

KIN 567 (3) Human Motor Performance/ *Skill Acquisition: Practice Design and Instruction*  
**(PLEASE NOTE THIS COURSE IS UNDERGOING REVISION AND AS SUCH  
THE INFORMATION BELOW SERVES AS A GUIDE)**

Instructor: Nicola Hodges PhD (Professor)

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**Wednesday from 1pm-4pm (online, hours)**

**Classes run from**

**Location: Online**

**General Description:**

Issues concerning how people practice, learn and retain movement skills, with an emphasis on sport (both beginners and high level performers). We will evaluate theory and processes underlying motor learning and expertise, drawing on current theories and research.

**Course Description:**

In this course we will explore both recent and seminal research in the field of motor learning and performance. The course is predominantly seminar-based with presentations and discussion led by the students and facilitated by the instructor. Outside of class, students are responsible for completing assigned readings.

There will be ~2 chapters to read/week. So it is critical that you stay on top of the readings as some of the chapters are quite long. There may also be readings posted on Connect and there will be video and podcast resources as well as some online labs.

**Required Materials:**

**Textbook:** Hodges, N. J., & Williams, A. M. (2019). *Skill Acquisition in Sport: Research, Theory, and Practice*, 3<sup>rd</sup> Ed. NY: Routledge.

This book is available in the bookstore, through Amazon, AND it is available free from the library; either hardcopy or as an e-book.

We will use these chapters to explore, evaluate and apply current and important motor learning research topics. Other readings will be added

**Recommended Additional Readings (and listenings):**

- Lohse KR, Hodges NJ (2015). Providing information for teaching skills in sport. In M Hughes, IM Franks (Eds). *Essentials of Performance Analysis*: 2nd edition (pp29-43): London, UK and NY: Routledge. (CHAPTER)
- Hodges, N. J., & Williams, A. M. (2012). *Skill Acquisition in Sport: Research, Theory, and Practice*, 2<sup>nd</sup> Ed. NY: Routledge.
- Williams AM, Hodges NJ (2005). Practice, instruction and skill acquisition in soccer: Challenging tradition. *In of Sports Sciences*, 23: 637-650. (JOURNAL)
- ***Perceptionaction.com* (podcast by Rob Gray – fantastic/relevant content).**

- Williams AM, Hodges NJ (2004). *Skill Acquisition in Sport: Research, Theory, and Practice*, NY: Routledge. (BOOK)
- Schmidt and Lee textbooks (*Motor Control, Motor learning and Performance* -recent 2018/2019 editions) or Richard Magill and David Anderson *Motor learning textbook*, and/or something on constraints and motor learning (Keith Davids).

#### Theory articles:

- Wulf, G., & Lewthwaite, R. (2016). Optimizing performance through intrinsic motivation and attention for learning: The OPTIMAL theory of motor learning. *Psychonomic Bulletin & Review*, 23(5), 1382-1414.
- Guadagnoli, M. A., & Lee, T. D. (2004). Challenge point: a framework for conceptualizing the effects of various practice conditions in motor learning. *Journal of Motor Behavior*, 36(2), 212-224.

#### Pre-Requisites / Recommendations:

A background in Kinesiology or Psychology is strongly recommended. Classes in motor control, cognitive psychology, motor learning/behaviour (e.g., KIN 230, KIN 330), neural-motor behaviour etc. would help provide the theoretical framework for many of the readings and discussions. If you do not have this background, then you are encouraged to engage in pre-reading before starting the course (especially, Schmidt, R.A. & Lee, T.D., 2019, Motor Learning- and Performance: From Principles to Application. Human Kinetics Press.

#### Course Objectives:

On completion of this course, you will be able to:

- Critically evaluate motor learning theories and principles
- Constructively and critically analyze others' research. Appreciate limits and issues in conducting research in this field (internal and external validity)
- Aid practitioners in providing evidence-based practice to athletes (or patients)
- Communicate appropriately /as an academic
- Understand how people learn and perform motor skills with respect to general motor learning principles of behaviour (e.g., cognitive effort, motivation, constraints etc).
- Develop questions and solutions for solving motor learning problems (in lab. & field).

#### Assessment:

Tbd

- Question and discussion board participation
- Online quizzes (based on readings)
- Lab report
- Lead class discussion and presentation
- Research /practice intervention presentation
- Final written proposal

**Research/Study intervention presentation** (total time = XX mins).

Your aim with this presentation is to A) go into more detail about one or two key studies (why did they do the study, what did they do, what did they find, what does it mean; Figures of the task, design and Results really help – and provide some rationale for a potential study/intervention -- worth 15%) and then present B) a general idea about how you might extend this research by conducting a new study or apply this research through a field-based intervention (worth XX%). The idea behind this presentation is to:

- a) **Provide some rationale for doing a study/intervention** (please try and be realistic, see written proposal details below).
- b) **Get some feedback from the class (and me) regarding one or two ideas**

Feel free to use the class and your presentation time to springboard ideas. This is a chance to show understanding of the literature, go into detail about one or two relevant studies and then discuss outstanding questions and potential methods for addressing any outstanding questions, issues or limits. This may be practical or empirical/theoretical limits in applying this research. Please use this time to discuss and get feedback.

**Written research proposal** (~5-6 pages of double spaced text (6 page =max). You can use tables and graphs which should go in an appendix along with a reference list ...appendices/references are not part of the 6 page limit). 30%

**HAND-IN date (tbd)**

This can be an empirical, lab. based study or a field-study/intervention. It must be on one of the topics discussed in class, but it does not have to be based on the topic of your major presentation (as above). Please make time to talk to coaches/players/faculty/graduate students etc. to come up with a study that would aid knowledge development and/or knowledge application. Use your presentation above to get a discussion going about possible ideas. There will be 3 sections to the research proposal. Try and confine yourself to propose a study that could be practically undertaken at UBC for a Masters' project (ie., people, equipment, time).

**1 = Introduction: This is the problem statement or research question**

This should be ~2-3 pages that sets up your problem. You will provide a review of the literature, showing that you've gone beyond the chapter and/or paper discussed in class and followed up on some of the references, and reviewed key studies related to the question/topic of interest. Set up your reason for the study/intervention and show (critical) knowledge of the topic.

**2 = Methods: Who will you evaluate, why, and how will you test/ measure effectiveness?**

This will contain 3 sections (~2 pages); (i) Participant section (~ ½ page), who will you evaluate and why – no need to get into ethics statements etc; (ii) Procedures section (~ 1 page), including equipment, stimuli etc. and iii) Measures section (~½ page), how will you infer success or otherwise? Figures can be used to present design /apparatus if helpful. This section is to be written so that a naïve reader can figure out what you propose to do and how this will answer

your research question. Be specific about variable(s) that you will manipulate or control, the task itself and measures for assessment.

**3 = Anticipated results and issues: What do you think will happen and what might be some issues and how could these be solved?**

What do you expect to find? Think about descriptive data here (i.e., means/frequency etc) (not statistical analysis). What will be key performance indicators if you're running some sort of intervention? What information will you get out of the project and how will it provide evidence of potential effectiveness? Graphs will likely help to display anticipated results. This should be ~1 page.

**Total marks = XX**

- *Please use active voice for writing. Personal pronouns are fine ("I", "we" etc), when used in moderation.*
- *Define any jargon and reference appropriately.*
- *Try not to start a sentence, and definitely not a paragraph, with the name of an author. If you can, delegate author information to the end of a sentence*
- *Please provide a complete list of any references cited in the write-up. You can use any referencing style (i.e., APA or Harvard/numeric). The Reference page is not be counted in the overall page amount.*
- *If you quote directly from a source (chapter, journal etc), you will need to give the exact page number(s). However, please try and avoid direct quotes (for anything more than emphasis or specific definitions), but rather write in your own words/voice.*
- *Avoid redundancy associated with presenting information both in tables and figures, or duplicating information in the main text. Be selective with your choice of any tables or figures.*
- *Marks will be awarded for each section with additional weight given to the novelty/importance of the idea in the introduction (why is it a good idea) and methods (how creative/novel is the way you'll test it)? You will need to be concise. Sometimes writing less requires more time than writing more, so don't see this as an "easy" assignment because of the length constraints.*

**Course outline and topics**

Week 1: Course introduction (instructor led)

Week 2: Feedback /Instruction Lab. (room 300, WMG – instructor le)

ONLINE LABS

Weeks 3- 9: chapter presentations

Week 10-12: Research background/rationale and idea presentations.