tues. Mar 19	Falls Prevention in Older Adults	See Assigned Readings*
	Thurs. Mar 21	Mobility & Balance Assessments	Hands-on Workshop (check myCourses)*
11	Tues. Mar 26	Nutrition & Diabetes	Chapter 5
	Thurs. Mar 28	Weight Management in Older Adults	See Assigned Readings*/ Assignment Due on myCourses
12	Tues. Apr 2	Nervous System, Aging & Training	Chapters 3 & 4*
	Thurs. Apr 4	Masters Athletes	Chapter 11
13	Tues. Apr 9	Frailty & Aging	See Assigned Readings*
	Thurs. Apr 11	Review Session/Q&A	NONE*

Note: “*” indicates a class session involving discussions on assigned readings in-class and on myCourses, a hands-on workshop/tutorial, question and answer session with instructor/guest speakers or interactive learning activities contributing to the participation grade.

Course Evaluation:

Midterm Exam	Tues. Feb. 19 th (In-class)	30%
Participation	Ongoing	10%
Assignment	Thurs. Mar. 28 th (due on myCourses)	20%
Final Exam	TBD (During Final Exams Week)	40%

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

Exams: Two exams will take place over the semester. They will be cumulative and will be worth 30% (midterm) and 40% (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, textbook/assigned readings, group discussions, case studies, hands-on workshops/tutorials, and review sessions. Attendance is mandatory at all exams. The date and time of each exam will be provided on myCourses. 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.

Assignment: There will be one written assignment (worth 20% of final grade) that will be introduced in class and posted on myCourses. The assignment must be submitted on myCourses on March 28th. Students are permitted to discuss the assignment with classmates, but must submit their own independent work as an individual written assignment. Special accommodation may be granted by the instructor for the aforementioned exceptional circumstances with proper documentation and/or notification prior to the originally scheduled assignment due date to support their circumstance. Late 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.

Participation: Students will be evaluated for participation throughout the course, which will be worth 10% of the final grade. The participation grade will include: class attendance, preparedness for and participation in workshops and discussions about the course content and assigned readings during class and on myCourses, and contributions to question and answer sessions with instructor/guest speakers. The purpose of active participation in the course is to enhance engagement, discuss content with the instructor and other students, and reinforce understanding of concepts. Students are permitted to miss up to two class sessions after the add/drop period without penalty.

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 attend the instructor's weekly office hour or email the instructor to make an appointment. 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 Faculty of Education will only reply to you at your official email address at McGill. Please be sure that you check your McGill email 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/ 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/).

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, exam questions, etc.) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor. Note that infringements of copyright can be subject to follow up by the University under the Code of Student Conduct and Disciplinary Procedures.

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.