

COURSE OUTLINE – WINTER 2020

PE1090 (A3 & B3): Statistics, Measurement and Evaluation – 3 (3-0-1) 60 Hours

INSTRUCTOR: Julia Dutove, Ph.D. **PHONE:** 780-539-2974
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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:

Introductory Statistics from OpenStax, Print ISBN 1938168208, Digital ISBN 1947172050,
www.openstax.org/details/introductory-statistics (Available free online)
Pallant, J. (2016). *SPSS survival manual* (6th ed.). Berkshire, England: McGraw-Hill.

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., SPSS).

COURSE OBJECTIVES:

1. The student will be introduced to, and be able, to recognize the important structure of basic statistical concepts.
2. The student will demonstrate the use of selected statistical techniques: standard z-scores, t-statistics, and correlation coefficients.
3. The student will be able to 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. The student will learn to enter and interpret data results using appropriate statistical technology (i.e., SPSS) with links to statistical theory.

LEARNING OUTCOMES:

1. The instructor will explore concepts in tests and measures and the use of technology for statistical calculations.
2. The instructor will utilize datasets (small and large) in order to support statistical principles being examined and applied in class.
3. The instructor will introduce descriptive statistics and normal distribution.
4. The instructor will examine, in depth, the calculation, application, and interpretation of selected statistical techniques.
5. The instructor will introduce and explore hypothesis testing.
6. The instructor will introduce concepts and key terms for reliability and validity for students.

TRANSFERABILITY:

This course is considered a University Transferrable course. Please consult the Alberta Transfer Guide for more information at <http://transferalberta.alberta.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	20%
Group Project	25%
Labs	25%
Final Exam	30%

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

STUDENT RESPONSIBILITIES:

- Students must be present in lab to be allowed to submit the lab. Missed labs cannot be made up unless there is an excused absence and the instructor has given permission to make up the lab. You must attend your registered lab section.
- Labs are due in class, at the beginning of class on the due date. Late labs will be deducted 10% for the first 2 days, 20% for the next 2 days, and will not be accepted after 4 days late. If you have a significant issue or concern (e.g., illness or family emergency), contact the instructor as soon as possible.
- Students will be allowed one lab re-submission for a lab of their choice. This must be handed in by the start of the final exam.
- Late projects will not be accepted.
- Regular attendance is a key to success in this and every other course. Please contact the instructor if you have to miss class. It is the student’s responsibility to acquire any materials and content missed due to absence.

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/**

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

COURSE SCHEDULE/TENTATIVE TIMELINE:

Lecture

Tuesday & Thursday: 8:30-9:50am (E306)

Labs

Section A3: Friday, 11:30am-12:20pm (A312) Section B3: Wednesday, 1:00-1:50pm (A307)

Note: These is a tentative schedule and may change based on our progress as a class.

Date	Class Topic (T/Th)	Lab Topic (W/F)
Week 1 Jan 6-10	Course Introduction Descriptive Statistics	No labs this week
Week 2 Jan 13-17	Descriptive Statistics and Graphs	Lab #1 – Descriptive Statistics
Week 3 Jan 20-24	Probability	Lab #1
Week 4 Jan 27-31	Normal Distribution, Central Limit Theorem, and Confidence Intervals	Lab #2 – Probability & Normal Distribution <i>Lab #1 due at the beginning of lab</i>
Week 5 Feb 3-7	Introduction to Research	Lab #2
Week 6 Feb 10-14	Review February 13: Midterm (D308)	Lab #2 <i>Lab #2 due at the end of lab</i>
Week 7 Feb 17-21	No Classes – Winter Break	
Week 8 Feb 24-28	Hypothesis testing with One Sample	Group Project Proposal <i>Due at the end of lab</i>
Week 9 Mar 2-6	Hypothesis testing with Two Samples March 5: Deadline to withdraw	Lab #3 – Hypothesis testing
Week 10 Mar 9-13	Mar 10: Data Collection Linear Regression and Correlation	Lab #4 – Hypothesis testing
Week 11 Mar 16-20	Linear Regression and Correlation Mar 19: Data Analysis	Lab #5 – Correlation <i>Lab #3 due at the beginning of lab</i>
Week 12 Mar 23-27	One-Way ANOVA	Lab #6 – ANOVA <i>Lab #4 due at the beginning of lab</i>
Week 13 Mar 30 & Apr 3	Chi-Square Distribution	Lab Wrap Up <i>Lab #5 due at the beginning of lab</i>
Week 14 Apr 6-9	Apr 7: Poster Presentations (D308) Review	No labs this week <i>Lab #6 due at the beginning of lab</i>