Social Work 110
Introduction to Statistics for Social Workers (3 Units)

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Course Description

This course is designed to provide a basic understanding of the statistics and statistical methods used in social services research. Both descriptive and inferential statistics are covered, as well as an introductory overview of empirical research methodology.

Course Objectives

1. To enable the student to understand and perform standard descriptive and inferential statistical operations.

2. To enable the student to discriminate among the variety of statistics available and to choose and apply those statistics that is most appropriate to the data to be analyzed.

3. To enable the student to begin to understand the types and varieties of research that are employed in the area of human services and to learn to recognize both sound and unsound research.

4. To enable the student to begin to understand the nature of empirical research and the role of statistical operations in such research, especially as it relates to research on issues of social and economic justice, values & ethics, human diversity, and special populations.

5. To enable the student to present the results of data analysis in an appropriate way.
6. To enable the student to articulate a familiarity with basic statistical and research concepts.
7. To enable the student to become familiar with current technology as it relates primarily to research and statistics and secondarily to practice theory, issues in HBSE and policy, and the field practicum.

Required Texts:


Course Requirements and Activities

1. We will follow fairly closely the topics as outlined below. You are expected to read and study each chapter and to answer the study questions at the end of each chapter. *To be successful in this course, you must not only be able to clearly understand statistical concepts and their configurations but must be able to apply such concepts and their findings into real situation.* The marked different between this course and other introduction course to statistics is its application to real situation.

2. Additional work problems will be given that will require computations using SPSS for Windows and/or hand tabulation. During the computer lab session, you might want to bring a PC/PC compatible formatted 3/2 inch floppy disk or a USB (flash) card to save your works for future usages.

3. Examinations. There will be three midterm examinations and a final exam as outlined under Course Outline. Sometimes the specified date under the Course Outline may have to be postponed, but in any case, the exam date will be announced in class at least one week prior to the test date. *All midterms will occur Friday morning except Midterm #3 which will take place on Monday immediately after the Thanksgiving Recess.*

Each examination will have two components: *to measure your mastery of theory (textbook content); and to measure your ability to calculate various statistics and interpret/or apply their meanings in a research context*. The two highest scores from the three midterms will be accounted for 60% of your final grade for the course. *There will be no re-take on any of the midterm regardless of cause or reason.* Students needing to make special testing arrangements must see me as soon as possible.

*The final exam will be accounted for 20% of the final grade.*
4. Attendance is required. It is impossible to pass the course without active attendance, keep up with the work, active participation on the subject matter, and able to apply concepts and findings to real situations as specified by your instructor. Statistics is not the type of course wherein you can easily understand and catch up if you fall behind. **IF you missed a topic, DO NOT ask me to repeat it prior to the exam. I do not repeat what has already been presented in class.** Please also note that most of the test questions will be based on your instructor’s views and perceptions rather than what was said by the author of the text. Class attendance will worth 10% toward the final grade.

5. Class participation. Be prepared to answer questions on your readings and class exercises. You are expected to ask questions and to be an active participant in the classroom learning process. Do not complaint later on that I discriminated against you or refused to answer your question if you don’t ask me question(s) while the topic is being discussed/presented. Class participation will worth 5% of the final grade.

6. Statistics is learned by the experience of actually working out the problems and understanding the processes of doing it/them and relating the findings to real case/situation. Thus, it is important that you do the study problems in the text, and/or the assignments that I will be handed out. Also, each chapter is assigned for reading in preparation for the class lectures/discussions.

7. Computer Labs attendance is mandatory. Make sure to read the assigned material before class. You will receive points for each lab you attend. For each lab session you missed regardless of reasons including illness, you will receive 25% deduction for the Computer Lab portion. Missing four labs for the entire semester will result in you getting no point at all for the Computer Lab toward your final grade. The Computer Lab portion is worth 5% of your final grade. What this means is that one who get perfect scores on three out of the four midterms but missed four computer labs, he/she will get a B grade instead of an A grade for the course. **All computer lab session will be conducted on Friday; therefore, except on mid-term dates, starting Week #5 on, go straight to the computer lab, Mariposa Hall 1013.** The door to the computer lab must be kept locked at all time; as a result, try to be in class on time.
9. Grading distribution. Your final grade is based on the scale below.

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Note to social work major students. As in all foundation courses, you must received a “C” grade to pass this course.

Course Outlines

Week 1  September 5 to 8, 2006
Course overview and review of the course syllabus
Uses of statistics, general methodological terms, levels of measurement
Reading assignments: Rubin, A. Chapter 1 & the Preface

Week 2  September 11 to 15, 2006
Preparing data for analysis
Frequency distributions
Graphs and Graphs
Common mistakes in displaying data
Reading assignments: Rubin, Chapters 2, 3 and 4

Week 3  September 18 to 22, 2006
Measures of central tendency
Measures of dispersion
Reading assignments: Rubin, Chapters 5 and 6

Week 4  September 25 to 29, 2006

Normal distributions
Z-score

Reading assignments: Rubin, Chapters 7 & 8

Midterm exam #1 covering chapters 1-6 on areas that indicated by your instructor

Week 5  October 2 to 6, 2006

Introduction to qualitative data analysis

Reading assignments: See handouts

Computer Lab begins on Friday, 6 October 2006

Week 6  October 9 to 13, 2006

Introduction to inferential statistics
Introduction to hypothesis testing and statistical significance

Reading assignments: Rubin, Chapters 9 & 10

Computer Lab is on Friday

Week 7  October 16 to 20, 2006

Type I and Type II error and significance levels
Correlation analysis
Computer lab

Reading assignments: Rubin, Chapters 11 & 15
Week 8  October 23 to 27, 2006

Correlation continues
Cross-tabulation and chi-square
No computer lab

Midterm exam #2 covering Chapters 9, 10, 11 and 15 on areas indicated by your instructor

Reading assignments: Rubin, Chapters 15 & 14

Week 9  October 30 to November 3, 2006

Cross-tabulation and chi-square continues
The t-test
Computer lab continues

Reading assignments: Rubin, Chapters 14 & 12

Week 10  November 6 to 10, 2006

The t-test continues
Analysis of variance
Computer lab continues

Reading assignments: Rubin, Chapters 12 & 13

Week 11  November 13 to 17, 2006

Interpreting the strength and importance of relationships
Computer lab continues

Reading assignments: Rubin, Chapter 16

Week 12  November 20 to 24, 2006
Introduction to regression analysis
Thanksgiving Recess. Short week. Preparing for Midterm #3.
Exam #3 will be on Monday, November 27, 2006, covering Chapters 12, 13, 14 & 16 on areas indicated by your instructor.

Week 13 November 27 to December 1, 2006
Midterm #3 on Monday, 27 November 2006
Complete presentation on regression analysis
Last computer lab

Week 14 December 4 to 8, 2006
Introduction to single-system designs
No more computer lab
Reading assignments: Rubin, Chapter 18

Week 15 December 11 to 15, 2006
Introduction to non-parametric statistics
Putting all together
Review for final exam

FINAL EXAM: Date and time to be announced for both classes