

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 4455 3.00 – Movement Analysis Laboratory

Course Webpage: eClass: eclass.yorku.ca

Term: Winter 2023-2024

Prerequisite: KINE 3020 - Skilled Performance and Motor Learning
KINE 3030 - Biomechanics of Human Movement
or
Course Instructor's permission

Course Instructor:

Taylor Cleworth
Email: tclewort@yorku.ca
Phone: 416 736 2100 ext. 22467

Teaching Assistants:

Sara Weinberg
saraw92@yorku.ca

Kayton Jaksic
kaytonj@yorku.ca

Times and Location:

Lectures:	Tuesday/Thursday	2:30 – 3:30	R S122/ACW 104
Laboratories:	Tuesday or Thursday	3:30 – 5:30	Stong College 101A

Office hours: Please email the course instructor or the teaching assistants to set up an appointment.

Course Objectives:

This course focuses on the theory and practice of methods for analyzing the mechanics and control of movement. Methods include analysis of biological signals such as electromyography and evoked potentials, as well as techniques for both kinematic and kinetic analysis of movement.

Course Outcomes:

By the end of this course, students will:

- develop research skills to assess and understand human movement.
- gain an understanding of multiple measurement techniques with direct clinical implications.
- develop oral and written communication skills for health science.

Course Text / Readings:

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

Please Take Care of You and Each Other:

We continue to deal with the impact of the pandemic and its far-reaching consequences. If you need mental health help, the following list of websites (this is not an exhaustive list) may be a good place for you to start:

[Good2Talk](#)

[Student Counselling, Health and Well-being](#)

[Well-being at York](#)

[Virtual Health Clinic](#)

[York University Psychology Clinic](#)

[York International](#)

[Calumet College and Stong College Student Success Programs](#)

[Calumet College and Stong College Online Student Support](#)

Organization of the Course

For 2023-24, KINE 4455 lectures and labs will take place in-person and on campus unless otherwise indicated by instructors. There is substantial evidence to support that physically attending lectures improves course performance.

Please review this syllabus carefully and the course's eClass page regularly to ensure you have the latest information about the course. Students are responsible for being actively involved in the course. "I did not know because I was not online" or "because I did not check eClass" are not excuses that will be accepted under any circumstances for the course.

Lectures: Lecture material will be posted on eClass, and students are responsible for attending all lectures. Some lectures will require discussion based on lecture and reading content. The official "class time" is Tuesday/Thursday from 2:30 – 3:30 pm. 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, not replace lecture attendance.

Laboratories: Laboratory materials, including outlines and assignments, will be posted on eClass. Students are responsible for attending and completing all laboratories. This course will use LabChart for all lab-based activities. LabChart 8 can be accessed for free through MyApps (see eClass for instructions) and on Lab computers. LabChart Reader can also be downloaded for free. Weekly lab assignments are to be submitted via eClass prior to the scheduled lecture time of the following week (Tuesday or Thursday at 2:30; see schedule below and eClass for details). There will be a Lab Practical exam near the end of the term (see schedule below and eClass for details).

Group Project: The overall goal of this project is to develop and conduct an experiment using the knowledge gained from the course. Students will work in groups to complete the assignment, including a presentation. Students will also individually complete a written assignment. The project description and all relevant material will be posted on eClass.

Course Evaluation

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

Lab Reports (8 x 5%)	=	40%
Lecture Participation	=	10%
Group Project (stages = 2%; presentation = 10%; abstract = 8%)	=	20%
Lab Practical Exam	=	15%
Final Examination	=	15%

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

Lecture, Laboratory and Assignment Schedule (subject to change) – KINE 4455, 2023-2024

Date	Topic #	Lecture		Laboratory
		Tuesday	Thursday	
Week of Jan. 8	1	Introduction to Course, Data, Measurement	Introduction to Course, Data, Measurement continued	LabChart, Equipment, and Data Introduction
Week of Jan. 15	2	Signal Basics: Amplitude and Calibration	Reading discussion: Basics of Data Acquisition	Calibration & Normalization
Week of Jan. 22	3	Frequency Domain	Reading discussion: Frequency and Fatigue in EMG	Frequency & Fatigue
Week of Jan. 29	4	Filtering and Artifacts	Reading discussion: Filtering and Artifacts	EMG & Movement
Week of Feb. 5	5	Kinematics	Reading discussion: Kinematics	Kinematics & Differentiation
Week of Feb. 12	6	Kinetics 1	Reading discussion: Calibrating a Force plate	Forces Group Project group members due
Feb. 17-23	READING WEEK			
Week of Feb. 26	7	Kinetics 2	Reading discussion: Measuring Quiet Stance	Force Response
Week of Mar. 4	8	Spinal Reflex	Reading discussion: H and T reflexes	Spinal Reflex Group Project topic and outline due
Week of Mar. 11	9	Group Project starts (preparation, start collection and analysis) Lecture and lab time will be used for project		
Week of Mar. 18	10	Group Project continues (continue collection and analysis) Lecture and lab time will be used for project		
Week of Mar. 25	11	Group Presentations – All Groups (during Lecture and Lab time)		
Week of Apr. 1	12	LAB PRACTICAL EXAM		
Apr. 10-26	Final Exam (Date TBD) - Exam period			

The last date to drop a course without receiving a grade is March 11th, 2024.

Technical requirements for taking the course:

Three platforms will be used, (eClass, LabChart, and MyApps) through which students will interact with the course materials, the course instructor, teaching assistant, as well as with one another. Therefore, a computer or smart device is required to complete the course. Labs will be completed in Strong 101a which is equipped with computers.

Communication: Several modes of communication with the course instructors, teaching assistants and other students have been set up to maximize communication and a sense of community.

Communicating with Instructors: The instructor can be contacted through email (tclewort@yorku.ca). If you have questions related to course content, or general course questions please post them in the discussion forums on eClass. Instructors will also be available for office hours via appointment. When emailing, please INCLUDE YOUR FIRST AND LAST NAME

AND STUDENT ID. Emails are a form of communication and the spelling, grammar and tone will reflect your communication skills. Emails should be written using professional language that would be acceptable in a workplace to a manager. Emails that include inappropriate form/language (i.e. “Hey”, “c u l8tr”, etc.) or without student name and ID will not be read or returned. Students may address the course instructor as Dr. Cleworth.

Communicating with your lab TA: To contact your TA, you can either post in the Lab Discussion Forum on eClass, or email your TA (see page 1) and include your name, student ID, and course code.

Communicating with other students: You are highly encouraged to communicate with your fellow students through the discussion forums on eClass and in lab. You are welcome to post course-related questions, as well as study tips or helpful websites/apps.

Grading, Assignment Submission, Lateness Penalties and Missed Tests Exams/Tests

The Lab Practical Exam and Final Exam MUST be written at the date and time noted above. Students must make themselves available at the time scheduled for class. All times noted are local Toronto times. The Lab Practical Exam and Final Exam are closed book exams which means no external aids (notes, books, calculators, or other reference materials) are permitted.

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. For a full description of York grading system see the York University Undergraduate Calendar - <http://calendars.registrar.yorku.ca/2010-2011/academic/index.htm>. Final course letter grades may be adjusted to conform to Program or Faculty grades distribution profiles.

Re-Evaluation Policy:

During the term: Any requests for remarking of assignments or exams must be received by the course instructor within 7 days of the item’s mark being posted. 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. 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. **You cannot submit 'extra' work following the posting of a mark in order to raise a grade.** For further details, see <https://myacademicrecord.students.yorku.ca/grade-reappraisal-policy>

Assignment Submission: Proper academic performance depends on students doing their work not only well, but on time. Accordingly, assignments for this course must be received on the due date specified for the assignment. Assignments are to be handed in online on eClass. Instructions for submission will be described in class. The course instructor will also make announcements to inform students regarding submissions process.

Lateness Penalty: Assignments received later than the due date will be penalized (5% per day the assignment is late). Exceptions to the lateness penalty for valid reasons such as illness, compassionate grounds, etc., may be entertained by the course instructor.

Missed Tests: If you miss a lecture, lab, or exam for a legitimate reason (i.e. illness), you are expected

to email the instructor (tclewort@yorku.ca) within 7 calendar days of the test to be considered for a deferred option. No further supporting documentation is required.

If you know IN ADVANCE that you will be missing a lecture, lab, or exam, please notify the instructors (tclewort@yorku.ca) at least 7 calendar days ahead of the test so that appropriate accommodations can be made.

Academic Honesty and Integrity

In this course, we strive to maintain academic integrity to the highest extent possible. Please familiarize yourself with the meaning of academic integrity by completing SPARK's Academic Integrity module at the beginning of the course. Breaches of academic integrity range from cheating (i.e., the improper crediting of another's work, the representation of another's ideas as your own, etc.) to aiding and abetting (helping someone else to cheat). All breaches in this course will be reported to the appropriate university authorities and can be punishable according to the Senate Policy on Academic Honesty.

The School of Kinesiology and Health Science takes academic dishonesty very seriously and will abide by York University's Senate Policy of Academic Honesty to adjudicate all cases. Students are expected to make efforts to discourage any and all (un)intentional breaches from their course work. Students are expected to complete their own work without assistance, in part or whole, on assignments and tests. Students are expected to act in accordance with the Senate Policy of Academic Honesty and are responsible for familiarizing themselves with these guidelines. Breaches of academic integrity will be handled under the disciplinary proceedings as outlined in:

<https://www.yorku.ca/secretariat/policies/policies/academic-honesty-senate-policy-on/>.

Lecture and laboratory tests are to be taken by the student and no one else. It is the expectation of the instructors that these are closed-book tests. Websites should not be accessed while you are taking a test – doing so may result in the immediate closing of the test and instructors will not re-open a test in this situation.

Accessibility:

York University provides services for students with accessibility concerns (including physical, medical, learning, and psychiatric), who require accommodation related to teaching and evaluation methods/materials. It is the student's responsibility to register with Student Accessibility Services as early as possible to ensure that appropriate academic accommodation can be provided with advance notice. You are encouraged to email a copy of your accommodation letter to your instructors as early as possible in the semester, and to schedule a time early in the term to meet with your instructor to discuss your accommodation needs. Failure to make these arrangements may jeopardize your opportunity to receive academic accommodations. Requiring accommodation does not relieve students from following course policies. Student Accessibility Services can be accessed here:

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

Important Information for Students:

All students are expected to familiarize themselves with the following information, available on the [Senate Committee on Academic Standards, Curriculum & Pedagogy](#) website.

- [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](#)