

Western HealthSciences

School of Kinesiology

Kin 3457B – Human Factors and Cognitive Ergonomics Winter 2027

Campus Supports

Western University is committed to a **thriving campus**. For help with:

- Both physical and mental health, go to [Wellness & Wellbeing](#)
- Studying with disabilities, go to [Accessible Education](#)
- Writing skills, go to the [Writing Support Centre](#)
- Learning skills and strategies, go to [Learning Development & Success](#)
- Contacting the ombudsperson, go to the [Office of the Ombudsperson](#)



Your course coordinator can also **guide you** to available campus resources and/or services.

Contact Information

Course Coordinator/instructor	Contact Information	Office Hours
Kayla Fewster	kfewste@uwo.ca	By Appointment

Teaching Assistant(s)	Contact Information	Office Hours

NOTE: All course information including grades, assignment outlines, deadlines, etc. are available via [OWL Brightspace](#). Check the website regularly for course announcements.

Download the Brightspace Pulse App to stay up-to-date on course communication and enable your notification settings within “Communications” in the top toolbar. Check the website regularly for course announcements. If you need assistance, visit [OWL Brightspace Help](#) or contact the [Western Technology Services Helpdesk](#). They can be contacted by phone at 519-661-3800 or ext. 83800.

Calendar Course Description (including prerequisites/anti-requisites):

This course focuses on cognitive processes that distinguish between successful and unsuccessful performances across human domains. Processes include sensation/perception, memory and learning, decision making, attention, and response execution. Applications of these processes to minimize risk of human error include engineering controls, medical technologies and processes, artificial intelligence, and product design.

Extra Information: 3 lecture hours, 1 tutorial hour.

NOTE: If you wish to enroll in this course without the stated pre-requisite(s), you must obtain written approval from the course instructor. The approval should then be forwarded to your academic counsellor.

Delivery Mode: in-person

Location	Component	Date(s)	Time
TBD	Lectures		

My Course Description

Cognitive ergonomics is concerned with how mental processes affect interactions among humans and other elements of the system to affect safety and productivity. Relevant cognitive processes include perception, memory, learning, attention, and decision making. Ergonomic approaches include: driving, engineering controls, artificial intelligence, and product design.

Learning Outcomes

Upon completion of this course, students will be able to:

1. Describe cognitive processes and how breakdown of these processes results in risk to safety or performance of a task.
2. Understand key ergonomics approaches to facilitating cognition and mitigating risk.
3. Understand and be able to think with example concepts/topics in cognitive ergonomics.
4. Have practical experience using some of the knowledge and methodologies employed in the field to understand safety promotion/injury prevention, work design, and work/job assessment.
5. Work effectively in small teams.
6. Demonstrate professionalism through listening, and through written and oral communication.
7. Demonstrate creativity and critical thinking in problem solving.

Course Materials You Must Acquire:

All materials will be posted on Brightspace. Students are expected to have moderate proficiency with obtaining/reviewing scientific literature.

Course Content and Schedule

1	Jan 4-8	Intro and Definitions	
2	Jan 11-15	Quantifying Ergonomics & Perception	
3	Jan 18-22	Memory and Learning	Quiz 1 – Jan 19 th
4	Jan 25-29	Attention and Dual-Task Control	Quiz 2 – Jan 26 th
5	Feb 1-5	Decision Making and Problem Solving, & Fitts Law and Hicks Law	Risk Observation Assignment & Quiz 3 – Feb 2 nd
6	Feb 8-12	Midterm Week	
7	Feb 15-19	Reading Week	N/A
8	Feb 22-26	Engineering Controls	Quiz 4 – Feb 23 rd
9	Mar 1-5	Medical Terminology	
10	Mar 8-12	Ergonomics	Quiz 5 – Mar 9 th
11	Mar 15-19	Artificial Intelligence	
12	Mar 22-26	Product Design	Group Assignment Due – March 23 rd

13	Mar 29-Apr 2	Ergonomics Industry – Guest Lecture	
14	Apr 5-9	Review	

Assessments and Evaluation

Below is the evaluation breakdown for the course. Any deviations will be communicated.

Course Evaluation Summary (Due Dates listed below):

Assessment	Weight	Date
Mid-term Exam	25%	February 9th
Final Exam	25%	Scheduled by Registrar
Quizzes (best 4 of 5)	10%	Weeks 3, 4, 5, 8, 10
Risk Observation Assignment	10%	February 2 nd , 2027
Group Design Assignment	30%	TBD (Week 12)
Total	100%	

Exams (Mid-term 25%; Final 25%): Exams will be a combination of multiple choice and short/long answer questions. The mid-term will be held in class and the cumulative final exam will be scheduled by the registrar.

Quizzes (10%): Quizzes will be completed through Brightspace, with a time limit. Quizzes will be due at midnight (11:59pm) on the posted dates above. Quizzes will be available 24 hours prior to the due date and can be completed at any time. Quiz dates are listed above.

Risk Observation and Group Design assignments (10% and 30%): Detailed assignment descriptions will be posted on Brightspace.

Notes:

The risk observation assignment and final group design assignment are due as stated. Should extenuating circumstances arise, students are permitted to submit their assignment up to 72 hours past the deadline without a late penalty. No Academic Consideration is required for this extension. Students submitting their assessment beyond the extended deadline will receive a penalty of 25% per day. Academic Consideration requests may be granted only for extenuating circumstances that began before the deadline and last longer than the extension. This course has 5 quizzes. The 4 quizzes with the highest marks will be counted towards your final grade. Academic consideration requests will be denied for the first missed quiz. Academic Consideration requests may be granted when students miss more than 1 quiz. These additional missed quizzes will be reweighted evenly to the remaining quizzes. In the case where all quizzes are missed, quizzes will be reweighted to the final exam. In the case of a missed midterm there is no make-up and the weighting is shifted to the final exam. The midterm is considered the designated assessment, and documentation must be provided for any absence. Undocumented requests cannot be used for the midterm. Students must not provide medical or compassionate documentation to the instructor.

General information about assessments

- ☒ Assignment is due at 23:59 EST unless otherwise specified
- ☒ Students are responsible for ensuring that the correct file version is uploaded; incorrect submissions including corrupt files could be subject to late penalties (see below) or a 0
- ☒ Written assignments will be submitted to Turnitin (statement in policies below)

- ✓ After an assessment is returned, students should wait 24 hours to digest feedback before contacting their evaluator; to ensure a timely response, reach out within 7 days
- ✓ Any grade appeals on term work must be initiated with the instructor within 3 weeks of the grade being posted. See the University Policy on Undergraduate Student Appeals for more information

The table below outlines University-wide grade descriptors.

Table 1: University-wide grade descriptors

Letter grade	Number grade	Description
A+	90-100	One could scarcely expect better from a student at this level
A	80-89	Superior work which is clearly above average
B	70-79	Good work, meeting all requirements, and eminently satisfactory
C	60-69	Competent work, meeting requirements
D	50-59	Fair work, minimally acceptable
F	below 50	Fail

Rounding of Grades (for example, bumping a 79 to 80%)

There is no rounding to the next grade level, or 'giving away' of marks. Please don't ask me to do this for you; the response will be "please review the course outline where this is presented".

Information about late or missed assessments:

- ✓ Late assignments with appropriate documentation will be provided a 1-day extension beyond the reported absence.
- ✓ 3 or more missed quizzes with appropriate documentation will be re-weighted evenly to the other quizzes.
- ✓ Missed midterm will be re-weighted to the final.

INC (Incomplete Standing): If a student has been approved by the Academic Advising Office (in consultation with the instructor/department) to complete term work at a later date, an INC will be assigned. Students with INC will have their course load in subsequent terms reduced to allow them to complete outstanding course work. Students may request permission from Academic Advising to carry a full course load for the term the incomplete course work is scheduled.

SPC (Special examination): If a student has been approved by the Academic Advising Office to write a Special Examination and the final exam is the only outstanding course component, an SPC will be assigned. If the class has a makeup exam, the student is expected to write the makeup exam. If the class doesn't have a makeup exam or the student misses the makeup exam for reasons approved by the Academic Advising Office, the student will write the exam the next time the course is offered. Outstanding SPCs will reduce the course load for the term the exam is deferred as outlined in Types of Examinations policy

Academic Policies and Statements

Support Services

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

1. Academic Support and Engagement - <http://academicsupport.uwo.ca>
2. Wellness and Well-being - <https://www.uwo.ca/health/>

3. Registrar's Office -- <http://www.registrar.uwo.ca/>
4. Ombuds Office -- <http://www.uwo.ca/ombuds/>

The websites for Registrarial Services (<http://www.registrar.uwo.ca/>), and the same for affiliated university colleges when appropriate, and any appropriate Student Support Services (including the services provided by the USC listed here: <http://westernusc.ca/services/>) and the Student Development Services, should be provided for easy access.

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

Statement on Gender-Based and Sexual Violence

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at:

https://www.uwo.ca/health/student_support/survivor_support/get-help.html.

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>

Absence from Course Commitments

Students must familiarize themselves with the Policy on [Academic Consideration – Undergraduate Students in First Entry Programs](#)

Students missing course work for medical, compassionate, or extenuating circumstances can request academic consideration by completing a request at the central academic consideration portal. Students are permitted one academic consideration request per course per term **without** supporting documentation. Note that supporting documentation is **always** required for academic consideration requests for examinations scheduled by the office of the registrar (e.g., December and April exams) and for practical laboratory and performance tests (typically scheduled during the last week of the term).

Students should also note that the instructor may **designate** one assessment per course per term that requires supporting documentation. This designated assessment is described elsewhere in this document. Academic consideration requests may be denied when flexibility in assessment has already been included. Examples of flexibility in assessment include when there are assessments not required for calculation of the final grade (e.g. 8 out of 10 quizzes), when there is flexibility in the submission timeframe (e.g. 72 hour no late penalty period), or when timed assessments (e.g., quizzes) are available over an extended period of time (e.g., when you are given a 72 hour time period to start – and finish – the assessment).

Please note that any academic considerations granted in this course will be determined by the instructor of this course, in consultation with the academic advisors in your Faculty of Registration, in accordance with information presented in this course syllabus. Supporting documentation for academic considerations for absences due to illness should use the [Student Medical Certificate](#) or, where that is not possible, equivalent documentation by a health care practitioner.

Accommodation for Religious Holidays

Students should review the policy for [Accommodation for Religious Holidays](#). Where a student will be unable to write examinations and term tests due to a conflicting religious holiday, they should inform their instructors as soon as possible but not later than two weeks prior to writing the examination/term test. In the case of conflict with a midterm test, students should inform their instructor as soon as possible but not later than one week prior to the midterm.

Special Examinations

A Special Examination is any examination other than the regular examination, and it may be offered only with the permission of the Dean of the Faculty in which the student is registered, in consultation with the instructor and Department Chair. Permission to write a Special Examination may be given on the basis of compassionate or medical grounds with appropriate supporting documents. To provide an opportunity for students to recover from the circumstances resulting in a Special Examination, the University has implemented Special Examination dates. The Faculty of Health Sciences has set School-specific dates for these Special Examinations. Please speak with your instructor about the date on which the Special Examination for this course will be held.

Academic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following website: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

Plagiarism

Student work is expected to be original. Plagiarism is a serious academic offence and could lead to a zero on the assignment in question, a zero in this course, or your expulsion from the university. You are plagiarizing if you insert a phrase, sentence or paragraph taken directly from another author without acknowledging that the work belongs to him/her. Similarly, you are plagiarizing if you paraphrase or summarize another author's ideas without acknowledging that the ideas belong to someone else. All 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 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 (www.turnitin.com).

Use of Artificial Intelligence for the Completion of Course Work

Within this course, you may only use artificial intelligence tools (e.g., "ChatGPT") in ways that are specifically authorized by the course instructor. All submitted work must reflect your own thoughts and independent written work.

Re-submission of Previously Graded Material

Without the explicit written permission of the instructor, you may not submit any academic work for which credit has been obtained previously, or for which credit is being sought, in another course or program of study in the University or elsewhere.

Use of Statistical Pattern Recognition on Multiple Choice Exams

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.

Accessibility Statement

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Accessible Education (AE) at 661-2111 x 82147 for any specific question regarding an accommodation or review [The policy on Accommodation for Students with Disabilities](#)

Correspondence Statement

The centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at their official university address is attended to in a timely manner. Students are further expected to attend to announcements presented through Brightspace, and to read emails generated in this way.

Use of Electronic Devices

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 electronic devices (e.g., cell phones, tablets, cameras, smart glass, smart watches, or iPods) during ANY tests, quizzes, midterms, examinations, or other in-class evaluations. **These devices MUST either be left at home or with your belongings at the front of the room. They MUST NOT be at your test/exam desk or in your pocket. Any student found with a prohibited device will receive an automatic grade of zero on the test or exam.**

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. 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.

Copyright and Audio/Video Recording Statement

Course material produced by faculty is copyrighted and to reproduce this material for any purposes other than your own educational use contravenes Canadian Copyright Laws. 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.

Contingency Plan for an In-Person Class Pivoting to 100% Online Learning

In the event of a situation that requires this course to pivot to online content delivery, all remaining course content will be delivered entirely online, either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on Brightspace for students to view at their convenience). The grading scheme will **not** change. Any remaining assessments will also be conducted online as determined by the course instructor

Note that disruptive behaviour of any type during online classes, including inappropriate use of the chat function, is unacceptable. Students found guilty of Zoom-bombing a class or of other serious online offenses may be subject to disciplinary measures under the Code of Student Conduct.

Online Proctoring

Tests and examinations in this course may be conducted using a remote proctoring service. By taking this course, you are consenting to the use of this software and acknowledge that you will be required to provide **personal information** (including some biometric data) and the session will be **recorded**. Completion of this course will require you to have a reliable internet connection and a device that meets the technical requirements for this service. More information about this remote proctoring service, including technical requirements, is available on Western's Remote Proctoring website at: <https://remoteproctoring.uwo.ca>.

Appealing a Grade Within this Course

You have the right to appeal any grade within this course. The grounds for a grade appeal may be one or more of: medical or compassionate circumstances, extenuating circumstances beyond the student's control, bias, inaccuracy, or unfairness. All grounds advanced in a request for relief must be supported by a clear and detailed explanation of the reasons for the request together with all supporting documentation.

Appeals generally proceed in this order:

1. Course instructor (informal consultation)
2. Department Chair (submission of written request)
3. The Dean of the Faculty (submission of written request)

In the case of perceived procedural unfairness, steps 2 and 3 are carried out within the Department and Faculty offering the course. In the case of extenuating medical or compassionate circumstances that impact on a grade, steps 2 and 3 are carried out within a student's Home Department and Faculty.

A request for relief against a mark or grade must be initiated with the instructor as soon as possible after the mark is issued. In the event that the instructor is not available to the student, or fails to act, or if the matter is not resolved satisfactorily with the instructor, a written request for relief must be submitted to the Chair of the Department within three weeks of the date that the mark was issued. In the case of a final grade in a course, the written request for relief must be submitted to the Chair of the department by January 31st (for first-term half courses) or June 30th (for second-term half courses or full-year courses).