NORTHWESTERN POLYTECHNIC

KINESIOLOGY AND HEALTH SCIENCES
COURSE OUTLINE – Fall 2022
PE1090 (A2/L1): Measurement, Statistics and Evaluation – 3 (3-0-1) 60 Hours for 15 Weeks

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.

INSTRUCTOR:	Julia Dutove, Ph.D.	**PHONE:**	780-539-2974
OFFICE:	K218	**E-MAIL:**	jdutove@nwpolytech.ca
OFFICE HOURS:	By appointment		

CALENDAR DESCRIPTION: This course will introduce students to the concepts of validity and reliability as they apply to quantitative research, measurement and evaluation in physical education, sport, exercise science, and leisure contexts. The course will focus primarily on inferential statistical procedures that are used to organize, summarize, and interpret information.

PREREQUISITE(S)/COREQUISITE: None

REQUIRED TEXT/RESOURCE MATERIALS (available free on myClass):
Goss-Sampson, M. A. (2020). Statistical analysis in JASP: A guide for students. https://jasp-stats.org/wp-content/uploads/2020/11/Statistical-Analysis-in-JASP-A-Students-Guide-v14-Nov2020.pdf

OpenStax. (2013). *Introductory statistics.* www.openstax.org/details/introductory-statistics

DELIVERY MODE(S): This course will be taught using a variety of methods of delivery such as lecture, experiential learning opportunities, small group discussion, and use of statistical software for calculation and analysis (i.e., JASP).

COURSE OBJECTIVES:
Upon successful completion of this course, students will be able to:
1. Recognize the important structure of basic statistical concepts.
2. Demonstrate the use of selected statistical techniques: standard z-scores, t-statistics, and correlation coefficients.
3. Make concrete observations and decisions regarding empirically supported data for current research and testing measures in the field of sport, exercise, and physical education.
4. Enter and interpret data results using appropriate statistical technology (i.e. SPSS or JASP) with links to statistical theory.

LEARNING OUTCOMES:
Through completion of this course, students will have the opportunity to:
1. Explore concepts in tests and measures, and the use of technology for statistical calculations.
2. Utilize datasets (small and large) to support statistical principles being examined and applied in class.
3. Outline descriptive statistics and normal distribution.

4. Examine, in depth, the calculation, application, and interpretation of selected statistical techniques.
5. Explore hypothesis testing.
6. Summarize concepts and key terms for reliability and validity for students.

TRANSFERABILITY:

Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at the Alberta Transfer Guide main page http://www.transferalberta.ca.

** 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**

EVALUATIONS:

Midterm	October 19	20%
Data Project	December 5 & 12	20%
Labs	See Course Schedule	30% (6 x 5%)
Final Exam	December 14-22	30%
Total		100%

GRADING CRITERIA:

Please note that most universities will not accept your course for transfer credit **IF** your grade is **less than C-**.

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

STUDENT RESPONSIBILITIES:

- Regular attendance is a key to success in this and every other course. Please contact the instructor if you must miss class. It is the student's responsibility to acquire any materials and content missed due to absence. If a student misses more than 5 classes, they may not be allowed to take the midterm and/or the final exam.
- Lab attendance is mandatory. Failure to attend lab will result in a 0 for the missed lab unless the instructor has given prior permission. Labs must be submitted online by the posted due date & time and will be deducted 10% for each day late, including weekends. Students may resubmit one lab of their choice. This must be submitted online by the posted due date. No late re-submissions will be allowed.
- Late projects will be deducted 10% for each day late, including weekends.
- If you have a significant issue or concern (e.g., illness or family emergency), contact the instructor as soon as possible.

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 Northwestern Polytechnic Calendar at https://www.nwpolytech.ca/programs/calendar/ or the Student Rights and Responsibilities policy which can be found at https://www.nwpolytech.ca/about/administration/policies/index.html

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

COURSE SCHEDULE/TENTATIVE TIMELINE:

Lecture: Monday & Wednesday: 10:00-11:20am (E306)
Lab: Monday: 4:00-4:50pm (E306)

Date	Monday (Lecture)	Monday (Lab)	Wednesday (Lecture)
Sept 5/7	Sept 5: No classes (Labour Day)	No lab	Course Introduction
Sept 12/14	Descriptive Statistics	Lab 0	Descriptive Statistics
Sept 13 – Add/Drop Deadline			
Sept 19/20	Probability	Lab 1	Probability
Sept 26/28	Normal Distribution	Lab 1	Normal Distribution
Oct 3/5	Introduction to Hypothesis Testing	Lab 2	Introduction to Hypothesis Testing
Oct 10-14	No Classes: Fall Break		
Oct 17/19	Review	Lab 2	Midterm
Oct 24/26	Hypothesis Testing	Lab 3	Hypothesis Testing
Oct 31/Nov 2	Hypothesis Testing	Lab 4	Correlation & Regression
Nov 7/9	Correlation & Regression	Lab 5	Correlation & Regression
Nov 14/16	Library Session (Learning Commons)	Open lab	ANOVA
Nov 21/23	ANOVA	Lab 6	ANOVA
Nov 25 – Last Day to Withdraw			
Nov 28/30	ANOVA	Open lab	Project Work Day
Dec 5/7	Peer Review – Draft Project due 10:00am	No lab	Applying Statistics
Dec 12	Review – Final Project due 10:00am	No lab	
Dec 14-22	Final Exam		

This schedule is subject to change based on how we progress as a class. Changes will be announced in class and on myClass.

Lab Due Dates

Lab	Due Date
1	Thursday September 29, 11:59pm
2	Thursday October 20, 11:59pm
3	Thursday November 3, 11:59pm
4	Thursday November 10, 11:59pm
5	Thursday November 17, 11:59pm
6	Thursday December 1, 11:59pm
Resubmission	Monday December 12, 11:59pm