

EDKP 444 ERGONOMICS (3 credits), Section 001, Fall 2021
Department of Kinesiology & Physical Education, McGill University

Class time & location: Tuesdays – Thursdays 4:05 – 5:25pm; Currie Gym 408/9
 ** or otherwise indicated via the course's myCourses page

Format: Lectures, lab activities, self-directed readings

Pre/co-requisites: EDKP 206 Introduction to Biomechanics or equivalent

Instructor: Professor Julie Côté, PhD; Email : Julie.cote2@mcgill.ca
 Communication plan: email, and Zoom appointments requested by email

Teaching Assistant: Erika Renda, M.Sc.; Email: erika.renda@mail.mcgill.ca
 Communication plan: email, and Zoom appointments requested by email

TEAMS Undergraduate course mentors (available to help with the assignment & term project):
 Office ergonomics assignment: monica.lubczynski@mail.mcgill.ca, gabrielle.belloir@mail.mcgill.ca
 Term project: kevin.liu2@mail.mcgill.ca, lauren.saletsky@mail.mcgill.ca, lauren.cederbaum@mail.mcgill.ca
 Communication plan: all are available by appointment requested by email

Suggested (i.e. NOT mandatory) reference texts:

Chaffin DB, Andersson GBJ, Martin BJ. Occupational Biomechanics (4th ed.), New-York: Wiley-Interscience. Available to order online.

Kroemer K, Kroemer H, Kroemer-Elbert K. Ergonomics – How to Design for Ease and Efficiency. (2nd ed.), Englewood Cliffs, NJ: Prentice-Hall. Available to order online.

Konz S, Johnson S. Work Design. Occupational Ergonomics (7th ed.), Scottsdale: Holcomb Hathaway.

- *Lecture notes, reference articles and links to online documents will be available on MyCourses.*

Course Overview:

An examination of ergonomic issues including: injury mechanisms, evaluation and assessment techniques, occupational health and safety legislation, and ergonomic interventions.

Instructor Message Regarding Course Delivery:

- In addition to the regular stresses associated with university studies, the past year has added an extra layer of challenges. My overall goal as an instructor is to provide a learning environment that is as supportive as possible, so that this course can optimally help you achieve the objectives that you set out for yourself as a University student.
- In addition to the links to resources that I will regularly post on myCourses, I encourage you to visit the following institutional resources for student learning: [Guidelines for Students on Teaching, Learning, and Assessment](#) and [Learning Resources](#).
- Along with the instructional team, I am fully committed to help you in any way I can to succeed in this class; to that end, I will regularly solicit, and always welcome, your feedback and suggestions on how I can help you personally, and the group collectively, learn and succeed.

Learning outcomes:

- Deepen your understanding of basic concepts of kinesiology as they relate to workplace health
- Understand and be able to explain the mechanisms underlying common work-related injuries
- Collaboratively research, analyze, solve, and communicate outcomes of ergonomic analyses

Instructional methods:

- The course will at times (see course schedule) use
 - a lecture format for theory (Power Point presentation)
 - small-group case solving exercises to test the application of theory to real-world ergonomics situations and prepare for the assignments
 - small-group discussions and work towards the two major projects, with instructors available to respond to questions
 - access to ergonomics material in the classroom
 - demonstrations
 - flipped classroom for groups to propose their ideas for feedback
 - discussion and mentorship from advanced students to help meet the course objectives
 - preparatory reading of scientific articles
- All material drawn upon for the assessments (exams, assignment, project) will be posted on myCourses. All instructional activities will be conducted synchronously, with the majority delivered in-person. Aside from the first lecture on Sept. 2nd, all other lectures are currently planned to be delivered in-person. However, as per University directives, up to 30% of the lectures may be delivered online. If any more lectures than the Sept. 2nd are moved to online delivery, students will be notified via myCourses at least one week in advance. Any online-delivered lectures will take place via Zoom. The connection address will be communicated via myCourses.
- Lectures delivered via Zoom will be recorded and available on myCourses for future viewing
- All lectures delivered in-person may NOT be accessible remotely. Check in with the class TA if this concerns you.
- Note that these plans are subject to change based on public health protocols (see Additional statements)

Expectations for student participation:

- I expect you to conduct yourself, in written, oral and visual form, with the utmost respect that we expect from future health professionals in any professional discipline relevant to our field.
- Communication is key. Since myCourses will be our main mode of communication, please visit this class's myCourses page often, daily if possible, at least weekly.
- Any other communication, including any one-on-one communication, as part of this class, will take place exclusively using our respective McGill email addresses.

Student assessments:

Office ergonomics assignment: 15%

Non-office ergonomics term project: 35%

Project proposal: required by the due-date in order to get feedback; no marks allocated

Final project: poster (oral) presentation for laymen audience: 15%

Scientific written report: 20%

Exams (tentatively scheduled to take place in-person): Midterm (25%); Final (25%)

Exams:

The midterm and final exams are both written exams. They will test students on theoretical and applied knowledge gained throughout the semester. The final exam is cumulative but weighted more heavily (approx. 75%) on the material covered after the midterm exam. The final exam will be centrally scheduled to take place sometime during the final exam period (**December 7-21th**). Students are responsible for ensuring that they are available for the exam to take place anytime during this period.

Assignment & Project:

Aside from the exams, you will be graded on two assignments: a shorter assignment on office ergonomics (by definition: work centering on the use of a computer), and a longer, term project where you will conduct a full ergonomic analysis of a work situation of your choice (excluding an office workstation). More information on both will be provided on MyCourses throughout the semester. Both assignments should normally be conducted in groups that you will form at your initiative. All group members will receive the same mark on all components of the group assignments unless agreement is signed by all group members to request otherwise. There will be 10% automatic deduction for every 24h an assignment is late being submitted. There will be no supplementary work allowed and no reweighing of marks towards the final mark.

Course schedule:

DATES	TOPICS	Exercises, Assessments
Week 1: Th Sept. 2	Intro to the course; Intro to Ergonomics (zoom)	Posting of office ergo assignment guidelines
Week 2: TH Sept. 7-9	Anthropometry; Office ergonomics	work on office ergo assignment
Week 3: TH Sept. 14-16	Office Ergo; Musculoskeletal Disorders (MSDs): Mechanisms, Risk factors, Neck and Upper Limbs	BOS lab demo ; work on office ergo assignment
Week 4: TH Sept. 21-23	Neck and Upper Limb MSDs; Physical/Performance Demands Analysis (PDA)	work on office ergo assignment
Week 5: TH Sept. 28-30	PDA; Ergonomics assessment tools-1: RULA, REBA, JSI, QEC	Office ergo assignment due Tuesday 4:05pm (email) work on term project proposal
Week 6: TH Oct. 5-7	Ergonomics assessment tools-1 & 2: TLV, Rogers, OWAS, overview of Snook, NIOSH, ALLA	work on term project proposal
Week 7: Week of Oct. 11	Tuesday: no class (Fall break) Thursday: no class (Monday make-up day) Friday 4–5:30pm: Tuesday class make-up: optional review session (zoom)	Study for the mid-term exam, work on term project proposal
Week 8: TH Oct. 19-21	Tuesday: mid-term exam (in class) Thursday: flipped class: term project proposals	Tuesday: Mid-term exam; Friday: deadline, term project proposal (5:30pm)
Week 9: TH Oct. 26-28	MSDs of the Lower Limbs and Spine Ergonomics assessment tools 3: Snook	work on term project
Week 10: TH Nov. 2-4	Ergonomics assessment tools 3-4: Snook, NIOSH Hand tools & manual grips	work on term project
Week 11: TH Nov. 9-11	Occupational biomechanics	BOS lab demo ; work on term project
Week 12: TH Nov. 16-18	Occupational physiology	work on term project
Week 13: TH Nov. 23-25	Psychosocial and personal factors Term project poster presentations – GROUPS A	work on term project
Week 14: TH Nov. 30-Dec. 2	Term project oral presentations – GROUPS B, C	Term project due Dec. 6th 4:05pm (email)

Policy Statements:

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](#).

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. Veuillez consulter le [guide pour l'honnêteté académique de McGill](#).

I encourage you to visit the above mentioned websites as soon as possible to insure that you are aware of the definitions of cheating, plagiarism and other academic offences that are used by McGill. Simply taking this initiative may help you avoid accidental and unfortunate situations. You are responsible for informing yourself to avoid such situations ("I didn't know" is not a valid defense in case there is evidence of plagiarism).

Language of Submission:

In accord with McGill University's [Charter of Student 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." (Approved by Senate on 21 January 2009).

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.

Land acknowledgement:

McGill University is on land which 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.

Additional policy statements:

Instructor-generated course materials (e.g., handouts, notes, summaries, exam questions) 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.

The University is committed to maintaining teaching and learning spaces that are respectful and inclusive for all. To this end, offensive, violent, or harmful language arising in contexts such as the following may be cause for disciplinary action: Zoom sessions, including Username (use only your legal or preferred name), virtual backgrounds, "chat" boxes, whiteboard annotations, breakout rooms; and Email communications.

[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 e-mail when the evaluations are available. Please note that a minimum number of responses must be received for results to be available to students.

As the instructor of this course I endeavor to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with me and the [Office for Students with Disabilities](#), 514-398-6009.

Many students may face mental health challenges that can impact not only their academic success but also their ability to thrive in our campus community. Please reach out for support when you need it; many [resources](#) are available on-campus, off-campus and online.

Additional policies governing academic issues which affect students can be found in the McGill Charter of Students' Rights (see [document](#)).