SOCIAL WORK STATISTICS

Course Description and Objectives:

This course is a continuation of SOWK 760 and will focus on a number of bi-variate and more advanced multivariate statistical methods. The overall objectives of this course are (1) to give you foundation knowledge of the strengths, limitations, and applications of quantitative analyses; and (2) to give you familiarity with statistical tools frequently used/encountered in social work research. More specifically, after completing this course, you should have gained:

1. A conceptual understanding of a number of bivariate and multivariate statistical methods. This will enable you to critically assess empirically-based research and to actively participate in the design, implementation, analysis, and interpretation of on-going research;

2. Basic operational understanding of these statistical methods;

3. Skills in applying these statistical methods to answer a wide range of social science related research questions. That is, you should be able to:
   a. clearly state research questions and hypotheses in a statistical analysis context;
   b. select an appropriate statistical tool to answer the research question or to test your hypothesis;
   c. generate the chosen statistic utilizing SPSS-for Windows; and
   d. interpret your statistical findings in order to answer your research question.

4. A foundation in statistical inference which will enable you to pursue more advanced and specialized study in quantitative analysis.

Texts


Cook & D. Campbell (1979) Quasi-Experimentation
Seigel, Non-parametric statistics


Sage Series in Quantitative Methods: #22, 57.

Assignments and Grading:

Students will be graded on a number of assignments. You will have weekly homework, two in-class mid-term examinations and a final take-home examination. These assignments will be weighted as follows in determining your final course grade:

- Homework and presentation of articles in class: 5%
- First mid-term exam: 25%
- Second mid-term exam: 30%
- Final exam: 40%

Total: 100%

Course Assignments and Examinations:

Students will be asked to identify articles that use the methods covered in this course and present them to the class for discussion (the presentation schedule will be determined by the instructor). These presentations will help the class learn how the methods are applied in research articles. There will be three examinations. Each has been designed to assess the extent to which you have mastered the underlying conceptualization of statistical procedures as well as your ability to evaluate/interpret the use of these procedures in answering a number of social work related research questions.

How, where, and when to reach me:

Office: Room 341, MRF
Phone: (213) 740-2002
e-mail: morbarak@usc.edu
Office Hours: Tuesday, 11:00 – 12:30 or by appointment

Grading Policy

Within the School of social work, grades are determined in each class based on the following standards, which have been established by the faculty of the School:

1. Grades of A or A- are reserved for student work which not only demonstrates very good mastery of content but which also shows that the student has undertaken a complex task, has applied critical thinking skills to the assignment, and/or has demonstrated creativity in her or his approach to the assignment. The difference between these two grades would be determined by the degree to which these skills have been demonstrated by the student.
(2) A grade of B+ will be given to work which is judged to be very good. This grade denotes that a student has demonstrated a more-than-competent understanding of the material being evaluated in the assignment.

(3) A grade of B will be given to student work which meets those basic requirements of the assignment. It denotes that the student has done adequate work on the assignment and meets basic course expectations.

(4) A grade of B- will denote that a student’s performance was less than adequate on an assignment, reflecting only moderate grasp of the content and/or expectations.

(5) A grade of C would reflect a minimal grasp of the assignment, poor organization of ideas and/or several significant areas requiring improvement.

(6) Grades between C- and F will be applied to denote a failure to meet minimum standards, reflecting serious deficiencies in all aspects of a student’s performance on the assignment.

Special Accommodations for Disability
If there is any student in this course who, because of a documented disability, may have a need for special accommodations, please discuss this with me. The university’s policy indicates that any student requesting academic accommodations based on a disability is required to register with the Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me as early in the semester as possible. DSP is located in STU 301 and can be contacted at (213) 740-0776.
SCHEDULE OF CLASSES

Session 1

Introduction: Course objectives, assignments, and grading
Jan. 23, 2008

(Jan 16 – class members travel to SSWR – go listen to presentations that include advanced statistics!)

Models, Experimental designs and ANOVA
Brief review of ANOVA and Two-Way ANOVA

Required: Cook and Campbell, Ch. 4 (pp. 147-152 and 182-187)

Lab: Generating two-way ANOVA

Non-parametric Alternatives to ANOVA

Required: Siegel, chapter 8 (pp. 184-193)

Example of K-W application:

Recommended: Blalock, chapter 16 (pp. 367-375)

Lab: Review: ANOVA, Two-Way review, Kruskal – Wallis ANOVA

Session 2 and 3

Correlation analysis

Jan. 30, & Feb. 6 2008

Required: Kachigan, chapter 10 (pp. 195-226)

Optional: Blalock, chapter 17 (pp. 296-412)

Non-parametric Alternatives to Pearson’s

Required: Seigel, chapter 9

Example of application Spearman rank-order correlation:

Simple linear regression

Required: Kachigan, chapter 11 (pp. 238-257)

Examples of simple linear regression applications:


Session 4 & 5 Simple Linear Regression, Partial Correlation and Multiple Regression


Kachigan,  Chapter 10 (pp. 226-233)
Chapter 11 (pp. 259-271)

Examples of Applications Multiple Regression:


http://www.ingentaconnect.com/content/bpsoc/joop/2005/00000078/00000004/art00001


Recommended: Pedhazur, Chapters 3 and 5

Session 6  First mid-term examination
Feb. 27, 2008

Session 7 & 8  Multiple Regression (cont’d) and Multiple Correlation
March 5 & March 12, 2008

Lab: Multiple regression procedures

March 19, 2008  SPRING RECESS

**Session 9  Analysis of Covariance**

March 26, 2008  Required:  Kachigan, chapter 12 (pp. 331-341)

Pedhazur, chapter 9 (dummy coding)

Recommended:  Pedhazur, chapter 13

Application of ANCOVA:


Lab: Analysis of covariance procedures

**Session 10 & 11  Factor Analysis**

April 2 & 9, 2008  Introduction to Factor Analysis

Required:  Kachigan, chapter 15

Recommended:  Agresti & Agresti, chapter 15 (pp. 504-508)

Applications:


Lab: Factor analysis procedures

**Session 13**

**Second Mid-term**

April 16, 2008

**Session 14**

April 23, 2008 **Applications and Introduction to Path Analysis and Discriminant Function Analysis**

Required: Agresti & Agresti, chapter 15 (pp. 500 – 504) additional readings to be provided.

Recommended: Pedhazur, chapter 15.

**Session 15**

**Wrap-up**

April 30, 2008 Introduction to advanced statistical methods

**HAND OUT FINAL EXAM**

Final exam due Thursday May 8th by 12:00 Noon