

## DEPARTMENT OF KINESIOLOGY AND HEALTH SCIENCES

### COURSE OUTLINE– Winter 2023

#### PE2190 (A3): Research Methods in Kinesiology – 3 (3-0-0) 45 Hours, 15 Weeks

**INSTRUCTOR:** Alexander Villafranca, **PHONE:** 780-539-2971  
Ph.D.  
**OFFICE:** K220 **E-MAIL:** avillafranca@nwpolytech.ca  
**OFFICE HOURS:** By appointment

Northwestern Polytechnic acknowledges that our campuses are located on Treaty 8 territory, the ancestral and present-day home to many diverse First Nations, Metis, and Inuit people. We are grateful to work, live and learn on the traditional territory of Duncan's First Nation, Horse Lake First Nation and Sturgeon Lake Cree Nation, who are the original caretakers of this land.

We acknowledge the history of this land and we are thankful for the opportunity to walk together in friendship, where we will encourage and promote positive change for present and future generations.

**CALENDAR DESCRIPTION:** This course will provide an introduction to research methods used in the field of Kinesiology. Emphasis will be placed on the application of research techniques commonly used in the discipline.

**PREREQUISITE:** PE1090

**REQUIRED TEXT/RESOURCE MATERIALS:**

Readings and resources will be available on D2L.

**DELIVERY MODES:** This course will involve lectures, case studies, online activities, tests, and group discussion. All students should have a computer or smartphone for classroom activities. In class use of an NWP laptop can be arranged in advance, if required. Technological support is available through [helpdesk@nwpolytech.ca](mailto:helpdesk@nwpolytech.ca).

**COURSE OBJECTIVES:**

1. Explain various research methods commonly used in the field of kinesiology.
2. Distinguish the difference between various research techniques and apply data collection and analysis methods with consideration to ethical research practices.
3. Describe various research paradigms and evaluate how paradigms inform research.
4. Critique and interpret research and apply findings to real life settings.

**LEARNING OUTCOMES:**

1. The student will be able to explain various research methods commonly used in the field of kinesiology.
2. The student will demonstrate how to answer research questions with appropriate data collection and analysis, with consideration of ethical research practices.
3. The student will describe various research paradigms and evaluate how paradigms inform research.
4. The student will evaluate research critically and apply research to real life settings.

**TRANSFERABILITY:**

Please consult the Alberta Transfer Guide for more information

(<http://alis.alberta.ca/ps/tsp/ta/tbi/onlineresearch.html?SearchMode=S&step=2>)

\*\* Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions.

**Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability**

**GRADING CRITERIA:**

Please note that most universities will not accept your course for transfer credit **IF** your grade is **less than C-**. This means **DO NOT GET LESS THAN “C-” IF YOU ARE PLANNING TO TRANSFER TO A UNIVERSITY.**

Alpha Grade	4-point Equivalent	Percentage Guidelines		Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	90-100		C+	2.3	67-69
A	4.0	85-89		C	2.0	63-66
A-	3.7	80-84		C-	1.7	60-62
B+	3.3	77-79		D+	1.3	55-59
B	3.0	73-76		D	1.0	50-54
B-	2.7	70-72		F	0.0	00-49

**EVALUATIONS:**

Activity	Due date/ date of occurrence	Weighting on final grade
In class activities (including group discussion)	Ongoing	10%
Completion of TCPS 2 tutorial course on research ethics ( <a href="https://tcps2core.ca/register">https://tcps2core.ca/register</a> )	Jan 30th	4%
Completion of fake news tutorial ( <a href="https://www.getbadnews.com/">https://www.getbadnews.com/</a> )	Jan 30th	1%
Critical appraisal of a quantitative article (groups of 2)	March 12th	35%
Midterm (open book, limited time)	Due Feb 28th	20%
Final Exam	TBD	30%
<b>Total</b>		100%

**STUDENT RESPONSIBILITIES:**

- Students are required to come to class prepared
- Regular attendance is critical to succeed in this class. Students should contact the instructor in advance if they are unable to attend. Failure to do this will result in a zero mark for any participation and activity marks for that day.
- **Any student who misses seven or more classes without prior approval will be required to withdraw from the class due to truancy**
- If a student misses tests for medical reasons, a doctor's note must be provided
- Late assignments will be deducted 10% per day submitted past the deadline
- Assignment details will be provided on D2L

**STATEMENT ON PLAGIARISM AND CHEATING:**

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the College Admission Guide at <http://www.gprc.ab.ca/programs/calendar/> or the College Policy on Student Misconduct: Plagiarism and Cheating at [www.gprc.ab.ca/about/administration/policies/](http://www.gprc.ab.ca/about/administration/policies/)

\*\*Note: all Academic and Administrative policies are available on the same page.

**COURSE SCHEDULE/TENTATIVE TIMELINE:**

Tuesdays and Thursdays, 11:30am -12:50pm

The instructor reserves the right to alter the pace, timing, scope and depth of the topics covered based on the needs of students and the natural flow of class discussion.

Week	Date	Topic
W1	Tuesday Jan 3	No classes at GP campus
W1	Thursday Jan 5	What is this person saying? Identifying and making sense of empirical claims

W2	Tuesday Jan 10	Where did you read that?! Evaluating sources of empirical claims 1
W2	Thursday Jan 12	Where did you read that?! Evaluating Sources of empirical claims 2
W3	Tuesday Jan 17	Says who? Evaluating the person who is making an empirical claim
W3	Thursday Jan 19	How does that person know for sure? Evaluating the empirical basis of a claim
W4	Tuesday Jan 24	How tough should I be on researchers? Approaching scientific articles with the right attitude
W4	Thursday Jan 26	How should I look for answers to scientific questions that I have? Conducting a review of literature
W5	Tuesday Jan 31	What should I be looking for when I evaluate a study? Introduction to critical appraisal
W5	Thursday Feb 2	Was the research done in an ethical way? Introduction to research ethics
W6	Tuesday Feb 7	Did the researchers behave with integrity? Introduction to research integrity
W6	Thursday Feb 9	Did this scientific study have an impact? Understanding article level bibliometrics and Altmetrics
W7	Tuesday Feb 14	Do they set up the study properly? Critically appraising an introduction section
W7	Thursday Feb 16	Are they asking a reasonable question? Critically appraising a quantitative research question
W8	Tuesday Feb 21	Did they pick the right approach? Critically appraising the research paradigm of a study
W8	Thursday Feb 23	Did they pick the right tool for the job? Critically appraising the design of a study
W9	Tuesday Feb 28	Are there other explanations for what their study could show? Introducing the idea of rival hypotheses and looking for bias in study design
W9	Thursday Mar 2	Are they defining and measuring their constructs in a way that makes sense? Evaluating definitions and measurement procedures
W10	Tuesday Mar 7	Did they recruit enough people from the right population? Critically appraising a sampling strategy and a power analysis
W10	Thursday Mar 9	Did they run their study in a sloppy way? Evaluating the risk of bias and random error in study implementation
W11	Tuesday Mar 14	Did they mishandle their data? Evaluating data scrubbing and reduction
W11	Thursday Mar 17	Are they presenting their data fairly and clearly? Critically appraising a graph
W12	Tuesday Mar 21	Did they describe the results fully and properly? Understanding p-values and effect sizes
W12	Thursday Mar 23	Are they running the right statistical tests? Critically appraising a statistical analysis 2

W13	Tuesday Mar 28	Can they see their study clearly? Critically appraising a conclusion section for logical fallacies and bias 1
W13	Thursday Mar 30	Can they see their study clearly? Critically appraising a conclusion section for logical fallacies and bias 2
W14	Tuesday April 4	What are these qualitative people up to? Critically appraising the design and analysis of a qualitative study
W14	Thursday April 6	What are these mixed methods people up to? Critically appraising the design and analysis of a mixed-methods study
W15	Tuesday April 11	Bonus: If I do a study, how should I deal with the media?
W15	Thursday April 13	No classes, exam period

### **POLICY ON RECORDING TEACHING ACTIVITIES**

Students may not record classroom activities (such as lectures, group activities, group presentations delivered in class, etc.) without the advance written permission of the instructor. This policy is set to protect the privacy and reputation of students, to uphold the copyrights of the instructor and other content creators, and to facilitate free and open discussion of ideas. The classroom is meant to be a psychologically safe environment, where students are free to explore and think through new and controversial ideas without fear of public repercussions. Recording lectures can undermine this goal. If permission to record an activity is granted, the recorded material can only be used for the student's own private use and is not to be posted online or otherwise distributed. In the case of student presentations, the recording student must show proof that the presenting student(s) have agreed to be recorded before the instructor will grant permission.

### **COPYRIGHT NOTIFICATION**

Any course material created by your instructor is his intellectual property and is provided to you based upon your registration for this class. As such, the material is for your private use only. It is not to be distributed, publicly exhibited, or sold without the permission of the instructor. Third party materials (such as assigned readings) have either been licensed for use in this course or fall under an exception or limitation in Canadian Copyright law.