

YORK UNIVERSITY
FACULTY OF HEALTH
SCHOOL OF KINESIOLOGY AND HEALTH SCIENCE
HH KINE 3020 3.0

SKILLED PERFORMANCE AND MOTOR LEARNING

Fall 2019

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.

Prerequisites: HH KINE 2050 3.0 [or equivalent "Statistics" course]; and
HH PSYC 1010 6.0

Course Instructors: **Merv Mosher**
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Office Hours: by appointment (physical or virtual meeting) or drop-in

Computer Accounts: All students require a **Moodle** account, and an “**FAS**”
[**File Access Service**] account. Check via Manage My Services.

Course Web Sites: moodle.yorku.ca
mmosher.info.yorku.ca

Laboratory
Instructors: (to be announced)

Lectures: Section A - Mon. & Wed. 1:30, ACW - 109
Section B - Mon. & Wed. 2:30, ACW - 109

Laboratories: Labs for Section A & B will be held in 125, 163, 125A and 162 CB.
See the York University Lecture Schedule for the days and times
for labs.

*Labs commence the week of September 16, 2019

To ensure the academic credibility of your degree, the following
Academic Integrity Statement, signed by the student, is to be
included with every assignment 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."

Course text:

- Lecture Notes & Laboratory Manual: Skilled Performance and Motor Learning, (2019).
- Course Readings: Posted on Moodle

Course Evaluation:

Lab Assignments 20% (Optional)	Weekly assignments based on labs. (5% Pre-lab assignment & 15% weekly assignments based on labs.)
Mid-term exam 1 30% (Optional)	Scheduled for Oct. 28 , during lecture time.
Final exam - 50% - 100% (Required)	During December exam period.

** Exams cover material from the lectures, readings and labs. All exams are 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.

Students must complete all of the lab assignments to be eligible for letter grade adjustments at the end of the term.

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.

N.B. An appeal against a grade assigned to an item of course work must be made in writing to the course director 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.

Although numerical marks are assigned to each piece of work in this course there should be no assumption that a total number of marks translates directly to a letter grade. Letter grades will be determined by the descriptions in the York University Undergraduate Calendar.

Students who miss the final exam will only be allowed to write a deferred final exam if the student provides a completed Registrar's Office Attending Physician's Statement showing a physical incapability of writing the final exam, **dated the day of the final exam.**

Drop Dates:

Last date to drop a course without receiving a grade: **NOV. 8th, 2019.**

The Course Withdrawal Period (withdraw from a course and receive a grade of “W” on transcript is Nov. 9 - Dec. 3, 2019.

Lecture Capture:

Lectures will be digitally recorded and posted online. Recordings will be available for **seven (7) days** following the lecture.

Please note the York University policy regarding this technology.

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 on line, 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, at the maximum, will be breaking federal, provincial or municipal laws and will be acted on accordingly.

Learning Expectations:

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

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)

- 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

KINE 3020 3.0 Skilled Performance and Motor Learning – Fall 2019

Lecture Topics and corresponding dates are Approximate

Week Beginning	Monday	Wednesday	Reading	Laboratory
September 2	Labour Day University closed No Classes	Introductory class – course syllabus	See Moodle	Labs in this course start the week of September 16.
September 9	Introduction to Skilled Performance & Motor Learning	Intro' to the Human Brain & Central Nervous System	See Moodle	Labs in this course start the week of September 16.
September 16	The Cerebrum	Transmission of Information	See Moodle	Lab 1 RT / MT Brain Intro
September 23	Skilled Performance & The Information Processing Model	Measuring Performance	See Moodle	Lab 2 Fatal Vision
September 30	Information Processing & Selective Attention	Selective Attention - Visual & Auditory	See Moodle	Lab 3 Central Processing
October 7	Perception – Visual	Perception - Proprioception & Vestibular System	Review previous readings	Lab 4 Mirror Tracing [No Monday lab]
October 14	[Fall Reading Week No lecture]	[Fall Reading Week No lecture]	See Moodle	No labs this week
October 21	Sensory Processing	Perception - Behavioural Aspects 1	See Moodle	Lab 5 Sensorimotor integration and mental imagery
October 28	1st Midterm	Perception - Behavioural Aspects 2	Readings 1 to 5 [Moodle]	Lab 6 Speed / Accuracy
November 4	Neurological Aspects of Decision Making	Behavioural Aspects of Decision Making	Readings 6-10	Lab 7 Measures of Error
November 11	Neurological Aspects of the Effector Stage	Motor Control & Basal Ganglia	Readings 11-15 [Moodle]	Lab 8 Perception – Crossman's CF
November 18	Motor Control & Cerebellum	Information Transmission to Muscles	Readings 16-20 [Moodle]	Lab 9 Decision - Hick-Hyman
November 25	Effector Control of Movement	Motor Programs	Readings 21-25	Lab 10 Effector - Fitts Law
December 2	Neuroplasticity, Learning & Practice [last class]	Final Exam period begins	Review Readings	No labs
December	<u>Fall Exam period</u> Dec. 5 – 20	<u>Fall Exam period</u> Dec. 5 – 20	<u>Exam period</u> Dec. 5 –20	<u>Fall Exam period</u> Dec. 5 – 20