

**University of Texas at Austin School of Social Work  
Spring 2017: SW 388R7 Data Analysis II  
Wednesdays, 2:30-5:30, SSW 2.140**

**Instructor:** Dr. Yessenia Castro, Assistant Professor, School of Social Work

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**Office Hours:** Tuesdays and Wednesdays, by appointment. Contact Dr. Castro via email to request an appointment.

## **I. Course Description**

This course is designed to build upon the concepts and procedures introduced in Data Analysis I, and enable students to do a more thorough job of data analysis by introducing multivariate statistical procedures into their repertoire of statistical techniques. The primary focus is on using the Mplus and SPSS statistical packages for estimating multivariate statistical models, and the utilization of the statistical output in research findings.

## **II. Course Objectives**

1. To understand how the analysis of data derives from the statement of a research problem or hypothesis and the availability of empirical data.
2. To understand how to conduct a variety of statistical analyses, including testing of statistical assumptions, data transformations, and validation of statistical findings.
3. To understand how to present and interpret the results of statistical analyses.
4. To be able to design a data analysis strategy that answers a research question or hypothesis, including specifications for data elements, requirements of the statistic, and limitations to the interpretation.

## **III. Teaching Methods**

The primary teaching methods will be in-class lectures, group discussion, computer demonstrations, individual computer exercises, student presentations, and writing assignments. Each class contains assigned readings that are expected to be completed prior to class. Students are expected to ask questions, share experiences, and actively participate in class discussions.

## **IV. Texts and Materials**

### **Required Textbook**

- 1) Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York; Guilford Press.
- 2) Additional required readings will be made available via Canvas.

## Required Materials and Software

- 1) Computer
- 2) Basic Calculator (such as the one available on most smartphones)
- 3) Mplus Demo Version
- 4) IBM SPSS, Version 20 or higher
- 5) Microsoft Excel

## Optional Software

- 1) Mplus, Base Program or higher, Version 7.0 or higher.

## Recommended Texts/Helpful Resources

- 1) Enders, C. K. (2010). *Applied missing data analysis*. New York; Guilford Press.
- 2) Muthén, L.K. and Muthén, B.O. (1998-2015). *Mplus User's Guide. Seventh Edition*. Los Angeles, CA: Muthén & Muthén.
- 3) Muthén, B.O., Muthén, L.K., & Asparouhov, T (2016). *Regression and Mediation Analysis Using Mplus*. Los Angeles, CA: Muthén & Muthén.
- 4) Mplus Website: <http://www.statmodel.com/index.shtml>
- 5) UCLA Institute for Digital Research and Education Website: <http://www.ats.ucla.edu/stat/>

## V. Course Grading System

Grades will be based on participation (30 points), four written reports (25 points each), and 1 class presentation (20 points), totaling 150 points. Student grades will be based on the percentage of points earned out of 150. The grading scale for this course is as follows:

100-94% = A	83.999-80%= B-	69.999-67%= D+
93.999-90%= A-	79.999-77%= C+	66.999-64%= D
89.999-87%= B+	76.999-74%= C	63.999-60%= D-
86.999-84%= B	73.999-70%= C-	59.999% and below = F

### Participation (30 points)

Students will earn 2 points toward their overall grade at the end of each class provided all attendance and participation expectations (as detailed in the section VI) are met. These points are earned on an all-or-nothing basis.

### Written Reports (4 reports at 25 points each)

Every four weeks, students turn in a manuscript-quality write-up of data analytic approach and results sections utilizing data and analytic techniques featured in that module. Students can also expect to draw from previous modules when completing these write-ups. Students will receive specific instructions for each write-up on 1/18, 2/15, 3/15, and 4/12. The purpose of these assignments is to provide students with opportunities for hands on practice

with scientific writing and to demonstrate their understanding of the concepts covered in each module.

Due dates for written reports pertaining to each module are 2/8, 3/8, 4/5 and 5/3, and are noted in the course calendar below. Written reports are due at the beginning of class. Only hard copies will be accepted. No late reports will be accepted except in the circumstance of a *documented, unforeseen emergency* that occurs on the day the paper is due and has caused you to miss class. In this case, be prepared to approach Dr. Castro with official documentation of the unforeseen emergency. If you are aware of any other situation that will cause you to be unable to turn in a paper copy at the beginning of class, plan to submit the write-up early and notify Dr. Castro of your intent to do so.

### **Class Presentation (20 points)**

Every four weeks, 1-2 students will give an oral presentation (with power point slides) based on the written report. Presentations should not exceed 10 minutes. The purpose of this presentation is to provide students with an opportunity for hands-on practice with research dissemination, and in particular to articulate statistical methods and procedures to a scientific audience. Class presentation due dates will be randomly assigned to students on the first day of class. Written instructions will also be provided at that time.

Due dates for presentations pertaining to each module are 2/8, 3/8, 4/5 and 5/3, and are noted in the course calendar below. Presentation dates cannot be exchanged among students without prior approval from Dr. Castro and only under the circumstances of a confirmed, planned absence. Under these circumstances, it is the student's responsibility to arrange the exchange and request approval from Dr. Castro. Students have 72 hours after presentation dates are assigned to complete this process. After presentation dates are finalized, they cannot be rescheduled under any circumstances. In the case of a *documented, unforeseen emergency* that occurs on the day the of your presentation that has caused you to miss class, these points can be made up by completing a written exam on the module in question during the designated final exam time for the course. Be prepared to approach Dr. Castro with official documentation of the unforeseen emergency.

## **VI. Course Policies**

### **Attendance and Participation**

*Class will start promptly at 2:30 pm.* Students are expected to attend class and arrive on time. Student arrivals after 2:40 pm will be considered late. Students are expected to be prepared for each class, complete and turn in computer exercises, and contribute *meaningfully* each week's discussions. Students earn 2 participation points at the end of each class if ALL attendance and participation expectations have been met. *Thus, be aware that each unexcused absence, late arrival, or other failure to meet participation expectations results in a loss of 1.3% of your overall grade.*

If you cannot attend a class, please notify Dr. Castro ahead of time. Please notify Dr. Castro as soon as possible after a *documented, unforeseen emergency* that has caused you to miss class with no prior notice. If you have a documented, unforeseen emergency that affects your attendance in this course, be prepared to approach Dr. Castro about it with official documentation of the unforeseen emergency. In the case of an absence due to a documented and unforeseen emergency, Dr. Castro will assist you in getting caught up with the missed class. *Only under the circumstances of a documented, unforeseen emergency can you make up any coursework that counts toward the final grade.*

## Electronic Devices in the Classroom

Students' use of computers and smartphones is permitted in class insofar as they are used for note taking or for completion of in-class assignments. The use of laptops for other purposes (e.g., instant messaging, video chat, playing games, internet browsing, etc.), except as explicitly authorized by Dr. Castro constitutes unprofessional behavior. The use of other electronic devices during class is prohibited. *Students misusing laptops or smartphones, or using other electronic devices during class will be dismissed from class and this dismissal will constitute an unexcused absence.* Turn mobile phones to silent and disable notifications when you enter the classroom. (*Phones must be completely silent.* Placing phones on vibrate is not acceptable).

## Use of Canvas Web Site

Web-based, password-protected class sites using Canvas software are available for all accredited courses taught at The University of Texas. Syllabi, handouts, assignments and other resources are types of information that may be available within these sites. Site activities could include exchanging email, engaging in class discussions and chats, and exchanging files. In addition, class e-mail rosters will be a component of the sites. Students who do not want their names included in these electronic class rosters must restrict their directory information in the Office of the Registrar, Main Building, Room 1. For information on restricting directory information see: <http://www.utexas.edu/student/registrar/catalogs/gi00-01/app/appc09.html>.

This class will utilize Canvas for distribution of class readings and any other written materials, turning in assignments and recording of student grades. Canvas will also be used by Dr. Castro to communicate with students via email. Please make a concerted effort to check your email at least once per day for any announcements from Dr. Castro regarding this course.

## VII. \*University Policies (REQUIRED TO BE INCLUDED IN ALL SYLLABI)

**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 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 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. 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.

**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. More information may be found at <http://diversity.utexas.edu/disability/>.

**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 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/conduct/>).

**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.

**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.

**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.

**CAMPUS CARRY POLICY.** The University's policy on concealed fire arms may be found here: <https://campuscarry.utexas.edu>. You also may find this information by accessing the Quick Links menu on the School's website.

**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 <https://cio.utexas.edu/policies/university-electronic-mail-student-notification-policy>.

**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.

**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 based on gender. Faculty, instructors, staff, and/or teaching assistants in their supervisory roles are mandated reporters of incidents of sex discrimination, sexual harassment, sexual violence, or sexual misconduct. Students who report such incidents will be informed of University resources. Incidents will be reported to the University's Title IX Coordinator and/or the Title IX Deputy for the SSW, Professor Tanya Voss. Students, faculty and staff may contact Professor Voss to report incidents or to obtain information. Further information, including student resources related to Title IX, may also be found at <http://socialwork.utexas.edu/dl/files/academic-programs/other/qrg-sexualharassment.pdf>.

**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 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 <http://operations.utexas.edu/units/csas/bcal.php>.

**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.

**VIII. Course Calendar**

The course will be organized by modules so as to allow for flexibility in time allotted to topics in order to tailor the pace of the course to students' needs and preferences. Nevertheless, every class will include weekly exercises and readings that reflect the week's discussion topics.

<b>Write-up and Presentations Due</b>	<b>Module 1: Introduction and Review</b>	<b>Assigned Readings</b>
Linear Regression: 2/8 Logistic Regression: 3/8	Student/Instructor Introductions Course Syllabus and Class Expectations Review of Covariance and Correlation Review of Linear Regression Review of Logistic Regression Interpreting and Graphing Results	Hayes Chapters 1-3
	<b>Module 2: Mediation</b>	
4/5	Single Mediator Models Multiple Mediator Models Mediation involving Categorical Variables Interpreting and Graphing Results	Hayes, Chapters 4-6 Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. <i>Communication monographs</i> , 76(4), 408-420.
	<b>Module 3: Moderation</b>	
5/3	Moderation with Two Continuous Predictors Moderation with a Categorical Predictor Interpreting and Graphing Results	Hayes, Chapters 7-9 Hayes, A. F., & Montoya, A. K. (in press). A tutorial on testing, visualizing, and probing interaction involving a multicategorical variable in linear regression analysis. <i>Communication Methods and Measures</i> .
	<b>Module 4: Conditional Process Analysis (Moderated Mediation)</b>	
	Conditional Process Models Interpreting and Graphing Results	Hayes, Chapters 10-12 Hayes, A. F. (2015). An index and test of linear moderated mediation. <i>Multivariate Behavioral Research</i> , 50, 1-22.
	<b>Tentative Module Module 5: Missing data</b>	
	Missing Data Theory Introduction to Multiple Imputation with Maximum Likelihood Estimation	Enders, Chapters 1, 2, 7, 8