

School of Kinesiology  
Faculty of Health Sciences  
Western University

**KIN 4457B – Ergonomics & Aging  
Winter 2019**

<b>Instructor:</b> Tara Kajaks	<b>Office:</b> AHB Rm. 3B14
<b>Lectures:</b> Mo 7:00PM-9:00PM Somerville House Rm 2355	<b>Office Hours:</b> upon request
<b>Online:</b> Asynchronous (1-2 hours/week)	<b>Phone:</b>
<b>TAs:</b> TBD	<b>Email:</b> tkajaks2@uwo.ca

**NOTE:** All course information including grades, assignment outlines, deadlines, etc. are available via OWL. Check the website regularly for course announcements.

**Calendar Course Description:**

Melding together concepts from ergonomics and gerontology, the course focuses on how to prolong independent living in older adults by improving function, safety, and quality of life.

**Course Description:** This course combines important concepts from gerontology and ergonomics to study how changes can be made to the person, environment, and task to promote safety in older adults. Ultimately, the goal of these ergonomic interventions is to promote successful aging through the prolongation of safe and comfortable independent living and the optimization of quality of life. In addition, a major part of the course is devoted to the practicing of the creative and critical thinking skills needed by a professional working in the area of ergonomics and aging.

**Pedagogical Design of the Weekly Lectures**

Although not a strict division of strategies, the weekly in-person and online lectures are divided into two pedagogical styles: *Training* and *Thinking*. A portion of the weekly course content is designed to provide students with sufficient background, including mental models in aging and ergonomics, to be able to gain expertise and problem solve independently. The remainder of the course content is structured around assigned readings, case studies, group work, and exercises designed to allow students to practice critical, generalized, and creative thinking about issues germane to the field.

*In both strategies the professor will be the “guide on the side” and not the “sage on the stage”. The goal is to make students independent thinkers and learners.*

**Anti-requisite(s)/Pre-requisite(s)/Co-requisite(s)**

*You are responsible for ensuring that you have successfully completed all course pre-requisites, and that you have not taken an anti-requisite course.*

*Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.*

**Course Format:**

Lectures: Mo 7:00PM-9:00PM  
Location: Somerville House Rm 2355  
Online: Asynchronous (1-2 hours/week)

**Recommended Text:** None.

**Course Objectives:**

During the in-person and online class discussions students will:

1. Come prepared to speak up,
2. Actively listen to what all other people (i.e., fellow students) in the class say,
3. Think about what has been said so far in the discussion and then,
4. Actively add to the discussion at hand,
5. Practice being a professional with minimal direction,
6. Practice writing in a concise manner,
7. Practice being a reflective learner

At the end of the course students will:

8. Appreciate and understand selected concepts/topics/methodologies germane to the field of aging and ergonomics
9. Experience solving practical issues using some of the knowledge, strategies, and methodologies employed in the field.
10. Appreciate and gain skill on reading and thinking with research articles and models/theories in the field of gerontology and ergonomics

Other objectives/class policies:

11. To promote the development of:
  - Self-motivated, self-directed learning
  - Effective listening and communication skills
  - Critical reading & thinking
  - Creative thinking
  - Thinking with theoretical and other mental models
  - **PRIDE & INTEGRITY** *in all of your work (remember that in all assignments you are demonstrating the type of professional you are – sub- par work means you are projecting a sub-par image of yourself)*

**Behaviors Expected of Students**

1. I expect you to come to EVERY class and PARTICIPATE
2. In keeping with professional practice, I expect students to notify the professor when your attendance in class is not possible
3. Read, read, read, and read some more (particularly as background for assignments).
4. Listen, think, produce work, and communicate as a professional.
5. **No Cell phones allowed during classes except.**

Cell Phone Class Strategy: Research is clear that cell phones and particularly texting are not only distracting of necessary attention in many life circumstances, but worse, they are very intrusive to many people's lives. Cell phone use is dangerous during driving and walking yet many people still do it. Cell phones create intrusive thoughts not allowing people to listen effectively and politely. To help students take control over, for many students, this

addicting compulsion, the class will have regularly scheduled fit breaks designed to assist students in taking control of their cell phone use. Students may check their cell phones during the fit breaks but NOT otherwise.

## **Projected Course Content**

### Conceptual content for ergonomics and aging

1. Introduction and models of ergonomics and aging
2. Design thinking, and thinking (logically) like a scientist
3. Injury statistics for older Ontarians/Canadians
4. Investigating falls: a systems approach to the understanding of reasons for seniors falling
5. De Bono's six hats of thinking
6. Fall risk factors and fall risk assessment
7. Falls prevention strategies – systematic reviews
8. Driving: quality of life; self-regulation by senior drivers; cognitive retraining; mental/physical fitness
9. Driving: car and road design for safety; driverless/automated cars for seniors
10. PE fit model
11. Ergonomics and older workers
12. Homecare: Caring for caregivers
13. PE fit: assistive devices/walkers for mobility & falls prevention
14. PE fit at home: ADLs, home design, accessibility, social support

### Becoming an Expert Thinker

In a complex world where solutions to problems/issues are not readily apparent, a premium is placed on thinking and other problem solving skills. Thinking is a skill to be learned and as such must be practiced to be improved. Students will be presented several “thinking” models, that when practiced on gero/ergo problems will help them become more skillful thinkers. To accomplish this objective this course will, after equipping students with thinking strategies (and an introduction to necessary conceptual content), give students real world problems to be solved.

The following thinking strategies will be presented and practiced:

1. The steps scientists use to guide their critical thinking
  - a. Finding the right articles (dealing with too much information; quality of articles in systematic reviews)
  - b. Background reading
  - c. Clarifying the question
  - d. Finding/creating methods to gather data
  - e. Analyzing and presenting the evidence
  - f. Discussing the meaning or application of the evidence
2. De Bono's 6 hats to guide problem solving (with emphasis on creative thinking)
  - a. White – knowing the facts
  - b. Yellow – being optimistic
  - c. Green – being creative – additional emphasis placed here
  - d. Black – being critical
  - e. Red – emotional reactions
  - f. Blue – controlling the timing of hat wearing

### 3. Thinking with models

#### Required Course Material

- All required readings will be posted on OWL.
- Articles for quizzes will be assigned on a weekly basis. Supplemental readings are provided for YOUR interest – I hope you learn to enjoy reading in this field!

#### Course Evaluation Summary

1. Self-reflections	5%
2. Quizzes	25%
3. Interview	15%
4. Position Paper	15%
5. Design Thinking Challenge	25%
6. Group Presentation	10%

#### Course Evaluation Details

1. Two self-reflection assignments based on student learning objectives:
  1. Assignment 1 will be a video posted to OWL describing what your personal goals are for this course and for your career (2.5%) Due: Jan 11<sup>th</sup>, 2019
  2. Assignment 2 is a self-reflection of your achievements in the course, and the goals set out in Assignment 1 (2.5%) Due: April 8<sup>th</sup>, 2019
2. In-class quizzes – there will be a minimum of 10 weekly quizzes (each usually marked out of 10) with the total grade based on the best 8 (30%)
3. Quality of life interview with a senior to understand safety-related concerns related to activities of daily living (15%) Due: Jan 28<sup>th</sup>, 2019
4. Position paper on the safety considerations in using autonomous vehicles by older drivers (15%) Due: March 4<sup>th</sup>, 2019
5. Design thinking challenge: Develop a solution to an important safety-related challenge faced by older adults. (25%) Due: April 10<sup>th</sup>, 2019
6. Group Presentation (10%) – Pitch your idea! Due: April 1<sup>st</sup> – 8<sup>th</sup>, 2019

## Course/University Policies

1. **Lateness/Absences:** Assignments are due by 5pm on the assigned due date and will not be accepted late, except under medical or other compassionate circumstances. Electronic submission of assignments will not be accepted (unless otherwise specified) under any circumstances. Submitting a late assignment without appropriate documentation will result in a zero (0) grade. Appropriate documentation for assignments worth less than 10% should be submitted to the instructor. A missed mid-term examination without appropriate documentation will result in a zero (0) grade. The course policy is not to allow make-ups for scheduled midterms, presentations or final exams, nor to assign a grade of Incomplete without acceptable and verifiable medical (or equivalent compassionate) reasons. Acceptable reasons might include hospital stays, serious illness, family emergencies (like serious accidents or illness, death) or similar circumstances.

2. **Documentation for Accommodation (Illness, Medical/Non-Medical Absences):**

[https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/accommodation\\_illness.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf)

The University recognizes that a student's ability to meet his/her academic responsibilities may, on occasion, be impaired by medical illness. Illness may be acute (short term), or it may be chronic (long term), or chronic with acute episodes. The University further recognizes that medical situations are deeply personal and respects the need for privacy and confidentiality in these matters. However, in order to ensure fairness and consistency for all students, academic accommodation for work representing 10% or more of the student's overall grade in the course shall be granted only in those cases where there is documentation indicating that the student was seriously affected by illness and could not reasonably be expected to meet his/her academic responsibilities.

A UWO Student Medical Certificate (SMC) is required where a student is seeking academic accommodation. This documentation should be obtained at the time of the initial consultation with the physician or walk-in clinic. An SMC can be downloaded under the Medical Documentation heading of the following website:

[http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/medicalform.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf)

Documentation is required for non-medical absences where the course work missed is more than 10% of the overall grade. Students may contact their Faculty Academic Counselling Office for what documentation is needed.

Whenever possible, students who require academic accommodation should provide notification and documentation in advance of due dates, examinations, etc. stating specific reasons and dates. Students must follow up with their professors and their Academic Counselling office in a timely manner. Documentation for medical requests for accommodation must be submitted within two (2) business days after the end date on the documentation, to the appropriate Academic Counselling Office of the student's Faculty of registration. For KIN students, you may go to the School of Kinesiology in 3M Centre room 2225 **NOT** to the instructor. It will be the Academic Counselling office that will determine if accommodation is warranted.

An "Accommodation Consideration Request Form" found online

[https://www.uwo.ca/fhs/kin/undergrad/files/accommodation\\_request.pdf](https://www.uwo.ca/fhs/kin/undergrad/files/accommodation_request.pdf) or in the Kinesiology Undergraduate Office" for ALL accommodation requests must be submitted into the appropriate Academic Counselling office of the student's Faculty/School of registration. These documents will be retained in the student's file, and will be held in confidence in accordance with the University's Official Student Record Information Privacy Policy.

3. **Grades:** Where possible assignment objectives and rubrics will be posted on OWL. Should you have a concern regarding the grade you received for an assignment or feel that it is unfair in

any way, you must wait 24 hours from the receipt of the assignment to approach the instructor or TA. In doing so, please make an appointment and prepare in writing, with evidence, why you feel your grade is inappropriate. Please be aware that in requesting a grade reassessment, your grade could go up/down/or stay the same. Note that calculations errors (which do occur!) should be brought to my attention immediately.

15% of course grades will be posted by the last day to drop a course.

A+	90-100	<i>One could scarcely expect better from a student at this</i>
A	80-89	<i>Superior work that is clearly above average</i>
B	70-79	<i>Good work, meeting all requirements and eminently</i>
C	60-69	<i>Competent work, meeting requirements</i>
D	50-59	<i>Fair work, minimally acceptable.</i>
F	below 50	<i>Fail</i>

4. **Scholastic offences:** They are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

[https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/scholastic\\_discipline\\_undergrad.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf)

- A) Students must write their essays and assignments in their own words. Whenever students take an idea, or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar). All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between Western University and Turnitin.com <http://www.turnitin.com>
- B) Computer marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

5. **Formatting** (*as recommended by the course instructor*): example- APA style is the approved style of writing for all assignments produced for this course. Please refer to Western University Library webpage for information on citation style and format or consult the APA publication manual: Publication manual of the American Psychological Association (6th ed.). (2009). Washington, DC: American Psychological Association.

6. According to the **Examination Conflict policy**, Please see the Office of the Registrar policy on Exam Conflict and Multiple Exam Situations [www.registrar.uwo.ca/examinations/exam\\_schedule.html](http://www.registrar.uwo.ca/examinations/exam_schedule.html)

6. **Classroom Behaviour:** Class will begin promptly at the time specified at the top of page one of this syllabus. In the event that you must arrive late, please enter the classroom with a minimal disturbance to the class. Please keep all electronic devices on silent and avoid distracting classmates.

7. **Electronic Device Usage:**

**During Exams** - Unless you have medical accommodations that require you to do so, or explicit permission from the instructor of the course, you may not use any of the following electronic devices during ANY of the tests, quizzes, midterms, examinations, or other in-class evaluations: cellphones, smart phones, smart watches, smart glasses, audio players or recorders of any sort, video cameras, video games, DVD players, televisions, laptop/notebook/netbook computers, flashlights or laser pointers.

**During Lectures and Tutorials:** Although you are welcome to use a computer during lecture and tutorial periods, you are expected to use the computer for scholastic purposes only, and refrain from engaging in any activities that may distract other students from learning. Please be respectful to your fellow students and turn the sound off. If the professor receives complaints from other students regarding noise or other disruptive behavior (e.g. watching videos on YouTube.com, updating your Facebook status, playing Solitaire), your classroom privileges will be revoked. From time to time, your professor may ask the class to turn off all computers, to facilitate learning or discussion of the material presented in a particular class. **Unless explicitly noted otherwise, you may not make audio or video recordings of lectures – nor may you edit, re-use, distribute, or re-broadcast any of the material posted to the course website.**

8. **Health and Wellness:** As part of a successful undergraduate experience at Western, we encourage you to make your health and wellness a priority. Western provides several on-campus health-related services to help you achieve optimum health and engage in healthy living while pursuing your degree. For example, to support physical activity, all students receive membership in Western's Campus Recreation Centre as part of their registration fees. Numerous cultural events are offered throughout the year. Please check out the Faculty of Music web page (<http://www.music.uwo.ca/>), or the McIntosh Gallery <http://www.mcintoshgallery.ca/>.

Further information regarding health and wellness-related services available to students may be found at <http://www.health.uwo.ca/>.

Students who are in emotional/mental distress should refer to Mental Health@Western (<http://www.health.uwo.ca/>) for a complete list of options about how to obtain help.

### **STUDENT CODE OF CONDUCT**

The purpose of the Code of Student Conduct is to define the general standard of conduct expected of students registered at Western University, provide examples of behaviour that constitutes a breach of this standard of conduct, provide examples of sanctions that may be imposed, and set out the disciplinary procedures that the University will follow. For more information, visit <https://www.uwo.ca/univsec/pdf/board/code.pdf>

### **ENGLISH PROFICIENCY FOR THE ASSIGNMENT OF GRADES**

Visit the website [http://www.uwo.ca/univsec/pdf/academic\\_policies/exam/english.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/exam/english.pdf)

## SUPPORT SERVICES

There are various support services around campus and these include, but are not limited to:

1. *Student Development Centre* -- <http://www.sdc.uwo.ca/ssd/>
2. *Student Health & Wellness* -- <http://www.health.uwo.ca/>
3. *Registrar's Office* -- <http://www.registrar.uwo.ca/>
4. *Ombudsperson Office* -- <http://www.uwo.ca/ombuds/>

## Tentative Schedule

Week of	Topic	Notable Events
January 7	Introduction: Theory of Ergonomics and Aging and Design Thinking	Self-reflection due
January 14	Injury statistics and safety considerations	Quiz
January 21	Falls	Quiz
January 28	Falls	Quiz Interview with a senior due
February 4	Interview and group project discussion	Quiz
February 11	Driving	Quiz
<b>February 18</b>	<b>NO CLASS</b>	<b>READING WEEK</b>
February 25	Driving	Quiz
March 4	Older workers	Quiz Driving position paper due
March 11	Homecare	Quiz
March 18	PE Fit in the community	Quiz
March 25	PE Fit at home	Quiz
April 1	Group presentations	Group presentations
April 8	Group presentations	Group presentations Self-reflection due Design thinking challenge assignment due