THE UNIVERSITY OF TEXAS AT AUSTIN
SCHOOL OF SOCIAL WORK

SOCIAL WORK STATISTICS

Course Number: SW 318	**Instructor**: S. L. Rivaux, Ph.D., LMSW
Unique Number: 64025	**Office Number:** SSW 3.104A
Semester: Fall 2013	**E-mail**: s_rivaux@austin.utexas.edu
Meeting Time: TTh 3:30-5 PM	**Office Hours**: Th 2:15-3:15 and by appointment
Meeting Place: SSW 1.212	

Course Description

This course is one of the two courses in research for undergraduate social work majors. Completion of the liberal arts math requirement is a prerequisite for this course. This course provides a basic introduction to the conceptual and quantitative tools used to describe and interpret data in the conduct of social work practice and research. Students will learn how to select, calculate, and interpret appropriate statistics applicable to common data analysis situations related to direct practice, administration and planning, and policy. The course provides students with the opportunity to acquire personal computer skills in R statistical software to calculate statistics and present results. Students are required to complete SW318 prior to entering the major. Students majoring in social work must earn a grade of C or better in this course.

Quantitative Reasoning: This course carries the Quantitative Reasoning flag. Quantitative Reasoning courses are designed to equip you with skills that are necessary for understanding the types of quantitative arguments you will regularly encounter in your adult and professional life. You should therefore expect a substantial portion of your grade to come from your use of quantitative skills to analyze real-world problems.

Course Objectives

Upon completion of this course the students should be able to:

1. Explain the logic of the research process and its relationship to social work knowledge and practice;
2. Explain, calculate, and interpret descriptive statistics including: basic terminology, scales, notations, frequency distributions, measures of central tendency, measures of dispersion, and the normal distribution;
3. Read and analyze basic charts and graphs, contingency tables, and SPSS output results;
4. Explain the logic of hypothesis testing in inferential statistics;
5. Explain, calculate, and interpret inferential statistics including t-tests, ANOVA, correlation, regression, and chi-square;
6. Identify and apply the correct statistical technique to the research question;
7. Understand that statistics are value neutral, but can be used to support discriminatory and prejudicial value positions contrary to the values of social work,

especially against special populations (e.g., women, people of color, people with disabilities, gays and lesbians);
8. Use computer technology to compute descriptive and inferential statistics; and
9. State several examples of how statistics are used as a tool in the "real world" by social service agencies to analyze client outcomes.

Teaching Methods

The primary means of instruction will be informal lectures (i.e., students are encouraged to ask questions and make comments during lectures), class discussions, and in-class exercises using computers and other materials. Students will be expected to have completed the assigned reading before class, to actively participate in class, and to collaborate with one another. R statistical software is the primary statistics software package to be used in class and in assignments.

Required and Recommended Texts and Materials

Required Text

Leon-Guerrero, A., & Frankfort-Nachmias, C. (2012). *Essentials of social statistics for a diverse society*. Thousand Oaks, CA: Pine Forge Press.

Software

R: We will use R to do the statistical calculations needed for this course. R is free, open-source software and two "graphical user interfaces" (GUIs) are available for it, R Commander and R Studio. You will need to install both R and R Studio on your computer.
To download R: http://cran.r-project.org/
To download R Studio: http://www.rstudio.com/ide/download/
To download R Commander: http://socserv.mcmaster.ca/jfox/Misc/Rcmdr/

Online tutorials

We will use several online tutorials to guide use of R and R Studio.
Installing R for Mac OS [Note you only need to download "R-3.0.1.pkg" or click on "latest version" link. So you only need the first 1.5 minutes of this video]: http://www.youtube.com/watch?v=ICGkG7Gg6j0
Installing R for Windows [Note: You only need to download "R-3.0.1.pkg" or click on "latest version" link. Also, don't worry about updating packages or installing new packages. So just watch the first 1.5 minutes or so.]: http://www.youtube.com/watch?v=A56PD8BSS0A
Installing R Studio: http://www.youtube.com/watch?v=jCddzuufzas
SSC's online R tutorials: http://openwetware.org/wiki/Wilke:R_Tutorial_Videos

Computer Requirements

Students will need a laptop computer to complete homework assignments, exams, and in-class exercises. If you do not have a laptop, you may borrow one from the School of Social Work's Learning Resource Center (LRC). Computers are available from the LRC desk on a "first come / first served" basis, so plan ahead. **In order to use the computers in campus computer labs you need your UT EID and password.** Details about UT EID accounts, including how to obtain one are available at the web address: https://utdirect.utexas.edu/nlogon/eid_suite/general/.

If borrowing a computer you will need to make these arrangements before class begins.

BlackBoard
Blackboard will be used extensively in this course. On Blackboard, you will find most materials needed for this course. Use Blackboard to find:

- Homework assignments and exams to be completed online;
- Practice problems sets;
- Datasets to be used in assignments and exams;
- Course materials such as the syllabus;
- Powerpoint presentations used in lectures;
- All course announcements;
- Access to e-mail addresses to ask questions about assignments.

While the University has invested significant resources in support of BlackBoard, there are still periodic outages and slow-downs. **If you wait until the last minute to complete assignments on Blackboard, you may encounter difficulties.**

Grading and Course Requirements

Accumulated points and grading scale

94-100 = A	90-93.9 = A-	87-89.9 = B+	84-86.9 = B	80-82.9 = B-
77-79.9 = C+	74-76.9 = C	70-73.9 = C-	67-69.9 = D+	60-63.9 = D
64-66.9 = D-	<=59.9 = F			

Grades will NOT be rounded up.

Course requirements and grade assignment: The final grade will be computed from grades on homework (40%), four exams (50%), and students' attendance, preparation, and participation in class (10%). Excessive absences will result in grade reductions per the policy described below. Optional extra credit assignments may be offered during the semester.

Class attendance, preparation, and participation (10% of grade)
It is important that social work practitioners take responsibility for their own continued learning and act in a professional manner. Thus, students are expected to attend all classes, to complete assigned readings before the class meeting for which they are assigned, to compile questions regarding the material for class discussion, and to actively participate throughout class meetings.

Further, students are expected to attend all classes and to arrive punctually. Coming late and/or leaving early by more than 10 minutes will be considered a "missed" class. While it is expected students will attend all classes if at all possible, students may have up to three permitted "misses" in the event of unexpected emergencies, medical appointments, university-sanctioned events, or religious holidays. To have a permitted miss, you must email the instructor before that class period. Missing more than three classes will result in a 2% per missed class deduction from the student's final grade. So students are advised to save permitted misses for emergencies. To encourage class attendance, those students who miss no classes will earn an extra 2% to be applied to their final grade.

Homework assignments (40% of grade)

There are 17 scheduled homework assignments, which will be completed on Blackboard. The purposes of the homework assignments are to allow you to review conceptual content and to provide you with opportunities to practicing solving statistical problems using the computer and R. When you have finished the assignment on Blackboard and submitted it for grading, you will receive immediate feedback. All homework assignments must be completed prior to the exam for that material. At the end of that period, access to the homework will expire. Failure to submit homework during the assigned period will result in a "zero" as your score for the assignment.

Each student's homework assignment will be drawn randomly from a test bank of questions. Therefore, each time an assignment is begun, the question set will contain comparable, but not identical questions. The homework assignment may be redone as many times as you wish since you will be given a different selection of questions each time you redo the assignment. If you redo homework, your grade will be based on your highest score achieved. For any assignments where questions are not randomly drawn, the instructor will provide multiple versions of the assignment and will record only the highest grade earned.

NOTE: BlackBoard does not save your answers until you have "Submitted" the assignment. If your computer malfunctions or you become disconnected, you will have to redo the assignment. Furthermore, if you click out of the assignment without saving or submitting your answers, BlackBoard may freeze up and prevent you from accessing the questions for that homework assignment. Please have all of the Homework Practice PowerPoint files and data sets open before you begin taking the homework assignment, and be sure to save your answers before clicking out of the assignment to try to prevent this from occurring.

Students are expected to complete their homework assignments individually. Although I have no mechanism to be certain that students satisfy this expectation, many exam questions will be similar to what you will practice in homework. Therefore, doing your own work will likely improve your exam scores. If you have a difficult time answering homework questions or using BlackBoard, your performance on exams will likely be poor. Therefore, you are strongly encouraged to use class time and/or meetings with the instructor to address any problems you are encountering.

Tests (50% of grade)
There will be four tests, each time-limited to 75 minutes. Tests will cover all material assigned for and discussed in class. Questions on the tests will include conceptual questions from the text and lectures as well as statistical problems to solve using the computer and R. Although each test will focus mainly on the content in the classes since the last test, class content is inevitably cumulative, so there will be cumulative parts to exam questions. Given this, students are encouraged to prepare for tests by focusing on the content since the last test and also reviewing the material from the entire semester. Grades on exams will be released only after all students have completed the exam. Review assignments and Q & A sessions will be provided before each test.

Tests are not open-book. All materials needed to complete the exam will be available from Blackboard. No other materials, software, online content may be used in

completing the exam. The use of e-mail or other types of communication between students or with others is also not permitted. Computer activity during the tests will be monitored and any violation of these policies will be treated as scholastic dishonesty and result in a grade of zero for that exam.

Exams are to be taken at the scheduled time. Only in the case of emergencies and then only with instructor approval will make-up exam be offered. Please notify the instructor of the situation as soon as it is reasonably possible. The date and time for the makeup exam will be scheduled at a time that is mutually convenient to the student and the instructor.

University and School Notices and Policies

The University of Texas Honor Code. The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.

Professional conduct in class. The professor expects students to act as professionals in class. This means students should arrive on time for class, be prepared to participate in the class discussion, and show respect for one another's opinions. We will not, nor should we, always agree with one another. In this environment we should be exposed to diverse ideas and opinions, and sometime we will not agree with the ideas expressed by others. However, the professor does require that students engage one another with respect and professionalism.

Policy on Social Media and Professional Communication. Public social networks are not private. Even when open only to approved or invited members, users cannot be certain that privacy will exist among the general membership of sites. If social work students choose to participate in such forums, please assume that anything posted can be seen, read, and critiqued. What is said, posted, linked to, commented on, uploaded, subscribed to, etc., can be accessed and archived, posing potential harm to professional reputations and prospective careers.

Social work students who use social media (i.e. Facebook, Twitter, etc.) and other forms of electronic communication (i.e. blogs, etc.) must be mindful of how their communication may be perceived by clients, colleagues, faculty, and others. Social work students are expected to make every effort to minimize material which could be considered inappropriate for a professional social worker in training. Because of this, social work students are advised to manage security settings at their most private levels and avoid posting information/photos or using any language that could jeopardize their professional image. Students are asked to consider the amount of personal information posted on these sites and are obliged to block any client access to involvement in the students' social networks. Client material should not be referred to in any form of electronic media, including ***any*** information that might lead to the identification of a client or compromise client confidentiality in ***any*** way. Additionally, students must critically evaluate any material that is posted regarding community agencies and professional relationships, as certain material could violate the standards set by the School of Social Work, the Texas Code of Conduct for Social Workers,

and/or the NASW Code of Ethics.

Social work students should consider that they will be representing professional social work practice as well as the University of Texas at Austin School of Social Work program while in the classroom, the university community, and the broader area communities.

Policy on Scholastic Dishonesty. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since such dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. For further information, the student may refer to the Web Site of the Student Judicial Services, Office of the Dean of Students (http://deanofstudents.utexas.edu/sjs/).

Documented Disability Statement. Any student who requires special accommodations must obtain a letter that documents the disability from the Services for Students with Disabilities area of the Division of Diversity and Community Engagement (471- 6259 voice or 471-4641 TTY for users who are deaf or hard of hearing). Present the letter to the professor at the beginning of the semester so that needed accommodations can be discussed. The student should remind the professor of any testing accommodations no later than five business days before an exam. For more information, visit http://www.utexas.edu/diversity/ddce/ssd/.

Religious Holidays. By UT Austin policy, students must notify the professor of a pending absence at least fourteen days prior to the date of observance of a religious holy day. If the student must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, the professor will give the student an opportunity to complete the missed work within a reasonable time after the absence.

Use of E-mail for Official Correspondence. Email is recognized as an official mode of university correspondence; therefore, students are responsible for reading their email for university and course-related information and announcements. Students are responsible to keep the university informed about changes to their e-mail address. Students should check their e-mail regularly and frequently—daily, but at minimum twice a week—to stay current with university-related communications, some of which may be time- sensitive. Students can find UT Austin's policies and instructions for updating their e-mail address at http://www.utexas.edu/its/policies/emailnotify.php.

Safety. As part of professional social work education, students may have assignments that involve working in agency settings and/or the community. As such, these assignments may present some risks. Sound choices and caution may lower risks inherent to the profession. It is the student's responsibility to be aware of and adhere to policies and practices related to agency and/or community safety. Students should notify the professor regarding any safety concerns.

Behavior Concerns Advice Line (BCAL). If students are worried about someone who is acting differently, they may use the Behavior Concerns Advice Line to discuss by phone their concerns about another individual's behavior. This service is provided

through a partnership among the Office of the Dean of Students, the Counseling and Mental Health Center (CMHC), the Employee Assistance Program (EAP), and The University of Texas Police Department (UTPD). Call 512-232-5050 or visit http://www.utexas.edu/safety/bcal.

Emergency Evacuation Policy. Occupants of buildings on the UT Austin campus are required to evacuate and assemble outside when a fire alarm is activated or an announcement is made. Please be aware of the following policies regarding evacuation

- Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.
- Familiarize yourself with all building and classroom exit doors. Remember that the nearest exit door may not be the one you used when you entered the building.
- In the event of an evacuation, follow the professor's instructions.
- Do not re-enter a building unless you are given instructions by the Austin Fire Department, the UT Austin Police Department, or the Fire Prevention Services office.
- Link to information regarding emergency evaluation routes and emergency procedures can be found at: www.utexas.edu/emergency
- If you require assistance to evacuate, inform the professor in writing during the first week of class.

Course Policies and Notices

Blackboard: The instructor uses Blackboard (a web-based, course-management system with password-protected access) as the primary means of communicating with students. All course materials will be posted on the course's Blackboard site. Blackboard may also be used to communicate and collaborate online, to post grades, to give online quizzes or surveys. Students are responsible for checking this site regularly for class announcements and for new postings. Support in using Blackboard can be obtained from the ITS Help Desk by calling 475-9400 between 8AM-6PM on Monday through Friday. Please plan accordingly.

Late Assignment Policies: Except in the case of extreme emergencies, and then only with the permission of the professor, late assignments will not be accepted without penalty. Students will lose 3 points for each day that an assignment is late. If the due date is a problem, then the student must contact the professor and negotiate another due date at least **48 hours PRIOR** to the date specified in the course syllabus.

Incompletes: Students are expected to complete all course work by the last day of class and to complete all assignments by the dates due. Only in emergency situations will an incomplete grade be given for a course and only when, prior to the emergency, the student has been in attendance and has done satisfactory work. If an incomplete grade should be assigned, there will be a written agreement with the instructor about when and how the work will be completed.

Computer and Other Electronic Device Use Policy: Students are expected to use laptops and handheld computers in class for class-related purposes only. To engage in

other types of computer use and/or electronics use (e.g., accepting or making phone calls, texting, surfing the net, etc.) is unprofessional and disruptive to the course. Thus, students who violate this policy may be asked to leave the classroom.

Feedback on Learning: During this course the professor will ask students to provide feedback on their learning in informal as well as formal ways. It is very important for the professor to know the students' reactions to what is taking place in class, so students are encouraged to inform the professor on how her teaching strategies are helping or hindering student learning, ensuring that together the professor and students can create an environment effective for teaching and learning.

Course and Instructor Evaluations: At the end of the semester, I will use the standard Course Instructor Survey (CIS) provided by the University of Texas at Austin. The CIS offers students a systematic, campus-wide method of evaluating courses and instructors. Instructors can use the course to compare their course ratings with school averages. Also, the SSW Dean and Executive Committee use CIS results as an aspect of faculty and course evaluation. I hope that every student will complete the CIS. Although important, these evaluations are after-the-fact. Therefore, I strongly encourage you to provide input and feedback regarding the course during the semester so that together we can make this course of maximum benefit to you!

Course Schedule

The anticipated schedule of activities for this course begins on the next page. Reading due dates are the class for which the reading is listed. The instructor reserves the option to modify the schedule if deemed necessary. References to chapters are from the course textbook or from readings posted on Blackboard.

Date	Description	Text/Readings	Homework Assignme
Class 1 Th, 8/29	• Review Syllabus • Discuss "why statistics?" • Math review • Discuss R software and installation		
Class 2 T, 9/3	• Lecture on Chapter 1 • IV/DV, levels of measurement, descriptive/inferential stats • Introduction to R	Chapter 1, "The What and Why of Statistics"	Homework 1: Level of measurement, IV/DV problems
Class 3 Th, 9/5	• Lecture on Chapter 2 • Frequency distributions	Chapter 2, "Organization and graphic presentation data" pp 21-38	Homework 2: Frequenc distributions (reading tables)
Class 4 T, 9/10	• Lecture on Chapter 2 • Graphic presentation of data	Chapter 2, "Organization and graphic presentation data" pp 39-62	Homework 3: Frequency distributions (interpretation) Graphic presentation
Class 5 Th, 9/12	• Lecture on Chapter 3 • Central tendency • Distributions and the normal curve	Chapter 3, "Measures of Central Tendency"	Homework 4: Central tendency problems
Class 6 T, 9/17	• Lecture on Chapter 4 • Variability	Chapter 4, "Measures of Variability"	Homework 5: Variability problems
Class 7 Th, 9/19	• Central tendency and variability – how they fit together	Review Chapters 3 & 4	
Class 8 T, 9/24	• Review for Exam 1 • Q & A		
Class 9 Th, 9/26	EXAM 1		
Class 10 T, 10/1	• Review Exam One • Lecture on Chapter 5 • The normal distribution • Z-scores and percentiles	Chapter 5, "The Normal Distribution"	Homework 6: Z-scores and percentile
Class 11 Th, 10/3	• Lecture on Chapter 6 • Sampling, sampling distributions, estimation	Chapter 6, "Sampling, Sampling Distributions, ar Estimation"	Homework 7: Sampling distributions
Class 12 T, 10/8	• Continue Chapter 6 • Lecture on Chapter 7 • Hypothesis testing • Statistical significance	Chapter 7, "Testing Hypotheses"	Homework 8: Confidence intervals
Class 13 Th, 10/10	• Continue Chapter 7 • Hypothesis testing continued • Independent samples t-test	Chapter 7, "Testing Hypotheses" Online content	Homework 9: Independent samples t-tests
Class 14 T, 10/15	• Continue Chapter 7 • Independent samples t-test • Paired samples t-test • Discuss expansions on t-tests	Chapter 7, "Testing Hypotheses" Online content	Homework 10: Paired samples t-tests
Class 15 Th, 10/17	• Review for Exam 2 • Q & A		
Class 16	EXAM 2		

T, 10/22			
Class 17 Th, 10/24	• Review Exam Two • Lecture on Chapter 10 • ANOVA	Chapter 10, "ANOVA"	Homework 11: ANOVA
Class 18 T, 10/29	• ANOVA continued • Discuss expansions on ANOVA	Chapter 10 continued	
Class 19 Th, 10/31	• Lecture on Chapter 8 • Crosstabs • Chi-Square	Chapter 8, "Relationships Two Variables: Cross-Tabulation" pp. 186-211	Homework 12: Crosstabulation
Class 20 T, 11/5	• Chi-Square continued • Other measures of association for nominal and ordinal variables	Chapter 8, "Relationships Two Variables: Cross-Tabulation" pp. 211-230	Homework 13: Chi-square
Class 21 Th, 11/7	• Continue Chapter 8 • Measures of association for nominal and ordinal variables	Chapter 8 Continued	Homework 14: Measures of Association for nominal and ordinal variables
	• Review for Exam 3 • Q & A		
Class 22 T, 11/12	EXAM 3		
Class 23 Th, 11/14	• Review Exam Three • Lecture Chapter 9 • Begin discussing regression	Chapter 9, "Regression and Correlation"	Homework 15: Regression
Class 24 T, 11/19	• Continue discussing regression • Begin discussing correlation	Chapter 9, "Regression and Correlation"	Homework 16: r and r^2
Class 25 Th, 11/21	• Hypothesis testing with regression and correlation • Expansions of correlation/regression		Homework 17: Correlation and regression
Class 26 T, 11/26	• Reliability / Validity • Overview of multivariate statistics	Content on Blackboard	
Th, 11/28	THANKSGIVING BREAK!!		
Class 27 T, 12/3	• Review for Exam Four • What have we learned?		
Class 28 Th, 12/5	EXAM 4		