Bemidji State University

PSY 4403: Advanced Statistics and Research Design

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 advanced course on behavioral statistics and research design. Students will have an opportunity to apply what they learned in PSY 3401 Basic Stats and PSY 3402 Research Methods as well as to explore the material in more depth. Topics will include measurement, central tendency, variance, probability, inferential statistics (z-test, t-test, and ANOVA), correlation, regression, chi-square and hypothesis testing. Prerequisite(s): PSY 3401 and PSY 3402, or consent of instructor.

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

C. OUTLINE OF MAJOR CONTENT AREAS

1. 1-Sample T-Tests
2. 1-Way Repeated Measures ANOVAs
3. 1-Way Between Ss ANOVAs
4. Between Subjects Factorial ANOVA & ANCOVA
5. Independent Samples T-Tests
6. Integrated Research Applications
7. Logic of Factorial ANOVA
8. Mixed Design Factorial ANOVA
9. Multiple Linear Regression
10. Paired Samples T-Tests
11. Pearson r
12. Repeated Measures Factorial ANOVA
14. Screening Data
15. Simple Linear Regression
D. LEARNING OUTCOMES (General)
   1. compare and contrast various research designs and corresponding statistical tests.
   2. write results and discussion sections of a research paper using APA style and format.
   3. develop research hypotheses and select appropriate research designs.
   4. choose the appropriate statistical procedure to employ in a research application based on an analysis of the level of measurement.
   5. utilize a statistical analysis program to analyze data and interpret the results.
   6. evaluate the assumptions for the valid application of different parametric and nonparametric procedures.
   7. describe the logic/mathematics underlying various research designs and corresponding univariate and multivariate statistics.

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

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted