I. COURSE PURPOSE

This course is the first course of two required courses in social work research for social work majors. It is designed to introduce undergraduate students to the research process used by social workers and other social scientists in the context of engaging in basic statistical analyses. The major goal of this course is to gain statistical literacy while learning to appreciate ethical standards and behavior expected for conducting social work research and the role of statistical analysis within research methodology. Empirical data and numerical arguments are present in everyday life and are part of social work practice context upon which practice related decisions are made.

Statistical literacy, therefore, is an essential skill that enables students to understand (becoming an informed consumer) and make rational decisions (becoming an informed producer) based on the analysis of numerical information. Emphasis is placed on building analytical skills and interpretation of findings with consideration of their implications for social work practice, policy, or future research. The course uses both a lecture format to promote student discussion on selected topics and computer-use for statistical analysis skill building. Students use the statistical package SPSS to analyze quantitative data, employing descriptive and inferential (parametric and nonparametric) statistics to explore and analyze different research questions underpinning different social problems.

II. EDUCATIONAL OBJECTIVES

Upon successful completion of this course, students are expected to be able to:
1. Recognize links between research methodological concepts and the process of conducting statistical analysis in social work practice.
2. Demonstrate an understanding of commonly accepted national ethical standards used for the assessment of actions related to research involving human subjects.
4. Recognize the importance of Social Work Code of Ethics in carrying out research in social work practice.
5. Recognize relevant statistical analytical approach for research problem and the type of data under consideration.
6. Describe the process of coding quantitative data and analytical methods available for describing and comparing data.
7. Describe and demonstrate the use of graphs and charts in presenting data.
8. Demonstrate basic skills in conducting descriptive statistical analysis and the interpretation of results in the context of social work practice.
9. Demonstrate basic skills in conducting inferential statistical analysis and the interpretation of results in the context of social work practice.
10. Demonstrate an understanding of probability related to normal distribution curve, its relationship to tests of significance for assessing differences between group-based results, and the relevance and limitations of using statistical significance of tests in the practice context.

III. COURSE REQUIREMENTS

A. Required Texts


B. Course Skill-Building
   The course uses four assignments, four tests, and assigned homework and class discussion to meet the objectives of this course and develop student competence.

   Assignments
   All assignments are take-home assignments, which are due on specified dates with no exceptions.
   Ten percent (10%) will be deducted from any assignment, which is submitted late without permission from the instructor. Please note that a permission to change a due date for any assignment must be obtained prior to the original due date!
   Assignments will not be accepted after they have been reviewed in class.
Schedule for Assignments:
Assignment 1: Due date - Thursday 10/04/12
Assignment 2: Due date - Thursday 11/01/12
Assignment 3: Due date - Thursday 11/15/12
Assignment 4: Due date - Monday 12/10/12

Tests
All tests are in-class written closed book/notes tests. Tests are based on the contents assigned by the instructor. The contents will be in a written form presented as short questions for “fill-in answers,” with “matching” or “multiple-choice” answers. These tests usually take up almost the entire class time. If a student is unable to take a given test on the scheduled date, he/she must notify the instructor as soon as possible. Make-ups can be given at the discretion of the instructor.

** Not taking a test on the scheduled date without a prior written explanation to the instructor and a permission from the instructor results in an assigned grade of “Failure” (F).

** Students with physical, learning, or other disabilities wishing to request accommodations, must meet with the Disability Support Services office at CUA and submit documentation of a disability to the instructor. It is the responsibility of the student to begin the process to seek any accommodations. More information can be obtained from the Disability Support Services website at http://dss.cua.edu/

If a student wishes to pursue such arrangements, he/she must present written documentation from the DSS Office at CUA to the course instructor prior to making testing arrangements.

Assistive learning devices authorized by the Disability Support Services (DSS) Office are welcome in the classroom and should be used in a manner consistent with the formal learning assessment recommendations provided by that office. The student will provide the instructor with written documentation from DSS authorizing the use of the device during classes.

Schedule for Tests
Test 1: Tuesday 9/11/12
Test 2: Tuesday 10/16/12
Test 3: Tuesday 11/20/12
Test 4: December – University assigns final exam schedule
Homework
Each class has an assigned brief homework (posted on BB in individual class folder) for practicing skills to develop critical thinking and problem solving competencies. These brief homework assignments are not individually graded, but they do count toward the computation of the course grade in addition to class attendance and discussion grade.

C. Grading Policy

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance and participation</td>
<td>10%</td>
</tr>
<tr>
<td>Homework completion</td>
<td>10%</td>
</tr>
<tr>
<td>Assignments (4)</td>
<td>40%</td>
</tr>
<tr>
<td>Tests (4)</td>
<td>40%</td>
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</tbody>
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D. Course and Instructor Evaluation
NCSSS requires electronic evaluation of this course and the instructor. At the end of the semester, the evaluation form may be accessed at http://evaluations.cua.edu/evaluations using your CUA username and password. Additional informal written or verbal feedback to the instructor during the semester is encouraged and attempts will be made to respond to requests.

E. Class Attendance and Participation

Students are expected to attend and participate meaningfully in class discussions. Being on time for class, meaningfully participating in class discussion or responding to questions, thoughtfully expressing one’s opinion or point of view, and attentively managing one’s seating space without disturbing others are examples of effective professional behavior.

Being late for class is considered a disruptive behavior, and therefore, one percent (1%) will be deducted from the grade for attendance and participation for each time a student is late, unless the professor is notified in advance.

Two percent (2%) will be deducted from the grade for attendance and participation for each unexcused absence unless the student notifies the instructor and requests an excused absence prior to the class meeting.

Students participating in CUA athletic sport activities must notify the instructor in a timely manner of any potential absences from class; provide written documentation of their athletic participation; and plan ahead for any potential class absences. Students are responsible for making up any missed work as normally expected in the course class schedule.

Use of Listening or Other Electronic Devices: The University has instituted a policy on recording of classroom lectures, which may be accessed at: http://policies.cua.edu/academicgrad/recordingclassroomlecturesgraduate.cfm.

Students are advised that all electronic devices (such as cell phones, ear-cell phones, ipods, ipads, computers, or music and other such sound-making devices) must be either removed and/or silenced.
E-mailing, game playing, surfing the web, or other non-academic uses are not acceptable during class.

In emergency situations, the message recipient should leave the room, and return when the immediate situation has been addressed, and notify the instructor as soon as possible.

**Personal computers/laptops/other recording devices:** Students who choose to bring personal computers or other note taking/audio/video recording devices to classes are expected to seek the prior approval of the instructor.

**IV. CLASS EXPECTATIONS**

A. **Scholastic Expectations**
   Please refer to NCSSS Announcements, or appropriate Program Handbook for Academic Requirements, including scholastic and behavioral requirements. All written work should reflect the original thinking of the writer, cite references where material is quoted or adapted from existing sources, and adhere to the APA style of writing format. Students are expected to carefully proof read all of their written work before submission to the instructor for grading.

B. **Academic Honesty**
   Joining the community of scholars at CUA entails accepting the standards, living by those standards, and upholding them. Please refer to University Policy and appropriate Program Handbook.

C. **Accommodations**
   Students wishing to request accommodations during their course participation or testing must first make a contact with the Disability Support Services (DSS) and submit documentation of their disability. DSS office provides instructions how to document disability or what information is needed: http://dss.cua.edu/

   If you have documented such a disability to DSS that requires accommodations or an academic adjustment (for example during testing), please arrange a meeting with the course instructor as soon as possible to discuss these accommodations. All arrangements for accommodations during testing must be completed prior to the actual course testing (typically at least week or so in advance!).

Updated 5. 22.2012
CLASS SCHEDULE AND ASSIGNMENTS

WEEK 1

Class 1  Overview of the course: Doing research in the context of social work practice.
8/28/12 - Tu Research as a source of knowledge.
Steps in the research process.
Why do social work research?
What kinds of questions do social workers ask?
What is your special interest in social work?
Using statistical data to answer questions.

Reading Assignment:

Homework 1: See page 18: #1: Watch the Core Competency video on Ethical Practice: Recognizing personal values. Prepare 1-page answer: What steps does the school social worker complete in the social work problem-solving process with the presented client? (Due Thursday 8/30)

Class 2  Making connections about research: Different perspectives on conducting research.
8/30 - Th Common steps in developing a research study.
Inductive and deductive philosophies guiding research development.
Distinctions between quantitative, qualitative, mixed, participatory, feminist, and Afrocentric research.

Reading Assignment:

Homework 2: See page 35: # 2: Watch the Core Competency video Human Behavior: Developing an action plan that changes the internal and external. Prepare 1-page answer: How does the social worker use the principles of participatory action research to empower her clients to challenge one group member’s eviction? (Due Tuesday 9/4)

WEEK 2

After Labor Day

Class 3  Introduction to ethical behavior in conducting research with human subjects.
9/4 - Tu Ethical standards and safeguards.
Principles of respect for persons, beneficence, and justice.
Mandates of Social Work.
Internal Review Board.
Reading Assignment:

- Visit a website: [http://ohsr.od.nih.gov/guidelines/index.html](http://ohsr.od.nih.gov/guidelines/index.html) and become familiar with the Belmont Report!

Homework 3: See page 58: # 1: Watch the Core Competency video Research-Based Practice: Engaging in research –Informed Practice. Prepare 1-page answer: Ethical safeguards are equally important in social work practice and social work research. How does the social worker discuss ethical safeguards in practice with his client? (Due Thursday 9/6)

Class 4  
9/6 - Th  
Making connections about research and statistics.  
Constructing and measuring a variable.  
Quantitative versus qualitative approach to observation and measurement.  
Levels of variable measurement.  
Linking measurement to statistics.  
Differentiating between descriptive and inferential statistics.

Reading Assignment:
Salkind (2011): Chapter 1: Statistics or sadistics?

** Prepare for Test 1: Guide for Test 1 on BB

WEEK 3

Class 5  
9/11 - Tu  
TEST 1  (IN CLASS)

Class 6  
9/13 - Th  
Starting statistics: Computing and understanding averages.  
Understanding measures of central tendency.  
Computing the mean for a set of scores.  
Computing the mode and the median.  
Selecting a measure of central tendency.  
Getting oriented in SPSS software for basic data analysis.  
Using SPSS: Analyze > Descriptive Statistics > Frequencies: Class exercises.

Reading Assignment:
Salkind (2011): Chapter 2: Means to an end.  
Cronk (2012). Getting Started in SPSS: Chapter 1

Updated 5. 22.2012
Homework 4: On BB

WEEK 4

Class 7  
9/18 - Tu  Continuing and practicing measures of central tendency. 
Class SPSS exercises for determining measures of central tendency.

Reading Assignment:  
Salkind (2011): Chapter 2: Means to an end.  
Cronk (2012). Getting Started in SPSS: Chapter 1

Homework 5: on BB

Class 8  
9/20 - Th  Understanding statistical variability. 
Importance of understanding variability.  
Variability as a descriptive tool.  
Computing the range, standard deviation, and variance. 
Measurement issues with diverse populations.  
Class SPSS exercises.

Reading Assignment:  

Homework 6: on BB

WEEK 5

Class 9  
9/25 - Tu  Illustrating data with charts.  
Group data frequency distribution and finding the median score.  
Bar charts, line charts, and pie charts.  
Histogram, frequency polygon.

Reading Assignment:  
Salkind (2011): Chapter 4: A picture really is worth a thousand words.  
Cronk (2012): Chapter 4: Graphing data.

Homework 7: on BB

Class 10  
9/27 - Th  Continuing advanced charts and graphs.  
Clustered bar graphs.
Scatter plots.
Box plot and Interquartile range.

Reading Assignment:
On BB: Information on Box plots a and their meaning.

Homework 8: on BB

** Handout – ASSIGNMENT 1 (Take-home): Due Thursday, 10/4/12

WEEK 6

Class 11
10/2 - Tu
Understanding simple relationship between two variables.
Pearson product moment correlation.
Spearman rho correlation.
Interpreting the relationship – direction, magnitude, and percent of variance explained in the correlation result.
Scatter plot.
Using SPSS to compute the correlation coefficient.

Reading Assignment:

Homework 9: on BB

Class 12
10/4 - Th
Making connections: Using correlation to understand the process of achieving reliability and validity in measurement.
Differentiating concepts of validity and reliability in measurement.
Types of validity and reliability for instrument measurement.
Using SPSS for computing Cronbach’s alpha and Inter-rater reliability.

Reading Assignment:
Salkind (2011): Chapter 6: Just the truth.

Homework 10: on BB

**DUE: ASSIGNMENT 1

Updated 5. 22.2012
WEEK 7

Class 13 **NOTE: NO CLASS on Tuesday, 10/9/12 = Administrative Monday
10/9-Tu

Class 13 Making connections: Understanding data in a research study context.
10/11 - Th Differentiating descriptive, exploratory, explanatory studies.
Independent vs. dependent vs. extraneous variables.
Developing research questions vs hypotheses.
Differentiating correlational vs. causal variable relationship.

Reading Assignment:

** Prepare for Test 2:  Guide for test 2 on BB

WEEK 8

Class 15 TEST 2 (IN CLASS)
10/16-Tu

Class 16 Understanding normal distribution of data.
10/18 - Th Probability of data distribution.
Normal curve and how it is used.
Standard scores.
Computing z-score in SPSS.

Reading Assignment:
Salkind (2011): Chapter 8: Are your curves normal?

Homework 11: on BB

WEEK 9

Class 17 Starting inferential statistics.
10/23- Tu Understanding the concept of statistical significance (p-value).
Type 1 vs. Type 2 error.
Test statistic: obtained result value vs. critical value.
Confidence interval.

Reading Assignment:

Homework 12: on BB

Updated 5. 22.2012
Class 18  Understanding one-sample Z test.
10/25 Th  When to use one sample z-test.
         Computing and interpreting z-value.
         Understanding standard error of the mean.
         Obtained z-value vs. critical z-value.

Reading Assignment:

Homework 13: on BB

**Handout: ASSIGNMENT 2 (Covers classes 16-18: Due: Thursday 11/1/12)

WEEK 10

Class 19  Making group comparisons: Difference between means of 2 unrelated
         groups.
10/30-Tu  Parametric test: Independent samples t-test.
         Computing the t-value.
         Degrees of freedom (df) and sample size.
         Understanding Levene’s test for equality of variances between groups.
         Interpreting t-test with p-value of statistical significance.
         Figuring out effect size.

Reading Assignment:
Salkind (2011): Chapter 11: t(ea) for Two.

Homework 14: on BB

Class 20  Continuing comparisons between means of 2 different groups.
11/1-Th   Nonparametric test: Mann-Whitney U test.
         When to use parametric vs. non-parametric test.
         Computation of Mann-Whitney U test.
         Interpreting the results.

Reading Assignment:
On BB: Reading on Mann-Whitney U test.

Homework 15: Assigned on BB

**DUE: ASSIGNMENT 2
WEEK 11

Class 21  
11/6-Tu  
**Difference between means of 2 related groups.**  
Parametric test: Dependent samples t-test.  
Non-parametric: Wilcoxon Signed Rank test.  
Computations and interpretation of results.  
Figuring out effect size.

*Reading Assignment:*
Salkind (2011): Chapter 12: t(ea) for Two (Again).  
On BB: Reading on Wilcoxon test.

Homework 16: on BB

Class 22  
11/8-Th  
**Difference between means of 3 or more different groups.**  
Simple ANOVA.  
Post-hoc multiple comparison tests.  
Computing the F statistic.  
Interpreting results.

*Reading Assignment:*
Salkind (2011): Chapter 13: Two groups too many?

Homework 17: on BB

**Handout: ASSIGNMENT 3 (Covers classes 18 – 23: Due Thursday, 11/15)**

WEEK 12

Class 23  
11/13-Tu  
**Testing the relationship using the correlation coefficient.**  
Reviewing Pearson correlation test r.  
Understanding correlation vs. prediction.  
Logic of prediction in simple linear regression.  
Computing and interpreting results in SPSS.

*Reading Assignment:*
Salkind (2011): Chapter 15: Cousins or just good friends? – testing relationships using the correlation coefficient, and Chapter 16: Predicting who will win the super bowl – using linear regression.

Homework 18: on BB
Class 24  Review of Assignment 3 in class!
11/15-Th  Preparation for Test 3 – class practice

**DUE: ASSIGNMENT 3 – Hand-in a hard copy and make a copy for class review!

WEEK 13

Class 25  TEST 3 (IN CLASS)
11/20-Tu

11/ 22-Th  THANKSGIVING HOLIDAY (11/21 to 11/23 – No Classes)

WEEK 14

Class 26  Testing a frequency association between variables
11/27-Tu  Understanding chi-square test.
Computation and interpretation of results.

*Reading Assignment:*
Salkind (2011): Chapter 17: What to do when you are not normal – chi-square and some other non parametric tests.

Homework 19: on BB

Class 27  Continuing examining frequency association between variables
11/29-Th  Class practice using chi-square analysis.

*Reading Assignment:*
Salkind (2011): Chapter 17: What to do when you are not normal – chi-square and some other non parametric tests.

Homework 20: on BB

WEEK 15

Class 28  Making connections: Making sense of research in journal articles.
12/4-Tu  Review of steps in conducting a quantitative research study.
Decomposing and evaluating a quantitative research article.

*Reading Assignment:*
Dudley (2011): Chapter 15: Preparing the report

** Handout: ASSIGNMENT 4: Article evaluation report. – Instructions on BB DUE: Monday 12/10/12 – upload onto BB (located under Assignment link)

** ASSIGNMENT 4: DUE MONDAY 12/10 – BY 5PM!

** TEST 4: Based on CUA final test assignment schedule.

The end.

Thank You.

HAPPY WINTER HOLIDAYS AND HAPPY NEW YEAR OF 2013!