

THE UNIVERSITY OF TEXAS AT AUSTIN

STEVE HICKS SCHOOL OF SOCIAL WORK

Course Number: SW388R6	Instructor's name: Cal Streefer
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Semester: Fall 2021	Office Number: 3.130G
Meeting Time/Place: Wed., 2:30-5:30 pm,	Office Phone: 512.773.8720
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QUANTITATIVE DATA ANALYSIS I

I. STANDARDIZED COURSE DESCRIPTION

This course is designed to introduce students to fundamental concepts and statistical procedures used in social work research. It also introduces students to computer applications for data analysis and helps them develop basic skills in data file construction and manipulation, data definition, and statistical analysis. The primary focus of the course is on developing a conceptual and mathematical understanding of statistics needed for advanced work in research design, model development, model fitting and estimation, hypothesis testing, multivariate techniques, and interpretation of data. The course will begin with basic statistical concepts such as central tendency, variability, sampling distributions, statistical significance, probability, normal curve, standardized scores, hypothesis testing, statistical inference, effect size, and statistical power. By the end of the semester, specific parametric and non-parametric statistical procedures will be introduced including t-tests, ANOVA (one-way, two-way, and repeated measures), correlation and regression, ANCOVA, chi-square and other non-parametric statistics.

II. STANDARDIZED COURSE OBJECTIVES

The stated mission of the doctoral program of the School of Social Work is to prepare its graduates for successful academic careers as social work educators whose excellence as teachers and scholars will provide intellectual leadership for the profession. Pursuit of this mission will be the overall objective of this course. By the end of the semester students will:

1. Develop basic proficiency with computer data analysis including construction of data files, SPSS for data analysis, and development of an analysis plan;
2. Understand fundamental concepts of statistical analysis;
3. Develop basic skills necessary to organize, present, and interpret data;
4. Develop the ability to evaluate and interpret the results of statistical analysis;
5. Understand the relationship between research design and statistical methods.

III. TEACHING METHODS

Course content will be covered using class lecture, focused discussions, computer demonstrations, and weekly homework assignments. Students are expected to ask questions, share experiences, and actively participate in class discussions. While most statistical calculation will be done on the computer, some hand calculation is inherent in statistical analysis. Any basic calculator with a square root function and more than one memory should be sufficient to meet the needs of this course.

IV. REQUIRED TEXTS AND MATERIALS

There is no required text for this class. Any text on fundamental statistics for the social and behavioral science should be good for most topics we will cover. I have several copies of such texts and will make them available to the class. There are also very good online resources available for most of the topics covered in this class. For a few topics, such as repeated measures ANOVA and ANCOVA, I will provide specific readings.

In addition, you will need access to Statistical Package for the Social Sciences (SPSS). You can purchase a graduate student SPSS package from ITS Software Distribution and Sales. I am currently using version 25 but I think version 27 is now available. I will probably upgrade to v27 when I renew my license. However, some of the slides in the class power points were created in an earlier version. Where differences between versions are noticed I will try to point that out. I would suggest getting the newest version. If you need to work through the SPSS tutorials, you can access them on UT's website at:

<https://stat.utexas.edu/training/software-tutorials>

V. COURSE REQUIREMENTS

Course requirements will consist of weekly homework assignments and two exams. In addition, regular class attendance is expected and students should come to class prepared to actively participate in the class. Course requirements, due dates, and their contribution to the final grade are summarized below.

	% of Grade	Due date
Homework assignments	30%	Weekly
Mid-term Exam	35%	October 13
Final Exam	35%	December 1

VI. GRADES

Grades for this course will be assigned using the following +/- scale.

94 and above = A	74.0 to 76.999 = C
90.0 to 93.999 = A-	70.0 to 73.999 = C-
87.0 to 89.999 = B+	67.0 to 69.999 = D+
84.0 to 86.999 = B	64.0 to 66.999 = D
80.0 to 83.999 = B-	60.0 to 63.999 = D-
77.0 to 79.999 = C+	Below 60 = F

VII. CLASS POLICIES

Canvas: The instructor uses Canvas as the primary means of managing course materials. All course materials will be posted on the course's site. The site 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 Canvas can be obtained from the ITS Help Desk by calling 475-9400 between 8AM-6PM on Monday through Friday.

Late Assignment Policies: Except in the case of extreme emergencies, and then only with prior permission from 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.

Compute 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.

Course and Instructor Evaluations: At the end of the semester, the standard Course Instructor Survey (CIS) provided by the University of Texas at Austin will be used to evaluate the course. The CIS provides a systematic, campus-wide method of evaluating courses and instructors. I hope that every student will complete the CIS.

VIII. UNIVERSITY AND SCHOOL POLICIES

COVID-19 RELATED INFORMATION. The University's policies and practices related to the pandemic may be accessed at: <https://protect.utexas.edu/>

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.

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). A student should present the letter to the professor at the beginning of the semester so that needed accommodations can be discussed and followed. The student should remind the professor of any testing accommodations no later than five business days before an exam. For more information, visit: <http://diversity.utexas.edu/disability/>.

PROFESSIONAL CONDUCT AND CIVILITY IN THE CLASSROOM. 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. A course brings together a group of diverse individuals with various backgrounds. Students are influenced and shaped by such factors as race, ethnicity, gender, sex, physical abilities, religious and political beliefs, national origins, and sexual orientations, among others. We expect to learn from each other in an atmosphere of positive engagement and mutual respect. This atmosphere includes working intentionally to recognize and dismantle racism, sexism, heterosexism, and ableism in the classroom. Social Work also deals with complex and controversial issues. These issues may be challenging and uncomfortable, and it would be impossible to offer a substantive classroom experience that did not include potentially difficult conversations relating to challenging issues. In this environment, we will be exposed to diverse ideas and opinions, and sometimes we will not agree with the ideas expressed by others. Nevertheless, the professor requires that students engage one another with civility, respect, and professionalism.

UNANTICIPATED DISTRESS. Students may experience unexpected and/or distressing reactions to course readings, videos, conversations, and assignments. If so, students are encouraged to inform the professor. The professor can be responsive and supportive regarding students' participation in course assignments and activities, but students are responsible for communicating clearly what kind of support is desired. If counseling is needed, students may contact a service provider of their choosing, including the UT Counseling Center at 512-471-3515 or online at <https://cmhc.utexas.edu/>.

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 (e.g. Facebook, Twitter, Instagram) and other forms of electronic communication (e.g. blogs) 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/>.

USE OF COURSE MATERIALS. The materials used in this course, including, but not limited to exams, quizzes, and homework assignments, are copyright protected works. Any unauthorized duplication of the course materials is a violation of federal law and may result in disciplinary action being taken against the student. Additionally, the sharing of course materials without the specific, express approval of the professor may be a violation of the University's Student Honor Code and an act of academic dishonesty, which could result in further disciplinary action. This sharing includes, among other things, uploading class materials to websites for the purpose of distributing those materials to other current or future students.

CLASSROOM CONFIDENTIALITY. Information shared in class about agencies, clients, and personal matters is considered confidential per the NASW Code of Ethics on educational supervision and is protected by regulations of the Family Educational Rights and Privacy Act (FERPA) as well. As such, sharing this information with individuals outside of the educational context is not permitted. Violations of confidentiality could result in actions taken according to the policies and procedure for review of academic performance located in sections 3.0, 3.1, and 3.2 of the Standards for Social Work Education.

USE OF E-MAIL FOR OFFICIAL CORRESPONDENCE TO STUDENTS. 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 for keeping the university informed about a change of 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>.

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, examination, work assignment, or 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.

TITLE IX REPORTING. In accordance with Title IX of the Education Amendments of 1972, the University of Texas at Austin is committed to maintaining a learning environment that is free from discriminatory conduct on the basis of sex <https://titleix.utexas.edu/>. Faculty, field instructors, staff, and/or teaching assistants in their supervisory roles are mandated reporters of incidents of sex discrimination, sexual harassment, sexual violence, stalking, dating violence, or any other forms of sexual misconduct. Students who report such incidents will be informed of University resources. Incidents will be reported to the University's Title IX Coordinator. Further information, including student resources related to Title IX, may also be found at <https://titleix.utexas.edu/>.

CAMPUS CARRY POLICY. The University's policy on campus carry may be found here: <https://campuscarry.utexas.edu>.

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 and COVID-19 ADVICE LINE (BCCAL). If students have concerns about their behavioral health, or if they are concerned about the behavioral health of someone else, students may use the Behavior Concerns and COVID-19 Advice Line to discuss by phone their concerns. This service is provided through a partnership between 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 <https://safety.utexas.edu/behavior-concerns-advice-line>. The Behavior Concerns and COVID-19 Advice Line has been expanded to support The University of Texas at Austin community during the COVID-19 pandemic. By calling 512-232-5050 - Option 2 for COVID-19, students, faculty and staff can be assisted in English and Spanish with COVID-19 support.

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:

- Familiarize yourself with all exit doors in the classroom and the building. Remember that the nearest exit door may not be the one you used when entering the building.
- If you require assistance to evacuate, inform the professor in writing during the first week of class.
- 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.

IX. COURSE SCHEDULE

The following schedule is the weekly sequence of activities for the semester. The instructor reserves the right to make minor adjustments to the course schedule if deemed necessary. Any changes will be made prior to the date of the class.

Date	Description
August 25	Class 1: Introduction to data analysis
September 1	Class 2: Data Cleaning and preparing for analysis Describing and exploring data
September 9	Class 3: Standardized scores and the normal curve
September 15	Class 4: Probability and sampling Sampling distributions and hypothesis testing
September 22	Class 5: Statistical power Sampling distribution of the mean Single sample design
September 29	Class 6: Student's t for groups Paired samples design Independent samples design

October 6	Class 7: Student's t (continued)
October 13	Class 8: Mid-term Exam
October 20	Class 9: Analysis of Variance (ANOVA) Single factor independent groups design Multiple comparisons
October 27	Class 10: Factorial Analysis of Variance Two factor independent groups design
November 3	Class 11: Repeated measures ANOVA
November 10	Class 12: Correlation and simple linear regression
November 17	Class 13: Analysis of Covariance (ANCOVA)
November 24	Class 14: Non-parametric statistics
December 1	Class 15: Final Exam