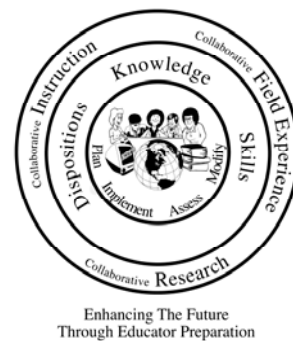


CNE 773(02) STATISTICAL METHODS COUNSELOR EDUCATOR RESEARCH

*This is a required course for the Counselor Education Ph.D., Educational Leadership Ed.D.
Program and the Reading Ph.D. Program
Revised 1-25-08*

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Required Texts:

Cronk, B. C. (2004). *How to use SPSS* (4th ed.). Glendale, CA: Pyrczak Publishing. ISBN 1-884585-68-X.

Field, A. (2005). *Discovering statistics using SPSS* (2nd ed.). London: Sage Publications Ltd. ISBN 0-7619-4452-4.

Holcomb, Z. C. (2004). *Interpreting basic statistics* (5th ed.). Glendale, CA: Pyrczak Publishing. ISBN 1-884585-71-X.

Pyrczak, F. (2003). *Making sense of statistics* (3rd ed.). Los Angeles, CA: Pyrczak Publishing. ISBN 1-884585-28-0.

Statistical Package for Social Sciences (SPSS): Contact: www.spss.com for best price. You do not want the student version because if you want to use large data sets for your dissertation; the student version does not allow you to use this. See attached handout for places to contact for best prices.

Prerequisites: Methods of Research

Course Goal: The curricula for this course include: (a) knowledge of the literature of the discipline and (b) ongoing student engagement in research related to professional practice.

Course Outcomes: Upon successful completion of this course, students will be able to:

- Use Statistical Package for Social Sciences (SPSS) to code data, enter data, define variables, run analyses, and interpret printouts.
- Calculate descriptive statistics (measures of central tendency and measures of variability).
- Graph data using Bar Charts, Histograms, Pie Charts, and others.
- Write null hypothesis, alternative hypothesis, and research questions to correspond to different types of analyses.

- Test assumptions to determine if parametric or non-parametric statistics should be used.
- Calculate correlations using Pearson Product Moment Correlation Coefficients and Spearman Correlation Coefficients.
- Calculate Simple Linear Regression.
- Calculate a single-sample t test, independent-samples t test, and paired-samples t test.
- Calculate a one-way ANOVA and Factorial ANOVA.
- Calculate a Chi-Square.
- Read and evaluate research articles covering all statistical analyses calculated.
- Calculate and interpret effect sizes of practical significance.
- Conduct an “a priori” power analysis to determine sample size.

Format for class:

- Demonstration of analyses. Professor will demonstrate and students will follow using SPSS on individual computers.
- Small group discussion as students work on group assignments.
- Large classroom discussion covering theory and assignments.

CALENDAR

<u>Date</u>	<u>Assignment</u>	<u>Readings & Worksheets</u>	<u>Assessment</u>
January 28	Introductions Syllabus Overview of Course Descriptive Statistics Measures of Central Tendency Measures of Variability SPSS –Coding and Entering Data	<ul style="list-style-type: none"> ▪ Reading Data Set (Dr. R-P will provide) ▪ Concept Map (Dr. R-P will provide) ▪ <i>Making Sense...</i>, pg. 1-48, Appendix A ▪ <i>How to Use...</i>, Ch. 3 ▪ <i>Discovering...</i> Ch. 2 ▪ SPSS – provided in lab 	5 points
February 4	Measurement Scales Frequencies & Percentages Skewness & Kurtosis Graphs	<ul style="list-style-type: none"> ▪ Reading Data Set ▪ <i>Making Sense...</i>, Section 6 & 7 ▪ <i>How to Use...</i>, Ch.4 ▪ <i>Discovering...</i> Ch. 3 ▪ <i>Interpreting...</i>, # 8 	5 points
February 11	Hypothesis Testing Assumptions	<ul style="list-style-type: none"> ▪ Handouts - Blackboard ▪ <i>Making Sense...</i>, Sections 16-18 ▪ <i>How to Use...</i>, Pgs. 53-55 ▪ <i>Discovering...</i>, Pg. 22-33 ▪ <i>Interpreting...</i>, # 15 	5 points
February	Inferential Statistics	<ul style="list-style-type: none"> ▪ Concept Map (Dr. R- 	5 points

18	Assumptions and Research Questions t-test of independent means t-test of paired means single sample t-test	P) <ul style="list-style-type: none"> ▪ Templates for Analyses (Dr. R-P) ▪ Reading Database ▪ <i>Making Sense...</i>, Sections 19 & 20 ▪ <i>How to Use...</i>, Pgs 56-63 ▪ <i>Discovering...</i>, Ch. 7 ▪ <i>Interpreting...</i>, # 34 & 37 	
February 25	Assumptions and Research Questions ANOVA	<ul style="list-style-type: none"> ▪ Reading Database ▪ Template ▪ <i>Making Sense...</i>, Section # 21 ▪ <i>How to Use...</i>, Pgs 64-68 ▪ <i>Discovering...</i>, Ch. 8 ▪ <i>Interpreting...</i>, # 42 	5 points
March 3	Assumptions and Research Questions Chi-Square	<ul style="list-style-type: none"> ▪ Reading Database ▪ Template ▪ <i>Making Sense...</i>, Section 23 ▪ <i>How to Use...</i>, Pgs 85-90 ▪ <i>Discovering...</i>, Pg. 681-694 ▪ <i>Interpreting...</i>, # 47 	5 points
March 10 Spring Break	<u>No Class</u>	<ul style="list-style-type: none"> ▪ Work on Mid-Term 	
March 17	Assumptions and Research Questions 2-way ANOVA	<ul style="list-style-type: none"> ▪ Reading Database ▪ Template ▪ <i>Making Sense...</i>, Section 22 ▪ <i>How to Use...</i>, Pgs 68-71 ▪ <i>Discovering...</i>, Ch. 10 ▪ <i>Interpreting...</i>, # 44 	5 points
March 24	Mid-Term Test <u>Field Day</u>	<ul style="list-style-type: none"> ▪ Mid-term – Prepare for Research Exchange 	100 points
March 31	Mid-term Due Power Analysis Effect Size Confidence Intervals April 4 Deadline for Application for Research Exchange	<ul style="list-style-type: none"> ▪ Handouts (Dr. R-P) ▪ <i>Making Sense...</i>, Section 16,22, Appendix E ▪ <i>How to Use...</i>, Appendix A ▪ <i>Discovering...</i>, Pg. 	5 points

		<p>17-20; 32-34</p> <ul style="list-style-type: none"> ▪ <i>Interpreting...</i>, # 21 	
April 7	Correlation	<ul style="list-style-type: none"> ▪ Reading Database ▪ Templates ▪ <i>Making Sense...</i>, Section 12 & 13 ▪ <i>How to Use...</i>, Pgs. 41 - 44 ▪ <i>Discovering...</i>, Ch. 4 ▪ <i>Interpreting...</i>, # 22 & 23 	5 points
April 14	Simple Linear Regression	<ul style="list-style-type: none"> ▪ Reading Database ▪ Templates ▪ <i>Making Sense...</i>, Section 14 ▪ <i>How to Use...</i>, Pg. 4548 ▪ <i>Discovering...</i>, Pg. 152-174 ▪ <i>Interpreting...</i>, # 23 	5 points
April 21	Presentation - Research Exchange Thursday, April 17, 2008 – Counts for Mid-Term (100 points)	<ul style="list-style-type: none"> ▪ Rubric will be provided 	
April 28	Review – <u>Field Day</u>	<ul style="list-style-type: none"> ▪ Develop database for Final 	
May 5	Turn in Final	<ul style="list-style-type: none"> ▪ Rubric will be provided 	100 points

EVALUATION

- 100 points. Mid-term (Presentation at Research Exchange). Topics will be chosen and rubrics will be provided.
- 100 points. Final. Develop a reading database and apply all of the analyses learned in class using the templates provided.
- 50 points. Each class period earns you 5 points. The points are earned by: (a) attending class, (b) being respectful (reading and completing assignments before class, turning off cell phones, staying in the classroom, turning in assignments on time, listening attentively to peers and professor, working cooperatively with peers, calling professor when you will be late). You will be given 10 points in advance to use at your discretion (for days that you need to attend school functions, sick, etc). However, you will still be responsible for knowing the information covered.
- 350 - 315 = A; 314 – 280 = B; 313 – 245.

FOR YOUR INFORMATION

- ✓ If you are a student with a disability that may affect your academic performance, please contact the professor as soon as possible or you may contact the Director of the Counseling Center as chair of the Committee for Continuing Assistance for Disabled Students at 294-1720.
- ✓ Academic honesty is expected in this class. Plagiarism is a violation and will result in course failure.
- ✓ Attendance. Spring & Fall attendance policy. Students are permitted to miss one class (3 hours) with no penalty, but a call to the professor of the class is expected. A second absence will require that the student submit a letter to the Department of Educational Leadership & Counseling Faculty explaining the circumstances of the absence. The faculty will decide if the second absence should be excused. If it is not excused, a deduction of a letter grade for the course will occur. Subsequent absences will result in automatic letter grade reductions. Summer attendance policy is different. You will be permitted one excused absence (one class period). Subsequent absences will result in a deduction of one letter grade per absence.
- ✓ Religious Holidays. An institution of higher education shall excuse students from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence. A student who plans to miss a class or required activity to observe a religious holy day should inform the professor in writing prior to planned absence.
- ✓ Late assignments will be penalized by one letter grade for each 24-hour- period they are not turned in.
- ✓ The syllabus is subject to change pending notification.