YORK UNIVERSITY

FACULTY OF HEALTH

SCHOOL OF KINESIOLOGY AND HEALTH SCIENCE

HH KINE 3020 3.0

SKILLED PERFORMANCE AND MOTOR LEARNING

Fall 2018

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
Degree Credit Exclusions:	AS/SC PHED 3020.03

Course Instructors:	**Merv Mosher**	**Lauren Sergio**
	359 Stong College	2032 Sherman Health Science
	ext. 66922	ext. 33641
	mmosher@yorku.ca	lsergio@yorku.ca
Office Hours:	by appointment	by appointment
Computer Accounts:	All students require a **Moodle** account, and an "**FAS**" **[File Access Service]** account.	
Course Web Sites:	moodle.yorku.ca	moodle.yorku.ca
	www.yorku.ca/mmosher	www.yorku.ca/lsergio
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 17, 2018	

Required texts:

Lecture Notes & Laboratory Manual: Skilled Performance and Motor Learning.

Course Readings: Posted on Moodle

Course Evaluation:

Lab Assignments	15%	Weekly assignments based on labs.
Mid-term exam 1	20%	Scheduled for *Oct. 29*, during lecture time.
Mid-term exam 2	20%	Scheduled for *Nov. 26,* during lecture time.
Final exam - 45% - 100%		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. 9ᵗʰ , 2018.**

The Course Withdrawal Period (withdraw from a course and receive a grade of "W" on transcript), is Nov. 10 - Dec. 4, 2018

Lecture Capture:
Lectures will be digitally recorded and posted on-line. 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 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 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.

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 2018
Lecture Topics and corresponding dates are Approximate

Week Beginning	Monday	Wednesday	Reading	Laboratory
September 3	Labour Day **University closed NO CLASSES**	Intro class - course syllabus (Mosher/Sergio)	See Moodle	Labs in this course start the week of September 17.
September 10	(Sergio starts) 1: Introduction to Nervous System	2: Information Transmission	See Moodle	Labs in this course start the week of September 17.
September 17	3: Control of Muscle	4a: Proprioception	See Moodle	Lab 1 RT / MT Brain Intro
September 24	4b: Spinal Control of Movement	5: Visual and Kinesthetic Processing	See Moodle	Lab 2 Fatal Vision
October 1	6a: Brainstem motor pathways & Primary Motor cortex	6b: Premotor areas 7: Basal Ganglia (start)	See Moodle	Lab 3 Central Processing
October 8	**[Fall Reading Week No lecture]**	**[Fall Reading Week No lecture]**	Review previous readings	No labs this week
October 15	7, 8: Basal ganglia (cont.), Cerebellum	9: Motor Learning	See Moodle	Lab 4 Mirror Tracing [No Monday lab]
October 22	Motor Learning & Summary	(Mosher starts) Definitions/ Info Processing model	See Moodle	Lab 5 Sensorimotor integration and mental imagery
October 29	**1st Midterm**	Error measures Learning - Power Law	Readings 1 to 5 [Moodle]	Lab 6 Speed / Accuracy
November 5	Classifications / Selective Attention	Attention: Perception Stage	Readings 6-10	Lab 7 Measures of Error
November 12	Perception Stage	Decision Stage	Readings 11-15 [Moodle]	Lab 8 Perception – Crossman's CF
November 19	Decision Stage	Effector Stage	Readings 16-20 [Moodle]	Lab 9 Decision - Hick-Hyman
November 26	**2nd Midterm**	Motor Programs	Readings 21-25	Lab 10 Effector - Fitts Law
December 3	Motor Programs [last class]	Final Exam period begins	Review Readings	No labs
December	**Exam period** Dec. 6 – 21	**Exam period** Dec. 6 – 21	**Exam period** Dec. 6 –21	**Exam period** Dec. 6 – 21