

**Acknowledgement of Indigenous Peoples and Traditional Territories:**

York University recognizes that many Indigenous nations have longstanding relationships with the territories upon which our campuses are located that precede the establishment of York University.

We acknowledge our presence on the traditional territories of the Mississaugas of Credit First Nation, the Huron-Wendat, the Haudenosaunee Confederacy and the Métis Nation of Ontario.

**York University**

**Faculty of Health**

**School of Kinesiology and Health Science**

- Course:** HH/KINE 3020 3.00 – Skilled Performance and Motor Learning
- Course Webpage:** eClass: [eclass.yorku.ca](http://eclass.yorku.ca)
- Term:** Fall 2022
- Prerequisites:** HH KINE 2050 3.0 [or equivalent "Statistics" course] and PSYC 1010 6.0
- Course Instructors:**
- |  |   |
|--|---|
| <b>Taylor Cleworth</b><br>362 Bethune College<br>tclewort@yorku.ca<br>Office hours: by appointment | <b>Melanie Baniña</b><br>TBA<br>mcbanina@yorku.ca<br>Office hours: by appointment |
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- Course Description:** This course is an introduction to the psychological principles and underlying neural mechanisms of skilled performance and motor control. In addition, experimental methods employed in the study of motor control will be demonstrated in the laboratory. Topics include the role of attention, information processing and feedback in controlling performance, as well as the contribution of the central nervous system in voluntary motor performance and motor learning.
- Laboratory Instructors:** (to be announced)
- Lectures:** Section A - Mon. CLH L & Wed. ACE 102, 1:30 to 2:20  
Section B - Mon. ACW 109 & Wed. ACE 102, 2:30 to 3:20
- Laboratories:** Labs for Section A & B will be held in CB 125, 125A, 162 and 163. See the York University Lecture Schedule for the days and times for labs.
- \*Labs commence the week of September 19, 2022
- Drop Dates:** Last date to drop a course without receiving a grade: **NOV. 11<sup>th</sup>, 2022.**  
The Course Withdrawal Period (withdraw from a course and receive a grade of “W” on transcript) is Nov. 12 - Dec. 7, 2022.

## **Learning Outcomes:**

After completion of KINE 3020 3.0 [Skilled Performance and Motor Learning], students will be able to:

- a) describe the basic components of the human nervous system.
- b) compare and contrast different cellular components of the human nervous system.
- c) describe key processes involved in the passage of information between neurons.
- d) describe how the nervous system controls muscles and monitors body and limb positions.
- e) describe how the brain utilizes visual information to control skilled movement.
- f) describe how various structures of the brain control human movement.
- g) identify different types of memory involved in learning.
- h) define skilled performance.
- i) describe the connotations associated with skilled behaviour.
- j) compare and contrast the common motor skill classification systems.
- k) describe methods of assessing the production and outcome of motor skills.
- l) describe characteristics of learners as they progress through stages of learning.
- m) construct a model of information processing used by skilled performers.
- n) summarize the differences in processing abilities between expert and novice performers.

## **Course Text / Readings:**

Readings will be assigned during the course and available on eClass.

## **Course Evaluation:**

Lab Assignments	15%	Weekly assignments based on labs.
Mid-term exam 1	20%	Scheduled for <b>Oct. 19</b> , during lecture time.
Mid-term exam 2	20%	Scheduled for <b>Nov. 23</b> , during lecture time.
Final exam	45% - 100%	During December exam period.

\*\* Exams cover material from the lectures, readings, and labs. The Final exam is cumulative \*\*

**Students who do not write Mid-term 1 waive the right to receive “a specific percentage of graded feedback” prior to the drop date for the Fall term.**

## **Grading:**

The grading scheme for the course conforms to the 9-point grading system used in undergraduate programs at York University. Assignments will bear either a letter grade designation or a corresponding number grade. For a full description of York’s grading system, see the York University Undergraduate Calendar. Final course letter grades may be adjusted to conform to Program or Faculty grades distribution profiles.

***The percentage allocated for any course work not attempted/completed will be added to the final exam.***

***In the event a mid-term exam is missed the percentage allocated to the exam will be added to the final. There are no make-up exams in the course.***

An appeal against a grade assigned to an item of course work must be made in writing to the course director (Cleworth) within 7 days of the graded work being made available to the class. The result of an appeal may cause the grade to increase, decrease or remain the same.

**Students who miss the final exam** will only be allowed to write a deferred final exam if the student provides formal documentation **dated the day of the final exam**. Formal documentation includes, but is not limited to, a doctor’s note, court-date note, or by other official documentation detailing a serious matter. For doctor’s notes, only the York University’s Attending Physician Statement found on York’s Registrar site, will be accepted.

### **Organization of the Course:**

For Fall 2022, KINE 3020 lectures and laboratories will take place in-person, on campus. Students are encouraged to attend lectures in person, as there is substantial evidence that physically attending lectures improves text/exam performance.

### **Lecture Slides and Recordings**

Lecture presentation slides are typically posted prior to lecture where possible. Barring technical issues, lectures will be recorded whenever possible, and posted after the lecture has been delivered. Lecture slides and audio recordings are designed to supplement lecture attendance.

The York University Student Code of Conduct specifically prohibits theft of intellectual property, which includes recording a course director's lecture without his/her permission or taking lecture material provided online, modifying it, and/or using it for your own personal use or gain. The material provided is only to be used for your personal study when you take the course for which it was created. Use in any other way will result, at the minimum, in sanctions in accordance with the York Code and may be breaking federal, provincial or municipal laws and will be acted on accordingly.

### **Laboratories:**

Each week, commencing September 19<sup>th</sup>, you will meet with your Teaching Assistant in the designated computer lab during the scheduled lab time in which you enrolled.

Each week, you are required to read the upcoming week's lab instructions and complete a pre-lab assignment quiz on eClass. It is to be completed prior to the start of your weekly lab time.

It is during your 2-hour lab time that you will conduct a short experiment, collect, and analyse the data and then begin (and possibly finish) your weekly lab report. Your weekly lab report is to be submitted (as a PDF file) via eClass to your TA, prior to the beginning of the following week's lab. Students must complete the pre-lab assignment and participate in the data collection portion of the lab to be able to submit the weekly lab report.

### **Lab reports that are submitted late without documentation will not be marked.**

Documentation must be included with the assignment and the assignment must be submitted as soon as possible. If you anticipate not being able to hand in your assignment for more than two weeks from the due date for medical reasons, or for some other serious matter, you must contact the Course Coordinator immediately via email. Please do NOT ask for extensions as extensions will NOT be granted.

The following statement MUST be included (and signed), in the Title Section of each lab report that is submitted:

“I confirm that the assignment I have submitted has been done independently and is my own work. I am aware of York University's policies about plagiarism and the penalties for plagiarism.”

\*Labs commence the week of September 19, 2022.

### **Health and Safety Information:**

In this course, all university community members must comply with York's health and safety protocols, found on the [Better Together](#) website. All are strongly encouraged to:

- wear masks while indoors on campus
- self-screen using the [YU Screen](#) tool prior to coming to campus for any in-person activities
- **NOT** attend in-person activities at any of York's campuses/locations if feeling unwell or if you answer yes to any of the screening questions.

All members of the York community share in the responsibility of keeping others safe on campuses and ensuring respectful interactions with one another.

### **Please Take Care of You and Each Other:**

We continue to deal with the impact of COVID-19 and its far-reaching consequences. Please be kind and gentle with yourselves and others. There are a number of online free resources available to help support you. If you need help, the following list of websites (this is not an exhaustive list) may be a good place for you to start:

<https://good2talk.ca/>

<https://counselling.students.yorku.ca/>

<https://www.yorku.ca/bettertogether/>

<https://yorkinternational.yorku.ca/>

### **IMPORTANT COURSE INFORMATION FOR STUDENTS**

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)

- Senate Policy on Academic Honesty and the 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

**Lecture and Laboratory Schedule (subject to change) – KINE 3020, 2022**

<b>Week Beginning</b>	<b>Monday</b>	<b>Wednesday</b>	<b>Reading</b>	<b>Laboratory</b>
September 5	Labour Day <b>University closed NO CLASSES</b>	Introduction class	See eClass	Labs start the week of September 19.
September 12	Introduction to Nervous System	Information Transmission	See eClass	Labs start the week of September 19.
September 19	Control of Muscle	Introduction to Skilled Performance & Motor Learning	See eClass	Lab 1 Measuring Human Performance
September 26	Skilled Performance & The Information Processing Model	Measuring Performance	See eClass	Lab 2 Speed / Accuracy
October 3	Proprioception & Spinal Control of Movement	Vision & Vestibular System	See eClass	Lab 3 Error Lab
October 10	<b>[Fall Reading Week No <u>lecture</u>]</b>	<b>[Fall Reading Week No <u>lecture</u>]</b>	Review readings	No labs this week
October 17	Sensory Processing and Integration	<b>1<sup>st</sup> Midterm</b>	See eClass	Lab 4 JND (Visual)
October 24	Selective Attention - Visual & Auditory	Perception - Behavioural Aspects 1	See eClass	Lab 5 Slater Hamel/central processing
October 31	Perception - Behavioural Aspects 2	Brainstem motor pathways & Primary Motor cortex	See eClass	Lab 6 Perception: Stimulus Intensity and RT
November 7	Premotor areas Basal Ganglia (start)	Basal ganglia (cont.), Cerebellum	See eClass	Lab 7 Mental Rehearsal & Motor Performance
November 14	Motor Learning	Decision Stage	See eClass	Lab 8 Visuomotor Adaptation
November 21	Decision Stage	<b>2<sup>nd</sup> Midterm</b>	See eClass	Lab 9 Decision - Hick-Hyman
November 28	Effector Stage	Motor Programs	See eClass	Lab 10 Effector - Fitts Law
December 5	Final Class/Review	Fall Study Day	Review readings	No labs
December	<b><u>Exam period</u></b> Dec. 8 – 23	<b><u>Exam period</u></b> Dec. 8 – 23	<b><u>Exam period</u></b> Dec. 8 – 23	<b><u>Exam period</u></b> Dec. 8 – 23