Sociology 381L: Sociological Data Analysis
The University of New Mexico
Spring Semester 2019

Professor Reuben Thomas   Tuesdays & Thursdays 2-3:15pm in Econ 1002
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Office: Social Sciences 1070   Office Hours: Tues 3:30-4:30 (or by appointment)

Description:

This is an introductory course in the use of statistics for social research and data analysis. We will begin with the most basic descriptive statistics and work our way up to multivariate regression models (the core quantitative technique used in current American sociology). We will go over the mathematics behind these techniques, but the focus will be on the practical know-how necessary to use statistical software packages to analyze social data.

The learning goals for this course include:

  Understanding how statistical sampling and hypothesis testing apply to social science research.

  Confidence in one's ability to conduct quantitative social research using multiple regression models.

  A working understanding of the OLS multiple regression method, its assumptions and requirements, and which research questions and social data it is useful and appropriate for.

  Practical experience writing a quantitative research paper using multiple regression models.

  Familiarity with and basic competence in using a common and powerful statistical software tool.

Requirements:

Your final grade for the course will be determined by homework, data assignments, class participation, and one final research paper, by these percentages:

Class Participation   10%
Homework   30%
Data Assignments   30%
Multiple Regression Paper   30%
(There are no exams, no midterm, no final)

Assignments/Homework/Papers turned in late will be penalized <u>severely</u>. I will lower your grade for any late assignments by a letter grade or more, depending upon how late it is. Aside from truly extraordinary life events, most reasons for lateness will not change this penalty (we all have very legitimate reasons to be doing something else with our time).

Class participation: This 10% of your final grade is based mostly on your attendance, but also on being a good course citizen. Bonus points for asking relevant questions in class, or answering questions I ask the class. Minus points for missing class, showing up late, leaving and returning during class, chatting with other students during class, using your phone, using your computer for anything but

taking notes and following along with my examples, etc. Note that if you are late, I will only count that as attending half a class, even if only a few minutes late. If you're over 30 minutes late, that counts as missing the entire class.

I will routinely post important announcements and updates through UNM's Learn system. **You must check Learn or your email account that gets messages from Learn every school day**.

Homework: Thirty percent of your grade will be determined by homework, which will focus on the mathematics and interpretation of statistical analysis. These will always be due by the beginning of class, and I will then go over the correct answers at the start of class: because of this, **homework that is even a little bit late will be lowered by one letter grade, immediately.**

Data Assignments: Another 30% of your grade will be determined by data-analysis assignments. In these, you will do computer-assisted statistical analysis of real social data and report the results in mini-papers. Your grade on these will depend as much on how well you present and interpret the results in a sociologically meaningful way as it does on how correctly you run the analyses.

Multiple Regression Paper: The final 30% of your grade will be determined by your last, longer data assignment. In this assignment, you will perform a multivariate regression analysis, present the results in a table, and explain the results in a short paper. This represents the Ultimate Learning Goal of the course, as multiple regression is the basis of most quantitative sociology, and learning to produce this basic research form is key to understanding and participating in most social research these days.

Second Chances! I will give you a second chance on any and all homework or data assignments that you do poorly on. Anytime you score lower than a B (85%), you may re-do the homework or assignment and turn it back in for a regrade. However, the new grade will never be higher than a B. Unfortunately, there will be no second chances on the multiple regression paper.

Required Software:

All students in this class are expected to purchase and use the following statistical analysis software:

Stata (version IC)
This software costs $45 for a **6 month license** (plus $35 if you choose to buy the DVD, so I recommend you go with the default "download delivery"). It runs on Macs (OS X 10.9 or newer), Windows (Vista, 7, 8 or 10), or Linux, and can be bought here:

http://stata.com/order

(Choose your country, then click Student, New Purchase, then click Stata IC 6 months, then add to cart, then Checkout Now, then Guest Checkout, then fillout your Billing Info. On the page after Billing Info, it will ask you to upload proof that you're a student, which can be a picture of your student ID or a copy of your transcript)

If you have access to an earlier version of Stata, that may be sufficient for this course; check with me to ensure that it will be compatible with the data files we will be using.

Alternatively, students can complete the data assignments using SPSS, which is available on the PCs in some campus computer labs. I will not provide training for SPSS, and my examples in class and on Learn will all be in Stata, so I strongly recommend using Stata for this course if at all possible. Some

assignments can also be completed using the free web application at sda.berkeley.edu, but some assignments cannot be done using this website, and I will not provide training on using it.

Textbook:

There is one textbook for this class:

Social Statistics for a Diverse Society 8th Edition
Chava Frankfort-Nachmias & Anna Leon-Guerrero
Sage / Pine Forge Press
ISBN 9781506347202

You can purchase it at the campus bookstore, and you can also find it through most online bookstores. Also **note that you can buy a used copy of an older edition** of this textbook online for **much cheaper** than a new version. The differences between the versions are minor enough that using an older version (even a much, much older version) shouldn't impact your learning experience.

Note that some versions of this textbook come with SPSS software. That software is not what I will use in this class, and these versions of the book cost more.

Course Outline
(This schedule is subject to change, and probably will change. Check Learn for the most up-to-date version of this syllabus.)

January 15	Introduction
January 17	Types of Social Data
January 22	Frequencies & Graphs
January 24	Central Tendency: Means, Medians, & Modes
January 29	Central Tendency: Means, Medians, & Modes
January 31	Measuring Variation
February 5	Measuring Variation
February 7	The Normal Distribution
February 12	Sampling
February 14	Sampling and Estimation
February 19	Sampling and Estimation

February 21	Hypothesis Testing & T-Tests
February 26	Hypothesis Testing & T-Tests
February 28	Hypothesis Testing & T-Tests
March 5	Crosstabulation & Chi Square Test
March 7	Crosstabulation & Chi Square Test
March 11	NO CLASS (Spring Break)
March 14	NO CLASS (Spring Break)
March 19	Correlation & Simple Regression
March 21	Correlation & Simple Regression
March 26	Correlation & Simple Regression
March 28	Correlation & Simple Regression
April 2	Multivariate Regression
April 4	Multivariate Regression
April 9	Multivariate Regression
April 11	Multivariate Regression
April 16	Multivariate Regression
April 18	Multivariate Regression
April 23	Multivariate Regression
April 25	Advanced Regression Methods
April 30	Advanced Regression Methods
May 2	Course Wrap Up, Last Day of Class **Final Assignment Due**

Additonal Notes:

Academic Dishonesty: All students are required to read and abide by UNM's policies on academic honesty and integrity. Academic dishonesty includes, but is not limited to, dishonesty in quizzes, tests, or assignments as well as claiming credit for work not done or done by others. Violations of these policies will result in disciplinary action. Plagiarism and cheating will not be tolerated and will result in the student failing the course. If you have a question about what constitutes plagiarism or how to properly cite research, your best bet is to contact me and ask. Additional information is available at: https://pathfinder.unm.edu/campus-policies/academic-dishonesty.html

Accessibility and Special Needs: Any student who, because of a disability, may require some special arrangements in order to meet course requirements should contact the instructor as soon as possible to make necessary accommodations. It is the responsibility of the student to request accommodation for individual learning needs. UNM will make every attempt to accommodate all qualified students with disabilities. For further information, contact the Accessibility Resource Center at (505) 277-3506.

TITLE IX, Education Amendments of 1972
In an effort to meet obligations under Title IX, UNM faculty, Teaching Assistants, and Graduate Assistants are considered "responsible employees" by the Department of Education. This means that any report of gender discrimination (which includes sexual harassment, sexual misconduct, and sexual violence) that is made to a faculty member, TA, or GA must be reported to the Title IX Coordinator at the Office of Equal Opportunity (oeo.unm.edu).

Please note that UNM has three offices where you can discuss incidents and concerns confidentially, meaning that the staff there will not contact the Office of Equal Opportunity without your consent. If you are uncertain about how to respond to an act of gender discrimination, I encourage you to contact one of the following:
LoboRespect http://loborespect.unm.edu
The Womens' Resource Centerhttps://women.unm.edu
LGBTQ Resource Center http://lgbtqrc.unm.edu

Remember that you can seek help with any emotional distress at Student Health & Counseling (SHAC): (505) 277-3136 (select option 3 for after-hours crisis counseling).