

**AS/SC KINE 4455  
MOVEMENT ANALYSIS LABORATORY  
Winter 2019**

<b>INSTRUCTORS:</b>	Anne Moore, PhD ( <a href="mailto:biomech@yorku.ca">biomech@yorku.ca</a> ), 2024 Sherman Lauren Sergio, PhD ( <a href="mailto:lsergio@yorku.ca">lsergio@yorku.ca</a> ), 2032 Sherman		
<b>OFFICE HOURS:</b>	by appointment		
<b>LECTURES:</b>	Tuesday/Thursday	12h30 – 13h30	SC 212
<b>LABORATORIES:</b>	Lab 01: Tuesday	13h30 – 15h30	Stong Coll. 101a
	Lab 02: Thursday	13h30 – 15h30	Stong Coll. 101a
<b>COURSE WEBPAGE:</b>	Moodle		
<b>TEACHING ASSISTANTS:</b>	Alica Rogojin, <a href="mailto:alicar@yorku.ca">alicar@yorku.ca</a>		

**COURSE OBJECTIVES:**

This course teaches the theory and practice of methods for measuring and analyzing the mechanics and control of movement. Methods include collection of biological signals such as electromyography and techniques for both kinematic and kinetic analysis of movement.

**PREREQUISITES:**

AS/SC KINE 3030 - Introduction to the Biomechanical Analysis of Human Movement  
AS/SC KINE 3020 - Skilled Performance and Motor Learning  
Or 80 Credits and Course Director's permission required.

**LECTURE NOTES:** Lecture notes and laboratory notebooks are available on moodle.

**READINGS:** Assigned throughout course. Available on moodle.

**GRADING**

a)	Participation	=	10%
b)	Lab Reports (1 x 5, 3 x 10)	=	35%
c)	Mini-experiment	=	20%
d)	Lab Practical Exam	=	15%
e)	Final Examination (Lab Theory)	=	20%

**GRADING NOTES:**

1. Numerical scores will be assigned for each piece of course work. However, there should be no assumption that a certain total course mark corresponds to a specific letter grade. Letter grades will be assigned based on the descriptions found in the York University Undergraduate Calendar.
2. You cannot submit 'extra' work following the posting of a mark in order to raise a grade.

## ASSIGNMENTS AND LABORATORY SCHEDULE – KINE 4455, 2019

Date	Topic#	Lecture: 12h30-13h30 SC 212	Laboratory: 13h30-15h30 Stong 101A
R Jan. 3	1	Introduction (ls)	Intro to equip- EMG, Force, position
T Jan. 8			<i>Intro to equip- EMG, Force, position</i>
R Jan. 10	2	EMG1: Basics and Amplitude (ls)	Calibration (Report due Jan 17 - 5%)
T Jan. 15			<i>Calibration (Report due Jan 22- 5%)</i>
R Jan. 17	3	EMG 2: Frequency Domain (am)	Fatigue (Report due Jan 24 - 10%)
T Jan. 22			<i>Fatigue (Report due Jan 29 - 10%)</i>
R Jan. 24	4	Kinematics & Differentiation (ls)	Kinematics & Differentiation (Report due Jan. 31 - 10%)
T Jan. 29			<i>Kinematics &amp; Differentiation (Report due Feb 5 - 10%)</i>
R Jan. 31	5	EMG 3: Filtering and Artifacts (ls)	EMG & movement
T Feb. 5			<i>EMG &amp; movement</i>
R Feb. 7	6	Kinetics - Force plates (am)	Forces & Moments
T Feb. 12			<i>Forces &amp; Moments</i>
R Feb. 14	7	Kinetics - Strain gauges (am)	Force Response (Report due Feb 28 - 10%)
T Feb. 26			<i>Force Response (Report due Mar.5 - 10%)</i>
R Feb. 28	8	Spinal Reflex (ls)	Spinal Reflex
T Mar. 5			<i>Spinal Reflex</i>
R Mar. 7	9	<b>Mini-experiment (am) lecture (both labs attend 12h30-13h30)</b>	
		Group Mini-experiment (prep/start), Thursday lab group	
T Mar. 12		<b>Mini experimental write up/presentation (both labs attend 12h30-13h30)</b>	
		<i>Group Mini-experiment (prep/start), Tuesday lab</i>	
R Mar. 14		Thursday lab group only	
		Group Mini-experiment (collection/analysis) (am)	
T Mar. 19		<b>Tuesday lab group only</b>	
		<i>Group Mini-experiment (collection/analysis) (am)</i>	
R Mar. 21		Thursday Presentations (am/ls)	
		Mini-experiment - presentations (20% with write-up)	
T Mar. 26		<b>Tuesday Presentations (am/ls)</b>	
		<i>Mini-experiment - presentations (20% with write-up)</i>	
R Mar 28		Lab available for practical exam study	
T Apr. 2		<b>LAB EXAM – practical 13h45-15h00: Tuesday Group, 12h30-13h30: Thursday Group</b>	
<b>April 5-20</b>		Theory Exam (exact date TBD)	

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## **RE-EVALUATION POLICY**

During the term:

Any requests for remarking of assignments or in-class tests must be received by the course instructor within 7 days of the item's mark being posted, along with the "Evaluation item remark request" form, which can be found on the course website. Please note that your mark may be *raised, lowered, or confirmed*.

Re-appraisal of a final grade:

Any requests for re-appraisal of a final mark must be received by the course instructors within 7 days of the final grade posting, along with the "Evaluation item remark request" form, which can be found on the course website. Please note that your mark may be *raised, lowered, or confirmed*. If the result is still unsatisfactory, requests for a reappraisal of the final grade for a completed course are the responsibility of the Undergraduate Director. You must submit in writing a formal request for a **final grade reappraisal** to the KINE undergraduate Office. The 'Reappraisal of Final Grades' form can be picked up at the KINE Undergraduate Office. **You cannot submit 'extra' work following the posting of a mark in order to raise a grade.**

For further details: [www.registrar.yorku.ca/policies/grade.htm](http://www.registrar.yorku.ca/policies/grade.htm)

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

### **Academic Honesty and Integrity**

York students are required to maintain high standards of academic integrity and are subject to the Senate Policy on Academic Honesty (<http://www.yorku.ca/secretariat/legislation/senate/acadhone.htm>).

There is also an academic integrity website with complete information about academic honesty. Students are expected to review the materials on the Academic Integrity website (<http://www.yorku.ca/academicintegrity>).

### **Access/Disability**

York provides services for students with disabilities (including physical, medical, learning and psychiatric disabilities) needing accommodation related to teaching and evaluation methods/materials.

It is the student's responsibility to register with disability services as early as possible to ensure that appropriate academic accommodation can be provided with advance notice. You are encouraged to schedule a time early in the term to meet with each professor to discuss your accommodation needs. Failure to make these arrangements may jeopardize your opportunity to receive academic accommodations.

Additional information is available at [www.yorku.ca/disabilityservices](http://www.yorku.ca/disabilityservices) or from disability service providers:

- **Office for Persons with Disabilities:** N108 Ross, 416-736-5140, [www.yorku.ca/opd](http://www.yorku.ca/opd)
- **Learning and Psychiatric Disabilities Programs - Counselling & Development Centre:** 130 BSB, 416-736-5297, [www.yorku.ca/cdc](http://www.yorku.ca/cdc)
- **Atkinson students - Atkinson Counselling & Supervision Centre:** 114 Atkinson, 416-736- 5225, [www.yorku.ca/atkcsc](http://www.yorku.ca/atkcsc)
- **Glendon students - Glendon Counselling & Career Centre:** Glendon Hall 111, 416-487- 6709, [www.glendon.yorku.ca/counselling](http://www.glendon.yorku.ca/counselling)

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### Religious Observance Accommodation

York University is committed to respecting the religious beliefs and practices of all members of the community, and making accommodations for observances of special significance to adherents. Should any of the dates specified in this syllabus for an in-class test or examination pose such a conflict for you, contact the Course Director within the first three weeks of class. Similarly, should an assignment to be completed in a lab, practicum placement, workshop, etc., scheduled later in the term pose such a conflict, contact the Course director immediately.

Please note that to arrange an alternative date or time for an examination scheduled in the formal examination periods (December and April/May), students must complete an Examination Accommodation Form, which can be obtained from Student Client Services, Student Services Centre or online at [http://www.registrar.yorku.ca/pdf/exam\\_accommodation.pdf](http://www.registrar.yorku.ca/pdf/exam_accommodation.pdf)

### Student Conduct

Students and instructors are expected to maintain a professional relationship characterized by courtesy and mutual respect and to refrain from actions disruptive to such a relationship. Moreover, it is the responsibility of the instructor to maintain an appropriate academic atmosphere in the classroom, and the responsibility of the student to cooperate in that endeavour. Further, the instructor is the best person to decide, in the first instance, whether such an atmosphere is present in the class. A statement of the policy and procedures involving disruptive and/or harassing behaviour by students in academic situations is available on the York website <http://www.yorku.ca/secretariat/legislation/senate/harass.htm>

***Please note that this information is subject to periodic update. For the most current information, please go to the CCAS webpage (see Reports, Initiatives, Documents):***

[http://www.yorku.ca/secretariat/senate\\_cte\\_main\\_pages/ccas.htm](http://www.yorku.ca/secretariat/senate_cte_main_pages/ccas.htm).