Bemidji State University

PSY 3401: Basic Statistics for Research

A. COURSE DESCRIPTION

Credits: 4
Lecture Hours/Week: 0
Lab Hours/Week: 0
OJT Hours/Week: *.*
Prerequisites: None
Corequisites: None
MnTC Goals: None

This is an introductory course into statistics for the behavioral sciences. Students will learn how to collect, organize, analyze, interpret, and present data. The theoretical background behind statistical methods will be provided along with opportunities for practical application. The statistical procedures covered within the course will include measures of central tendency, variability, and shape; t-tests; correlation; linear regression; chi-square tests; and one-way analysis of variance. The use of statistical software to facilitate these procedures will also be covered. Instructional emphasis for the course will be on which statistical procedure is appropriate for given circumstances. Prerequisite(s): Completion of Core Curriculum Goal Area 4.

B. COURSE EFFECTIVE DATES: 06/02/2008 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. PASW tutorial, data files and data manipulation
2. Tables and graphs; shapes of distributions
3. Central tendency, variability, and z-scores
4. Normal curve, sample vs. population, and probability
5. Correlation and regression
6. Introduction to hypothesis testing
7. Inferential statistics
8. Effect size and statistical power
9. Inferential statistics: one sample t-test and paired samples t-test
10. Inferential statistics: independent samples t-test
11. Inferential statistics: analysis of variance
12. Inferential statistics: chi-square and other nonparametrics

D. LEARNING OUTCOMES (General)

1. apply the logic/mathematics behind the statistical procedures covered in the course.
2. recognize the assumptions that must be met for the valid application of the statistical procedures covered in the course.
3. build data files, create and interpret results, both by hand and with statistical software, for the statistical procedures covered in the course.
4. employ in a research context the statistical procedures covered in the course.
5. identify and use the appropriate statistical procedure for a research question.
6. use the proper writing format to communicate research results.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted