

Faculty of Health

School of Kinesiology and Health Science

Course: HH KINE 4240 3.0 Applied Human Factors

Course Webpage: Moodle

Term: Winter 2015

Prerequisite: HH Kine 3020

Course Instructors

Course Director: *Mazyar Fallah, PhD*

Office Phone: (416) 736-2100 x20555

Email: mfallah@yorku.ca

Teaching Assistant: *Carolyn Perry*

Office Hours: TBA

Email: ccjgo@yorku.ca

Email Etiquette:

- For all email correspondence please use KINE 4240 in the subject header. Please sign all letters with your full name and/or your student number. Email correspondence will not be held with anonymous people.
- We will respond to email only if it can be answered in 10 words or less.
- For complex issues, please use email to arrange for a time where we can meet (preferably during office hours).
- **Email will not be answered on the weekends** but shortly afterwards.
- **You may leave a voicemail in the case of extreme emergencies.**

Time and Location

Lecture: Tues/Thurs 2:30-4:00pm SC 218

Course Description

Human Factors is the interdisciplinary field between neuroscience, biomechanics, physical activity, and human performance. This course discusses human factors, e.g. sensory, perceptual, motor and cognitive systems, and how they feature in machines, systems design, procedures and skills, with an emphasis on physical activities and sport.

The first half of the course focuses on applied human factors in sport. The second half of the course focuses on applied human factors in technology, through aviation and other situations.

Course Organization

The content of the course will be delivered twice a week in lecture format. Students are strongly encouraged to read the relevant textbook chapters prior to the weekly lecture.

Course Learning Objectives

The student will understand how the processing systems within the brain guide action, cognition and decision making for sports and system designs. By the end of the course, the student should understand the application of these human factors to sports they play or watch, and the technology that has become ubiquitous in our lives.

Course Text / Readings

Perception, Cognition and Decision Training: The Quiet Eye in Action by Joan N. Vickers (2007). Human Kinetics Publishers. ISBN-10: 0736042563.

Tentative Class Schedule

- Last date to enroll without permission of course instructor: Jan 19
- Last date to enroll with permission of course instructor: Jan 30
- Last date to drop courses without receiving a grade: March 6

Date	Topic(s)	Reading
Jan 6	Introduction	
Jan 8, 13	Visual System, Motor Control, and the Changing Brain	Chapter 1
Jan 15	Measuring What Athletes See	Chapter 2
Jan 20	Visual Attention & Gaze Control	Chapter 3
Jan 22	Gaze Control Framework	Chapter 4
Jan 27, 329	Gaze Control to a Single Fixed Target	Chapter 5
Feb 3	Gaze Control in Abstract-Target & Moving-Target Tasks	Chapter 6
Feb 5	Gaze Control in Interceptive Timing Tasks	Chapter 7
Feb 10, 12	Gaze Control in Tactical Tasks	Chapter 8
Feb 26	TEST 1	
Mar 3	Systems in Aviation	
Mar 5, 10	Kinesthesia and Cognition in Flight	
Mar 12	Information Processing	
Mar 17	Fatigue & Sleep	
Mar 19	Remote Operation	
Mar 24	Driving	
Mar 26	Augmented Reality	
Mar 31	HCI/Neural prosthetics	
April 2	Q&A	
TBA	Final Exam	Everything!

Evaluation

Attendance: The lectures are integral to learning the material. Attendance will not be taken; however, it is your responsibility to attend lectures. Material presented in the lecture is not necessarily in the textbook. You will be tested on all material covered in both lectures and the text. You are welcome to voice record the lectures if you want.

Final Grade:

The final grade for the course will be based on the following items weighted as indicated:*

- Class Test 1: 40%
- Final Examination: 60%

There will be one class test and one final examination. Questions will be drawn from weekly lecture material and the relevant textbook chapters, with the greatest focus on content presented in class and overlapping with the readings. The format of the questions will be multiple choice, fill in the blank, matching, short answer, and essays. The final examination will cover material from the entire course.

An unofficial list of grades will be posted on the course website as soon as they become available. Please check the course website rather than persistently contacting the teaching team to find out if they are available.

* Final course grades may be adjusted to conform to Program or Faculty grades distribution profiles.

Grading: The grading scheme for the course conforms to the 9-point grading system used in undergraduate programs at York (e.g., A+ = 9, A = 8, B+ = 7, C+ = 5, etc.). Assignments and tests will bear either a letter grade designation or a corresponding number grade (e.g. A+ = 90 to 100, A = 80 to 90, B+ = 75 to 79, etc.) (For a full description, see the York University Undergraduate Calendar:

http://calendars.registrar.yorku.ca/pdfs/ug2004cal/calug04_5_acadinfo.pdf)

An appeal against a grade assigned to an exam must be made in writing to the course director/instructor. The entire exam will be regarded by the course director. The result of an appeal may cause the grade to increase, decrease or remain the same.

Missed Tests: Only students with a legitimate reason for missing a class test, which is confirmed by official documentation*, may request accommodation from the Course Instructor. Written documentation should be submitted to the Course Director at the next meeting of the class. In the event that a class test is missed, the percentage allocated to the missed exam will be added to the final exam. If a student misses an exam with no legitimate excuse, the student will receive a grade of zero for the missed test. Further extensions or accommodation will require students to submit a formal petition to the Faculty.

In the case of a sudden emergency, contact me as soon as possible. If you cannot reach me, a message can be left on my office voice-mail, which records the date and time of your call.

*Official Documentation.

Documentation must be provided by a registered clinical psychologist, psychiatrist, or medical doctor indicating that you were indeed unable to attend on the specific date of the examination because of your specific problem.

IMPORTANT COURSE INFORMATION FOR STUDENTS

Please refrain from talking to others or making audible comments during class lectures or while another student is responding. If it is necessary to make noise, please leave the room first. Please place your cell phone and other electronic equipment in silent mode.

All participants in the course, teaching staff and students, will conduct themselves in a thoughtful and sensitive manner. Correct scientific terminology will be the lingua franca in the classroom.

This is an undergraduate course, not the culmination of a clinical neurology degree. Even though we will discuss many issues involving the relationship between the brain and behavior, you will not be in a position to "diagnose" the problems of another person (including **yourself**). If the material in this course does evoke uneasiness for you, perhaps because you or a family member has gone through a related experience, please feel free to contact the course director confidentially via phone or e-mail or access the resources of the Counselling and Development Centre (145 Behavioural Sciences Building; 416-736-5297).

Cheating is unacceptable on this course and any student who participates in this activity can expect to be referred to the appropriate disciplinary authority for their first offence. If you are unclear what does and does not constitute cheating please refer to the Academic Integrity web site (<http://www.yorku.ca/academicintegrity>) and read the section 'For Students'. If you have not completed the Academic Integrity Tutorial which is hosted there, then I would urge you to do so.

All students are expected to familiarize themselves with the following information, available on the Senate Committee on Curriculum & Academic Standards webpage (see Reports, Initiatives, Documents): http://www.yorku.ca/secretariat/senate_cte_main_pages/ccas.htm

- York's Academic Honesty Policy and Procedures/Academic Integrity Website
- Ethics Review Process for research involving human participants
- Course requirement accommodation for students with disabilities, including physical, medical, systemic, learning and psychiatric disabilities
- Student Conduct Standards
- Religious Observance Accommodation