THE UNIVERSITY OF BRITISH COLUMBIA
School of Kinesiology
Kinesiology 211
Fall 2023: Term 1

<u>Human Motor Behaviour</u>

Instructor: Professor Nicola Hodges   **Teaching Assistants (TAs):** Carrie Peters
Rm: IRC 4   Ben McIntosh
Email: nicola.hodges@ubc.ca   **TA emails:**   Carrie.peters@ubc.ca
                                                                                    bmcint06@student.ubc.ca

We are still living and working in extraordinary times where the impacts of the COVID-19 pandemic are still being felt by many people. As such, we may need to be flexible in delivery of content so please be aware that the course syllabi may need to change to adjust to current circumstances.

UBC's Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəy̓əm (Musqueam) people. The land it is situated on has always been a place of learning for the Musqueam people, who for millennia have passed on their culture, history, and traditions from one generation to the next on this site.

Lectures and seminars: Tuesday, Thursday: 9:30 – 10:50am. Content for some classes will be pre-recorded & posted on canvas (along with self-study quizzes and in-class tutorial support – see course outline p6-7). There will also be 5 motor-lab/tutorial sessions with in-class scheduled time. The labs are self-directed, short activities, that are completed online – even though you are encouraged to complete the labs in class for tutorial support. There are graded and non-graded quizzes associated with the labs (online), that are completed AFTER the scheduled lab time. Discussion boards are available on Canvas for all Q&A between students and with the TAs and instructor. Please use the module appropriate discussion board for asking questions or responding to queries to test your own knowledge. **If your question might be helpful/relevant for others in the class, use the discussion board and NOT individual email. Email is for personal matters only.** Communication will be through Canvas.

Instructor Zoom link: <u>Dr Hodges</u>
https://ubc.zoom.us/j/64360440998?pwd=L2dpMytMeVA4VHlvTWtmN0d1VmFBZz09
Meeting ID: 643 6044 0998
Passcode: 141270
One tap mobile: +17789072071

Office Hours: *TBD*
 * All course information can be found at https://canvas.ubc.ca/
 * If you need help/ have questions ACT early. Please follow the 5 steps below.

Step 1: READ the book/check class notes/check notes on Canvas/ cross-check with class-mates
Step 2: POST questions on Canvas "Discussion board" for specific Module or general questions
Step 3: CHAT and engage in LIVE Q&A forum or Zoom during tutorial times and recorded lectures and come to live TUTORIALS/Motor Labs for in-person help.
Step 4: EMAIL TA/ATTEND TA office hours
Step 5: EMAIL me/ATTEND Instructor office hours

Course Description

KIN 211 provides a foundation for understanding the characteristics and principles of motor learning and control and how different factors influence learning and performance with a focus on sport application. This course is an introduction to the area of human motor learning/motor skill acquisition and control. It introduces students to the visual-cognitive processes that underlie human movement, the process of learning motor skills and the factors that influence acquisition, performance, and control. Students of this course will gain knowledge, appreciation, and understanding of the conceptual and empirical foundations in motor learning and control.

Rationale

This course exists to give you basic knowledge concerning how and why we move and acquire motor skills. It is designed to make you think about how and why we respond, plan and organize actions and attend to and process visual and verbal information in order to move, learn and teach motor skills. This course is a foundational course in motor behavior, which provides a background for KIN 311. This course fits generally with neuro-mechanical related courses and sport psychology/sport performance courses. Concepts covered in this course have broad application to the field of Kinesiology with respect to workplace design, coaching, rehabilitation, physical education, strength and conditioning and sport performance.

Required Course Text and Lab software

- Schmidt, R.A., and Lee, T.D. (2019). ***Motor Learning and Performance (6th Ed.). Champaign, Illinois: Human Kinetics (and web study guide)***. Do not use an old version of the book as it does not include the webstudy guides with *Narratives** and there have been some changes to content. If you use an old version of the book, it is up to you to make sure you have the right chapters/content and page numbers (organization is different). E-book is fine to use (with web study guide), but the page numbers are different from hard text and those detailed in course notes**
- MotorLabs software (2023) license required for running online labs <https://motorlab.ca/purchase>. There is a small cost of $6 to purchase the license.

*All the narratives included with the we study guide are also in this book: Lee, T.D. (2011). "Motor control in everyday actions" <https://canada.humankinetics.com/products/motor-control-in-everyday-actions>

** For the e-book, page numbers are posted on Canvas in course admin/general info. module.

Both books are available from the UBC library. Note that if you buy a text book without the web-study guide you will need to get the online narratives either from someone who has the web-study guide (consider sharing), or read them in the Lee (2011) book. There are other useful resources with the webstudy guide, including test quizzes (but these are not required).

General Course Learning Objectives/Outcomes
1. Understand fundamental principles and concepts in motor learning and control.
2. Remember and understand essential terms and language used in motor learning and control.
3. Understand the role of cognition, attention, and memory in motor learning and control.
4. Know and evaluate the roles of augmented information and practice organization in motor skill acquisition.
5. Know and evaluate how the information-processing framework is applied to motor learning and control.
6. Demonstrate understanding of how and why certain research methods and experiments aid our knowledge of motor learning and control.
7. Apply concepts and principles in motor learning and control to teaching, coaching, skill development, and overall motor performance.

Structure
This is a 3-credit course with mostly lectures (and tutorials & online labs) on Tuesdays and Thursdays. The lectures will focus upon the concepts, principles, and research in human motor behaviour and will ***complement*** the readings from the text and other posted resource materials. Students are responsible for reading the text book and any assigned readings/listenings.

Formative (non-graded) quizzes: For every Module of the course there are "test yourself" quizzes. These are 5-10 questions designed to test knowledge of the material. These are formative quizzes only and are <u>not graded</u>. Feedback is provided through the canvas quiz function and you can take the quiz ~3 times. The quizzes are not available until AFTER the last lecture related to the module (and the <u>suggested</u> "due" data is before the next lecture topic starts). You are also strongly encouraged to use the online/study quizzes from the text web study-guide*. There are also self-study quizzes for all video lecture content and some in-class.*

Lecture notes: Class notes will be made available in .pdf file-format through the canvas course website.

Motor labs: There are 9 motor labs associated with this course which complement lecture and reading material (and content from these labs is also tested on the final exam). <u>Labs. are to be completed individually so that each person has their own data.</u> You can work with others and in small groups when doing these labs., **as long as each person has their own data**. <u>Time is available in class tutorial times to do the labs</u>. TAs will be available for live help with these labs and any other questions from the course (5 tutorial/lab sessions throughout the term).

There are BOTH **graded and non-graded quizzes associated with the labs during the term**. **FOUR** of the labs are graded (<u>Hicks, Slater-Hammel, Fitts Law and CI lab.</u>). The rest of the labs and associated quizzes are for practice/study. I will take your best 3 labs as your final grade, BUT, ALL 4 quizzes must be completed otherwise the final % grade for the lab (15%) will be marked out of 20.

To purchase the license and download motor labs please go to: https://motorlab.ca/.

All the details you will need for each motor lab are listed in canvas for each module. There are 3 attachments for each lab and a link to a QUIZ:

1. **Powerpoint** with lab instructions and some background information
2. **Excel sheet** to enter and graph your data
3. **Word document** containing details about the motor lab. activity and what to do with your data.

QUIZ: After you have completed the lab., you can then do the quiz (quizzes will be available outside of class time; >11am on the day of the lab until Friday 11:59pm, for Tuesday class or until Tuesday 11:59pm for Thursday class). The quiz will be open for 45 mins after you start and the graded labs can only be completed once (all others, max 3 attempts).

Supplementary resources: I have added podcast, video and reading resources associated with the text to canvas to help you understand and apply the material. I strongly recommend reading/watching/listening to this material to help you study and remember for the long term. None of the extra content associated with supplementary resources will be directly examined.

Assessments and Examinations
Assessment of learning objectives will be conducted through:

- Exams splits into three sections: 2 Midterms (sections 1 and 2; content pre midterm1 and 2) and 1 Final (section 3 content after midterm 2 <u>and</u> all motor labs)

- MotorLab quizzes: Four graded in response to data collected during online Motor Labs.

Exams will cover material from all lectures and assigned readings, narratives and Motor Labs. Examinations will include multiple choice, true/false and short-answer or numeric answer questions. Motor lab quizzes will be conducted through the Quizzes online in canvas. The midterms will be online through Canvas OR in-person on paper if pre-registered. The final exam is scheduled to be in-person only.

<u>Summary of Assignments and grading (please see canvas modules for details)</u>

Motor Lab Quizzes (15%) – 5% /lab; 4 in total will be graded out of 9 total labs. Your best 3 labs will be counted towards final grade only IF all 4 labs are completed. If not, the final % grade will be based on a total score out of 20. <u>Graded Labs = Hicks Law, Slater-Hammel/ anticipation, Fitts Law and Contextual Interference</u>. You will need to have completed the labs and have your own data BEFORE doing the quiz. Quizzes open only after the scheduled lab time. These can be open book. You have 45 min to complete the quiz once started.

Midterms 1 and 2 (50% total) – The midterms are closed book. They are scheduled to be completed through Canvas during scheduled class time or arrangements can be made to do in-person/paper exam with pre-registration before Sep 28th (midterm 1) and Oct 31st (midterm 2).

- Midterm 1 (25%) –all material up until midterm 1; Oct 10th (50 min)
- Midterm 2 (25%) -all material between midterm 1 and midterm 2; Nov 9th (50min)

Final exam (35%) -all material after midterm 2, all Motor Labs (graded and ungraded labs) (~1.5 hr, date tbd, in-person)

Missed exams: Individuals who do not write a mid-term exam will get a 0 for the exam unless acceptable supportive reasons and/or documentation is provided to the instructor. If an exam is missed, then any concessions to write a make-up exam or get reweighting of grades, need to be

conveyed to the instructor <u>BEFORE the missed exam</u> and will only be available in exceptional circumstances. The instructor reserves the right to decide on any concessions regarding make-up exams or changing the weighting for other exams (only with valid reasons). Academic concessions are a privilege not a right. If you are feeling ill at the time of a final exam, do not attend the exam. You must apply for deferred standing (an academic concession) through Academic Advising (https://kin.educ.ubc.ca/undergraduate/bkin/academic-concession/).

Missed lectures/content: I will post lecture notes (pdfs) associated with course content. Where possible, in-person lectures will be recorded and made available after the class. Please use the discussion board on canvas to ask ANY and ALL content related questions.

Academic Accommodation for Students with Disabilities
The University's goal is to ensure fair and consistent treatment of all students, including students with a disability, in accordance with their distinct needs and in a manner consistent with academic principles. Students with a disability who wish to have an academic accommodation should contact Access and Diversity without delay.

Academic Integrity
All UBC students are expected to behave as honest and responsible members of an academic community. Breach of those expectations or failure to follow the appropriate policies, principles, rules, and guidelines of the University with respect to academic honesty may result in disciplinary action. **It is your responsibility to become familiar with the University of British Columbia's Academic Honesty and Plagiarism Policies**, as well as the Student Declaration and the consequences of violating these policies.

Honesty Pledge (to be reaffirmed before all exams/graded quizzes)

I hereby pledge that I have read and will abide by the rules, regulations, and expectations set out in the UBC Academic Calendar, with particular attention paid to:
1. The Student Declaration
   (http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,285,0,0)
2. The Academic Honesty and Standards
   (http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,286,0,0)
3. The Student Conduct During Examinations
   (http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,41,90,0)
4. And any special rules for conduct as set out by the examiner

I affirm that I will not give or receive any unauthorized help on this examination, that all work will be my own, and that I will abide by any special rules for conduct set out by the examiner.

COVID guidelines (as of Sep 1st 2022)

If I am feeling ill I will not come to class. I will make every reasonable attempt to communicate plans for class as soon as possible (by email, on Canvas, etc.). Our classroom will still be available for you to attend. In this instance: One of the TAs may substitute, I may ask you to do an activity or read something in place of class time, if I am well enough to teach, but taking precautions to avoid infecting others, we may hold the class online (ZOOM) or the lecture may be cancelled and (recorded) notes posted online as soon as possible after the missed class.

Course schedule (any changes will be announced through canvas)

Date		Topic Outline	Textbook Readings(s) and *"Narratives"*
1. **(wk1)** Sep7 (th)	Lecture 1 *in-person*	Intro, Lecture 1a What is Motor Behaviour (1b)	Ch1
2. **(wk2)** Sep12 (tu)	Lecture 2 *in-person*	Classification of Motor Skills (2a) and Measuring Motor Performance(2b)	Ch1 & Ch 2 *"Cutting wood & missing putts"*
3. Sep14 (th)	Lecture 3 *in-person*	Measuring Motor Performance (3a) and Information Processing I (3b)	Ch2 *"Jumping the gun"*
4. **(wk3)** Sep 19th (tu)	Lecture 4 *Recorded (in-class support)*	Information Processing II	Ch2 *"Red light, Green light"* *"Grocery store"* *"Push or pull"*
Sep 21(th)	**LAB 1 *(on your own & in-class live support)***	**MOTOR LABS & TUTORIAL: COURSE MATERIAL 1-4** **1 = Errorcalculation; 2 = Hicks Law (+online graded quiz)** *(Donders, S-R compatibility, simple RT motorlabs = also good learning aids)*	
5. **(wk4)** Sep 26th (tu)	Lecture 5 *in-person*	Memory (5a) & Attention I (5b)	Ch2 & Ch3 *"Gumbo"* *"Turn right at next Gorilla"*
6. Sep 28th (th)	Lecture 6 *in-person*	Attention II: attention (6a) and PRP (6b)	Ch3 (*ch4*) *"Toad and centipede"* *"Fakes"*
7. **(wk 5)** Oct 3rd (tu)	Lecture 7 *in-person*	Sensory Contributions to Skill	Ch4 *"Curling draw"* *"Tickling"*
Oct 5th (th)	**LAB 2 *(on your own & in-class live support)***	**MOTOR LABS: COURSE MATERIAL 5-7 & Revision for midterm1** **3 =Memory, 4 =PRP, (none are graded)** *(Probe RT & Stroop motorlabs = also good learning aids)*	
(wk6) Oct 10 (tu)		**MIDTERM #1 (9:45am) online or in-person (pre-register for in-person)**	
Oct 12 (th) "Make-up Monday"		**----Thursday classes cancelled----**	
8. **(wk7)** Oct 17 (tu)	Lecture 8 *in-person*	Vision (8a) & 8b &c sensory systems	Ch4
9. Oct 19th (th)	Lecture 9 *Recorded (in-class support)*	Open-loop control (9a) & motor programs (9b)	Ch5 *"anti-lock brakes"* *"point-of-no-return"*
10. **(wk8)** Oct 24 (tu)	Lecture 10 *in-person*	GMPs (10a) and GMPs/schema theory (10b)	Ch5 *"forensic motor control"*
11. Oct 26th (th)	Lecture 11 *Recorded*	Principles of Speed and Accuracy	Ch6 *"the calculator"* *"the gimme putt"*

(wk9) Oct 31st (tu)	**LAB 3** *(on your own & in-class live support)*	**MOTOR LABS & TUTORIAL: COURSE MATERIAL 8-11** **5 = Slater-Hammel anticipation; 6 = Fitts Law (Online graded quiz for both)** *(Henry & Rogers/response complexity motorlab = also good learning aid)*	
12. Nov 2nd (th)	Lecture 12 *in-person*	Learning Defined (12a) & Measured (12b)	Ch8 *"learning to win from losing"*
13. **(wk 10)** Nov 7th (tu)	Lecture 13 *in-person*	Transfer and learning (13a &b)	Ch8&9 *"like riding a bicycle"*
Nov 9th (th)	**MIDTERM #2 (9:45am) online or in-person… (pre-register for in person)**		
Nov 14th (tu) NO CLASS. MIDTERM BREAK			
14. **(wk11)** Nov 16th (th)	Lecture 14 *Recorded (in-class support)*	Conditions of Practice 1 (practice organization)	Ch9 &10
15. **(wk12)** Nov 21st (tu)	Lecture 15 *In-person*	Conditions of Practice 2 (practice methods)	Ch9 & 10 *"but I was great on the practice range"*
16. Nov 23rd (th)	**LAB 4** *(on your own & in-class live support)*	**MOTOR LABS & TUTORIAL: COURSE MATERIAL 12-13** **7 = Practice Variability (not graded)**	
17. **(wk 13)** Nov 28th (tu)	Lecture 16 *in-person*	Conditions of Practice3 (16a), Challenge point (16b)	Ch10&11 *"The Golfers little Helper"*
18. Nov 30th (th)	Lecture 17 *Recorded in-person*	Augmented information I (post practice info.)	Ch11 *"The Coach as a dictionary"*
19. **(wk 14)** Dec 5th (tu)	**LAB 5** *(on your own & in-class live support)*	**MOTOR LABS & TUTORIAL: COURSE MATERIAL 14-17** **8 = CI (+graded quiz) 9= Feedback/KR (not graded)**	
20. Dec 7th (th)	Lecture 18 *in-person*	Augmented information II - Observation & imagery	Ch10