UNIVERSITY OF THE FRASER VALLEY

ORIGINAL COURSE IMPLEMENTATION DATE: **March 1990**
REVISED COURSE IMPLEMENTATION DATE: **September 2015**
COURSE TO BE REVIEWED: (six years after UEC approval) **November 2020**
Course outline form version: 11/22/13

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Course Code and Number: PSYC 110 **Number of Credits:** 3 Course credit policy (105)

Course Full Title: Applied Statistical Analysis in Psychology
Course Short Title: Applied Stat. Analysis in Psyc

Faculty: Faculty of Humanities | **Department (or program if no department):** Psychology

Calendar Description:

This course covers the basic techniques of descriptive and inferential statistics and their applications to psychological research. Methods of graphing, measures of central tendency, dispersion, and various parametric and distribution-free tests are included.

Note: Students with credit for PSYC 201 cannot take this course for further credit.

Prerequisites (or NONE): One of the following: (Applications of Mathematics 11, Apprenticeship and Workplace Mathematics 11, Essentials of Mathematics 11, Foundations of Mathematics 11, Pre-Calculus 11, Principles of Mathematics 11, Workplace Mathematics 11) or (D or better in one of MATH 084 or MATH 085) or (MSAT with 15/25 (60%) or better on Part A). (*Prerequisites updated in 2019.)*
Corequisites (if applicable, or NONE):

Pre/corequisites (if applicable, or NONE):

Equivalent Courses (cannot be taken for additional credit)
Former course code/number: **PSYC 201**
Cross-listed with:
Equivalent course(s):
Note: Equivalent course(s) should be included in the calendar description by way of a note that students with credit for the equivalent course(s) cannot take this course for further credit.

Transfer Credit
Transfer credit already exists: ☒ Yes ☐ No
Transfer credit requested (OReg to submit to BCCAT):
☐ Yes ☐ No (Note: If yes, fill in transfer credit form)
Resubmit revised outline for articulation: ☐ Yes ☒ No
To find out how this course transfers, see **bctransferguide.ca**.

Total Hours: 45
Typical structure of instructional hours:

Lecture hours	40
Seminars/tutorials/workshops	
Laboratory hours	
Field experience hours	
Experiential (practicum, internship, etc.)	
Online learning activities	
Other contact hours: Class Activities	5
Total	**45**

Special Topics
Will the course be offered with different topics?
☐ Yes ☒ No
If yes,
Different lettered courses may be taken for credit:
☐ No ☐ Yes, repeat(s) ☐ Yes, no limit

Note: The specific topic will be recorded when offered.

Maximum enrolment (for information only): 36

Expected frequency of course offerings
(every semester, annually, etc.): Every semester

Department / Program Head or Director:	Sven Van de Wetering	**Date approved:**	May 2014
Campus-Wide Consultation (CWC)		**Date of posting:**	May 30, 2014
Faculty Council approval		**Date approved:**	October 2014
Dean/Associate VP:	Jacqueline Nolte	**Date approved:**	October 2014
Undergraduate Education Committee (UEC) approval		**Date of meeting:**	November 21, 2014

Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Employ basic descriptive statistics, graphs, and tables to summarize behavioural data.
2. Explain the role of sampling distributions and z-scores in the logic of inferential statistics.
3. Apply the logic of hypothesis testing by translating psychological research questions into testable research hypotheses and articulating the appropriate null and alternative hypotheses.
4. Choose appropriate statistical analyses for the testing of psychological hypotheses.
5. Interpret the meaning of a p-value with respect to rejection or non-rejection of a null hypothesis and interpret p-values in publications.
6. Perform and interpret statistical hypothesis tests on behavioural data using Z-Scores and T-Statistics.
7. Analyze the results of psychological investigations that produce categorical data with the aid of a chi-squared test.

Prior Learning Assessment and Recognition (PLAR)

☒ Yes ☐ No, PLAR cannot be awarded for this course because

Typical Instructional Methods (guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion)

This course is primarily lecture based. This course may also be offered in online or hybrid format.

NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.

Typical Text(s) and Resource Materials (if more space is required, download supplemental Texts and Resource Materials form)

	Author Surname, Initials	Title (article, book, journal, etc.)	Current Edition	Publisher	Year Published
1.	Gravetter & Wallnau	Essentials of Statistics for the Behavioural Sciences	☒	Wadsworth	2011
2.	Howell	Fundamental Statistics for the Behavioural Sciences	☒	Cengage	2011
3.			☐		

Required Additional Supplies and Materials (Eg. Software, hardware, tools, specialized clothing)

None

Typical Evaluation Methods and Weighting

Exams:	75%	Assignments:	15%	Midterm exam:	%	Practicum:	%
Quizzes/tests:	10%	Lab work:	%	Field experience:	%	Total:	100%

Details (if necessary): Exams: (not cumulative) 3 x 25% = 75% Assignments 5 x 3% = 15% Chapter Quizzes = 13 x ~1% = 10%

Grading system: Letter Grades: ☒ Credit/No Credit: ☐ Labs to be scheduled independent of lecture hours: Yes ☐ No ☐

Typical Course Content and Topics

Term Schedule Example One:

Week	Topic	Chapter
One	Introduction, Math Review, Notation	1
Two	Frequency Distributions and Central Tendency	2, 3
Three	Variability	4
Four	**Exam 1**	
Five	Z-scores	5
Six	Probability	6
Seven	Sampling Distributions	7
Eight	Hypothesis Testing	8
Nine	**Exam 2**	
Ten	t-statistics – single, independent and related	9, 10, 11
Eleven	t-statistics continued	9, 10, 11
Twelve	Estimation	12
Thirteen	Chi Square	16

Term Schedule Example Two:

Week	Topic	Chapter
One	Intro to Statistics	1
Two	Frequency Distributions and Central Tendency	2, 3
Three	Variability; Z-scores	4, 5
Four	Z-scores continued; Probability	5, 6
Five	Probability continued; Probability and Samples	6, 7
Six	Probability and Samples continued	7, Review
Seven	**Mid-term Examination**	
	Introduction to Hypothesis Testing	8
Eight	Introduction to Hypothesis Testing	8, 9
	Introduction to the t-statistic	
Nine	Introduction to the t-statistic	9, 10
	Hypothesis Testing with Two Independent Samples	
Ten	Hypothesis Tests with Two Related Samples	11, 12
	Estimation	
Eleven	Estimation cont.; Correlation and Regression	12, 15
Twelve	Correlation and Regression continued; Chi Square	
	Introduction to Analysis of Variance (if time)	15,16,13
Thirteen	Analysis of Variance (if time)	13
Final Examination Period – Final Exam		