

University of North Dakota  
Department of Social Work  
Spring Semester 2008  
**Special Topics: Statistics**  
**MWF**  
**10:00 -10:50**

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**Office Hours:**

## **I. Standard Syllabus Information**

### *Course Description*

**Special Topics 493: Statistics 3 credits:** This three credit course will educate students about the different quantitative methods used to analyze data. The focus of the course will be on univariate, bivariate, and multivariate statistics and the descriptive and inferential nature of statistical reasoning. The course will focus on frequency distributions, the normal curve, z scores, t-tests, ANOVA, cross tabs, correlation, linear regression, multiple correlations, multiple regression, and non-parametric statistics. The course will provide an opportunity for students to focus on the application and interpretation of statistics.

### *Relationship between This and Other Courses*

The course is design to provide a baseline understanding of statistics in which students can then think critically about research as it relates to content discussed in the social work research and practice courses.

### *Course Objectives*

At the conclusion of SWK 493, students will be able to:

1. Demonstrate the ability to think critically when critiquing and summarizing statistical analyses and in the choice of statistical tests to analyze quantitative data.
2. Understand the application of the ethical mandates of NASW for social work research and the use of statistical analysis.
3. Understand the influence of diverse and under-represented populations as it relates to the utilization of statistical analysis research.
4. Understand how social and economic justice is affected by and reflected in the design and publication of quantitative research.
5. This objective applies to field and other courses.
6. Be able to use statistical findings to inform generalist practice at multiple levels of practice.
7. Understand the relationship between statistical theories and the use of statistics

8. This objective applies to field and other courses.
9. Critique choice of tests used for statistical analysis and understand the use of statistical analyses in the evaluate of entry level practice.
10. Use communication skills appropriately in technical writing and giving oral presentations.
11. Consult and seek supervision as needed.
12. This objective applies to field and other courses.

### *Classroom Policies*

Important classroom policies are available in their entirety at web sites listed here.

#### *Class Attendance and Participation*

Students are expected to participate in all course learning opportunities. <http://www.und.edu/dept/registrar/catalogs/catalog/ugdept/more.htm>. Faculty will inform students of course expectations, including grading criteria, during the first week of class.

#### *Non-Discrimination*

There shall be no discrimination against persons because of race, religion, age, creed, color, sex, disability, sexual orientation, national origin, marital status, veteran's status or political belief or affiliation, and equal opportunity and access to facilities shall be available to all. <http://sos.und.edu/csl>

#### *Disability Statement*

If you have emergency medical information to share with me, if you need special arrangements in case the building must be evacuated, or if you need accommodations in this course because of a disability, please make an appointment with me. My office location is 301C Gillette Hall and hours are by appointment. If you plan to request disability accommodations, you are expected to register with the Disability Support Services (DSS) office (190 McCannel Hall, 777-3425 v/tty). <http://www.und.edu/dept/dss/>

#### *Grievance*

Student grievances are pursued through the [College of Education and Human Development Grievance Procedure](#) or <http://www.und.edu/dept/csl/appendix-ii.htm>

#### *Scholastic Dishonesty*

Students are expected to adhere to the NASW Code of Ethics and the Code of Student Life, including avoiding cheating, plagiarism, and collusion. <http://www.und.edu/dept/csl/section-3.htm>

## COURSE OUTLINE

#### **Required Texts:**

Rubin, A. (2007). *Statistics for Evidence-Based Practice and Evaluation*. Belmont, CA: Thomson.

**Course Schedule: The course schedule is subject to change with notice.**

Day	Topics	Readings	Assignment due
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			dates
1/9	Introduction, review of the syllabus, discussion of why study statistics	Chapter 1	
1/11	Introduction to Evidence Based Practice and methodology	Chapter 1/class notes	
1/14	Understanding variables/defining data/coding	Appendix A/class notes	
1/16	Understanding variables/defining data/coding	Appendix A/class notes	
1/18	Understanding variables/Defining data/coding/lab time	Appendix A/class notes	
1/21	No class		
1/23	review of basic math	Appendix B	
1/25	Descriptive Statistics: Frequency Distributions	Chapter 3/ <i>Article 1: Disclosure of student status to clients: Where do MSW programs stand</i>	
1/28	Descriptive Statistics: Frequency distributions	Chapter 3 <i>Article 1: Disclosure of student status to clients: Where do MSW programs stand</i>	
1/30	Descriptive Statistics: Frequency Distributions/Graphs and Charts	Chapter 3 <i>Article 1: Disclosure of student status to clients: Where do MSW programs stand</i>	
2/1	Descriptive Statistics: Graphs and Charts/Lab Time	Chapter 4	Article 1 due
2/4	Descriptive Statistics: Measures of central tendencies/Measures	Chapters 5/6 <i>Article 2: The Median isn't the</i>	

	<b>of Dispersion</b>	<i>Message</i>	
<b>2/6</b>	<b>Descriptive Statistics: Measures of central tendencies/Measures of Dispersion</b>	<b>Chapters 5/6</b> <i>Article 2: The Median isn't the Message</i>	
<b>2/8</b>	<b>Descriptive Statistics: Measures of central tendencies/Measures of Dispersion</b>	<b>Chapters 5/6</b> <i>Article 2: The Median isn't the Message</i>	
<b>2/11</b>	<b>Normal Distributions</b>	<b>Chapter 7</b>	<b>Article 2 due</b>
<b>2/13</b>	<b>Z-scores and Percentiles and Effect sizes</b>	<b>Chapter 8</b>	
<b>2/15</b>	<b>Z-scores and Percentiles and effect sizes</b>	<b>Chapter 8</b>	
<b>2/18</b>	<b>No Class</b>		
<b>2/20</b>	<b>Z-scores, and Percentiles and effect sizes</b>	<b>Chapter 8</b>	
<b>2/22</b>	<b>Inferential Statistics: Probability and Sampling Distributions</b>	<b>Chapter 9</b>	
<b>2/25</b>	<b>Inferential Statistics: Hypothesis Testing and Statistical significance /Type I and Type II error and significant testing</b>	<b>Chapter 10,11</b>	
<b>2/27</b>	<b>Review for exam 1</b>		
<b>2/29</b>	<b>Exam 1</b>		
<b>3/3</b>	<b>No Class</b>		
<b>3/5</b>	<b>No Class</b>		
<b>3/7</b>	<b>No Class</b>		
<b>3/10</b>	<b>Inferential statistics: T-test</b>	<b>Chapter 12</b> <i>Article 3: Solution Focus brief therapy and the treatment of depression: A pilot study</i>	
<b>3/12</b>	<b>Inferential statistics: T-test</b>	<b>Chapter 12</b> <i>Article 3: Solution Focus brief therapy and the</i>	

		<i>treatment of depression: A pilot study</i>	
3/14	<b>Inferential statistics: ANOVA</b>	<b>Chapter 13</b> <i>Article 3: Solution Focus brief therapy and the treatment of depression: A pilot study</i>	
3/17	<b>Inferential statistics: ANOVA</b>	<b>Chapter 13</b> <i>Article 3: Solution Focus brief therapy and the treatment of depression: A pilot study</i>	<b>Article 3 due</b>
3/19	<b>Lab Time</b>		
3/21	<b>No Class</b>		
3/24	<b>No Class</b>		
3/26	<b>Inferential Statistics: Cross-tabs/Chi- square</b>	<b>Chapter 14</b> <i>Article 4: Reference list accuracy in social work journals</i>	
3/28	<b>Inferential Statistics: Cross-tabs/Chi- square</b>	<b>Chapter 14</b> <i>Article 4: Reference list accuracy in social work journals</i>	
3/31	<b>Inferential Statistics: Correlation/Strengths of relationships</b>	<b>Chapter 15</b> <i>Article 5: The process of burnout among mental health providers</i>	<b>Article 4 due</b>
4/2	<b>Inferential Statistics: Correlation/Strengths of relationships</b>	<b>Chapter 15</b> <i>Article 5: The process of burnout among mental health providers</i>	
4/4	<b>Lab Time</b>		
4/7	<b>Regression Analysis</b>	<b>Chapter 17</b> <i>Article 5: The process of burnout among mental health providers</i>	

4/9	Regression Analysis	Chapter 17 <i>Article 5: The process of burnout among mental health providers</i>	
4/11	Single Subject Design	Chapter 18	
4/14	Single Subject Design	Chapter 18	Article 5 Due
4/16	Single Subject Design	Chapter 18	
4/21	Additional Multivariate Procedures or possible guest lecturer	Appendix D	
4/23	Non-parametric statistics	Appendix E	
4/25	Statistics and Ethics	Class Notes	
4/28	Exam 2		
4/30	Review for the Final		
5/2	Reading Review day		

### Course Assignments

**Homework Assignments (10 points each):** There will be several homework assignments through out the semester. Some homework assignments will be done by hand and others will be done in SPSS and excel.

**Journal articles (Paper) (40 points each):** Students will complete a 1-2 page summary of each article. The summary will address the following questions

1. Summarize the premise of the article (5 points)
2. Identify the variables used in terms of independent and dependent variables (5 points)
3. Name the statistical tests, describe in detail the statistics used, and discuss why the statistical tests reported in the article were used (10 points)
4. Describe in detail the statistical findings of the article. Make sure you make reference to the variables used in the study. (10 points)
5. Explain how the statistical findings informed the results and discussion of the article (10 points)

**In class group work (5 points each):** For the majority of the concepts discussed in class there will be group work. You must be in class to receive credit

**Exams:** there will be two exams (each worth 50 points) and a comprehensive final worth 100 points

**Class Participation:** Personal Response Clickers will be used in this class. Students will be assigned a clicker and are expected to take it at the beginning of the class and return it at the end. Using the clicker response system you will be asked to respond to questions about the content. The clickers will allow for me (and only me) to keep track of who responds. By using the clickers, I will be able to gauge your understanding of the content. Clicker points will be included in the total points listed on blackboard.

### Grading

**Grades will be recorded on blackboard. Letter grades will be distributed based on the percentages of total points a student receives divided by the number of points available for the semester.**

**Grading**

**A= 90-100 percent**

**B= 80-89 percent**

**C= 70-79 percent**

**D= 60-69 percent**

**F= 59 percent or below**