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CURRICULUM GUIDE: OFFICIAL COURSE OUTLINE

Course Code	PSYC 218	Course Title	Analysis of Behavioural Data			
Credit Value	3	Department	Social Sciences			
No. of weeks	14	Hrs. per week	*Lecture*	*Tutorial*	*Laboratory*	*Total*
			3	0	0	3
Course Description	This course provides a general introduction to applied data analysis in the context of behavioural sciences research. The course covers descriptive and inferential statistics. Specific topics include: central tendency, variability, standard scores, correlation, regression, confidence intervals, z-tests, t-tests, and analysis of variance.					
Prerequisite(s)	ENGL 099, PSYC 101					

Initial Articulation Targets	*UBC*	*SFU*	*UVic*	*UNBC*	*TRU*
	PSYC 218 (3)	PSYC 210 (3)-Q	PSYC 2XX (1.5)	PSYC 2XX (3)	PSYC 2110 (3)
	For updated information on the transferability of this course, please consult the BC Transfer Guide, www.bctransferguide.ca				

Learning Outcomes

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

- Distinguish between descriptive and inferential statistics
- Construct effective tables and graphs of statistical data
- Describe the various measures of central tendency and variability
- Explain how standard scores are calculated and how they are used
- Use the normal distribution to calculate percentile points and ranks
- Explain the fundamental meaning of the concept of correlation
- Describe how correlation implies prediction and how regression operates
- Construct a regression equation for the prediction of scores on a criterion variable
- Explain how sample statistics follow lawful distributions
- Relate the sampling distribution of statistics to interval estimation of parameters
- Describe how correct and incorrect decisions can be made in hypothesis testing
- Explain how use of the null hypothesis allows us to test research hypotheses
- Conduct hypothesis tests using Z, single and independent t-statistics
- Use a One-way ANOVA data, to compute the sums of squares, mean squares, and F-ratio, determine the p-value, and explain what the result tells us about the phenomenon studied
- Construct a summary table of ANOVA results
- Describe the choices the researcher must make when following up a significant ANOVA result by means of multiple comparisons.

Alexander College
Main Campus 4805 Kingsway, Burnaby, BC V5H 4T6
www.alexandercollege.ca

<table>
<tr><td>Content</td><td colspan="3">Core topics – all of the following will be covered:
Introduction to Statistics
Basic mathematical concepts
Descriptive statistics vs inferential statistics
Graphing and tabulating data
Central tendency and variability
Standard scores and the normal distribution
Correlation and regression
Sampling distributions and parameter estimation
Hypothesis-testing, decision errors, and power
Inferences regarding means - single-sample
Inferences regarding means - independent and dependent samples
Inferences regarding correlation coefficients
One-way Analysis of Variance
Additional topics may also be covered, at the discretion of the instructor.</td></tr>
<tr><td>Methods of Instruction</td><td colspan="3">Lectures, small group activities, discussion groups, seminars, oral presentations, laboratory demonstrations, field trips, computer simulations, video, guest lecturers</td></tr>
<tr><td>Required Textbook(s)</td><td colspan="3">The following textbook(s) is/are required, or approved equivalent(s).

Gravetter, F.J., Wallnau, L.B. (2017). Statistics for the Behavioural Sciences (10th Ed), Cengage Learning.

OpenStax College. (2013). Psychology. Houston, TX: OpenStax CNX. https://openstax.org/details/books/introductory-statistics</td></tr>
<tr><td>Required Equipment and Technology</td><td colspan="3">Students are required to have a computer with internet access.
The following resources are provided by the College:
Office 365
Student email</td></tr>
<tr><td>Homework Hours</td><td colspan="3">At minimum, students can expect one hour of homework for every hour of instructional time.</td></tr>
<tr><td rowspan="2">Evaluation</td><td>Component</td><td colspan="2">% Value</td></tr>
<tr><td>Midterm examinations (up to 5)
Participation/assignments
Group data and analysis projects
Final examination</td><td colspan="2">45-55%
5-10%
5-10%
20-30%</td></tr>
<tr><td>Completion Requirements</td><td colspan="3">The minimum grade to pass this course is D (50%). Unless otherwise stated, a minimum grade of C- (55%) is required for this course to fulfil a prerequisite.</td></tr>
<tr><td>Course Designer(s)</td><td>Ralph Hakstian, University of British Columbia</td><td>Consultant(s), if applicable</td><td>Bahman Najarian, Ph.D., Department of Psychology, Alexander College</td></tr>
<tr><td>Dean’s Approval</td><td>Marv Westrom, Ph.D. Professor Emeritus, Faculty of Education, University of British Columbia</td><td>Dean’s Approval Date</td><td>February 22, 2006</td></tr>
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Curriculum Committee Approval Date	February 22, 2006	First Term Offered	Spring 2014
Last Review Date	July 25, 2022	Next Review Date	July 25, 2027
Revision History	November 3, 2011-Changed prerequisites October 2017 - Change of prerequisites approved by SASC. Effective from Winter 2019 term, the prerequisites for this course, PSYC 218, will be changed from ENGL 098 and PSYC 101 or PSYC 102 to ENGL 098 and PSYC 101. PSYC 102 can no longer be used to meet the prerequisite requisite requirement for this course. February 3, 2022 – English prerequisite increased from ENGL 098 to ENGL 099, effective from Spring 2022 term. July 25, 2022 – updates by Samantha May and Wendy Comeau, Social Sciences Department		