PA 5031: Statistics for Public Affairs
Global Section

Humphrey School of Public Affairs, University of Minnesota
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TAs:
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Course Overview and Objectives
This course will help you develop quantitative analysis skills that can be applied to public affairs research and practice. We will discuss the methods used to collect, describe, and analyze quantitative data. Topics will include quantitative study design, descriptive statistics, correlation, probability distributions, sampling, statistical tests, and ordinary least squares (OLS) regression. We will use both Excel and Stata for statistical analyses throughout the course. When you leave this course, you will have a solid foundation in basic statistics and quantitative data analysis. As you move forward with your Humphrey degree, you may choose to gain further quantitative expertise through additional methodological training. Your TAs can offer advice on other methodology courses and their usefulness/applications.

The global section of PA 5031 is designed for students interested in international development and/or global policy. The datasets, examples, and journal articles used in this section will focus primarily on low- and middle-income countries—regions of the world that have been systematically exploited as a result of centuries of colonialism and capitalism. My goal is for you to leave this course understanding that statistics can be a powerful tool that researchers and practitioners can use to challenge these systems of oppression and work towards social justice and sustainable development.

This course is intended to:
- provide familiarity with statistical terminology and methodology used in the policy arena as well as the popular media
- teach you to interpret and criticize statistical results
- enable you to use basic statistical techniques for research or policy analysis
- equip you with the skills to write effectively about quantitative data and statistical analyses
- encourage you to think about how statistics is neither objective nor apolitical; statistics can be and has been used as a tool for fostering positive social change, but also as a tactic for upholding policy agendas that perpetuate structural racism and systems of white supremacy, patriarchy, and colonialism

Land Acknowledgment

The University of Minnesota-Twin Cities respectfully acknowledges that the land we are on today is the traditional and ancestral homeland of the Daḳota people. The University of Minnesota is founded as a land-grant institution, and we recognize that our founding came at a dire cost to the Daḳota people. The Daḳota were forced to cede their lands in return for goods and services, but the government did not uphold the terms of these treaties leading to widespread devastation. We recognize this painful past, and we honor Daḳota peoples' history on this land, their sovereignty, and their continued contributions to our region. Minnesota comes from the Daḳota name for this region, Mni Sota Maḳoce — "the land where the waters reflect the skies." The Daḳota and numerous other Indigenous peoples, whose cultural, spiritual, and economic practices are intrinsically woven to this landscape, hold this land sacred. We recognize them as original stewards of this land and all the relatives within it, who had thriving and vibrant communities prior to disruption by settlers. Today, the State of Minnesota shares geography with eleven Tribal Nations. By offering this land acknowledgement, we affirm tribal sovereignty and hold the University of Minnesota accountable to recognize and counter the historical and contemporary injustices that continue to impact Indigenous people, through mutually beneficial partnerships, research, policies, and practices that respect Indigeneity.

Inclusion Statement

In this class, I aim to create a learning environment where everyone—regardless of race, ethnicity, nationality, age, gender identity, sexual orientation, class, religion, or (dis)ability—feels welcomed, respected, and supported. Please reach out to me if you feel troubled by anything that occurs at any time during this class. In addition, I will try to be sensitive to the many challenges and stressors that happens in people's lives. If you are struggling with anything during the semester (illness, having a baby, getting married/divorced, breakups, financial troubles, mental health crises, etc.) please reach out to me or the TAs. We may be able to offer you accommodations, such as a due date extension, or connect you with helpful resources. Our goal for this class is to create an effective learning environment and to provide a supportive community for each and every one of you.

University and School Policies and Resources

Disability Resource Center (DRC). UMN is committed to providing equitable access to learning opportunities for all students. The DRC is the campus office that collaborates with students who have disabilities to provide and/or arrange accommodations. If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please call 612-626-1333 to arrange a confidential discussion. For more information, please see diversity.umn.edu/disability. If you are registered with the DRC and have a current letter requesting accommodations, please contact me as early in the semester as possible to discuss.

Center for Writing's Student Writing Support. Student Writing Support provides free writing instruction for all University of Minnesota students – graduate and undergraduate - at all stages of the writing process. They help students develop productive writing habits and revision strategies via in-person consultations. See writing.umn.edu.

Academic Policies. For links to UMN and Humphrey School policies, please see https://z.umn.edu/PolicyStatements. Policies include information on student conduct, scholastic dishonesty, legitimate absences, sexual harassment, equal opportunity, disability accommodations, and more. It is your responsibility to understand these policies; ignorance of the policies is not an acceptable excuse for violating a policy.

Please note that if a class session falls on a holiday that you celebrate, your absence from class is excused. I am happy to meet with you to go over anything they missed. Here is a relevant UMN administrative policy on this.

ChatGPT and Online Learning Support Platforms

Artificial intelligence (AI) language models, such as ChatGPT, and online assignment help tools, such as Chegg®, are examples of online learning support platforms: they cannot be used for course assignments. The following actions are prohibited in this course:

- Submitting all or any part of an assignment statement to an online learning support platform;
- Incorporating any part of an AI generated response in an assignment;
- Using AI to brainstorm, formulate arguments, or template ideas for assignments;
- Using AI to summarize or contextualize source materials;
- Submitting your own work for this class to an online learning support platform for iteration or improvement.

If you are in doubt as to whether you are using an online learning support platform appropriately in this course, I encourage you to discuss your situation with me.

Course Logistics

Methods for statistical analyses can be difficult, especially when you are learning new content along with new data sets and software programming. The difficulty is alleviated when you invest proper time and energy into this course. This includes attending all classes, taking good notes, paying attention in class, putting proper thought and effort into all of your assignments, and coming to see me if you feel like you are falling behind.

Class sessions: Tuesdays and Thursdays at 11:15am – 12:30pm in Blegen 205.
- I will post a PDF of the lecture slides on the Canvas course website after each lecture.
- This is an in-person class. However, if you are unable to attend class due to illness or other extenuating circumstances, I may be able to Zoom you in. This option will be considered on a case-by-case basis.

Lab sessions: Fridays at 11:15am – 12:30pm (in-person in HHH 85)
                    Fridays at 2:15pm – 3:30pm (in-person in HHH 85)
- Lab sessions are led by the TAs and are where you will learn how to use the statistical software to do the assignments. Please attend the session you registered for.

Required Textbook and Readings

Freedman D, Pisani R, and Purves R (2007) Statistics, 4th edition, New York: Norton. Available at the UMN bookstore but search online as well (Used and rental options cost $50 or less).

Additional readings will be posted on the course website.

Required Hardware and Software

- *Stata 17 or higher*. You can run Stata remotely from your home computer without purchasing a personal copy of Stata by using AppsToGo, which can be installed following these underlined instructions. If you want to purchase Stata for your personal computer, you can download it here. Stata/BE for 6 months is $48, or you can purchase the annual or perpetual license if you plan to take more statistics classes.
- *Microsoft Excel*. Microsoft Office 365 Pro Plus is available free of charge to students. Download here.

Stata Tutorials

For most lab sessions, I have created Stata tutorials as step-by-step guides of the coding and analysis methods we will learn in the course. The intent of these tutorials is to provide a resource for you for when you are running your own data analysis.

Below are some useful resources to help you as you learn Stata and inevitably come across challenges and road blocks:

◊   Stata Cheat Sheets: https://www.stata.com/bookstore/statacheatsheets.pdf
◊   UCLA Stata Learning Modules: https://stats.idre.ucla.edu/stata/modules/
◊   Statalist: https://www.statalist.org/
◊   Stata Video Tutorials: https://www.stata.com/links/video-tutorials/

Canvas Course Website

All assignments will be turned in and graded on the Canvas course website (www.canvas.umn.edu). Required online discussions will take place on designated discussion boards on Canvas. Extra readings and resources will also be available there. Please make sure you set course settings to receive course announcements and course conversations (emails) at least the same day.

Grading and Assignments

Five Homework Assignments (50% of course grade): Each homework assignment will allow you to practice the material you have learned and apply newly acquired statistical skills to policy-relevant data. You may work collaboratively with other students on the homework assignments, but it must be clear that you have not simply copied and pasted answers from each other or duplicated a document to submit. Assignments will be posted on Canvas no later than 5:00pm the Friday before they are due, giving you a week to complete the assignment. You must submit your homework through the appropriate Canvas assignment page no later than midnight on the Friday that it is due. Assignments will be graded out of 100. If you turn in your assignment late, you will lose 10 points for each day that it is late.

One Reading Analysis Post (10% of course grade): At the beginning of the semester, each student will sign up for one week in which they will write a 300-word essay about a statistics-related or statistics-heavy current news article of their choice. The article should focus on an international topic. This essay will be posted to Canvas to stimulate online discussion. Detailed instructions for this assignment and the reading post responses will be posted on the Canvas site.

Eight Reading Post Responses (10% of course grade): Each student is expected to respond to one reading analysis post each week from weeks 4-13. There will be several reading posts to choose from each week for 8 weeks. Detailed instructions for this assignment and the reading post responses will be posted on the Canvas site.

One Group Journal Article Presentation (10% of course grade): In groups of 3-4, you will be assigned to make a 10-minute PowerPoint presentation explaining one OLS regression in a journal article (see end of the syllabus for the list of articles). Groups will be formed by the instructors in early November and presentations will occur in class on Tuesday, December 5th. Each group must provide a brief motivation for the study; the research question; the hypothesis; a description of the data, sample, and measures used; the regression results; an interpretation of the results; and some limitations of the study. While this is a group project, each individual will be graded separately. The group will turn in their slides before class on December 5th and indicate which slides each individual should be graded on.

One Final Report (20% of course grade): You are required to complete a research report that presents an original empirical analysis using IPUMS International or IPUMS Demographic and Health Survey (DHS) data from a country of your choice. The report is intended to give you experience formulating a research question and hypothesis, running descriptive statistics and multivariate regression models, interpreting your findings, creating figures, and writing accurately and effectively about your research. The report is expected to be approximately 8-10 pages long, double-spaced, including at least one figure. The paper will be due on Friday, December 15th. Detailed instructions will be posted on the Canvas site.

Detailed Course Schedule with Due Dates (All subject to change with notice)

Note that reading analysis posts are due before class every Tuesday and responses are due before class every Thursday. Homeworks are due on Fridays before midnight.

Week	Date	Topic	Tuesday	Thursday	Friday	Readings
1	4-Sep	Course Introduction			Lab 1	FFP Chs. 1-2
2	11-Sep	Descriptive Statistics			Lab 2	FFP Chs. 3-4
3	18-Sep	Descriptive Statistics			Lab 3	FFP Chs. 5-6
4	25-Sep	Correlation	Reading analysis post 1 due		Lab 4 – HW 1 due	FFP Chs. 8-12
5	2-Oct	Probability Distributions	Reading analysis post 2 due	Response to post 1 due	Lab 5	FFP Chs. 16-18
6	9-Oct	Sampling	Reading analysis post 3 due	Response to post 2 due	Lab 6 – HW 2 due	FFP Chs. 19-20
7	16-Oct	Sampling	Reading analysis post 4 due	Response to post 3 due	Lab 7	FFP Chs. 21 & 23
8	23-Oct	Statistical Tests	Reading analysis post 5 due	Response to post 4 due	Lab 8 – HW 3 due	FFP Chs. 26-27
9	30-Oct	Statistical Tests	Reading analysis post 6 due	Response to post 5 due	Lab 9	FFP Chs. 28-29
10	6-Nov	Multivariate Regression	**NO CLASS** Reading analysis post 7 due	Response to post 6 due	Lab 10 – HW 4 due	Ritter Sec. 1-4
11	13-Nov	Multivariate Regression	Reading analysis post 8 due	Response to post 7 due	Lab 11	Allison Ch. 3
12	20-Nov	Multivariate Regression		**NO CLASS**	**NO LAB**	Allison Ch. 8
13	27-Nov	Multivariate Regression & Data Visualization		Response to post 8 due	Lab 12 – HW 5 due	Ritter Sec. 10
14	4-Dec	Course Wrap Up	Journal article presentations		Lab 13	
15	11-Dec		**NO CLASS**		Final Report due	

Journal Articles for Group Presentations:

Bulut, Elif, and Karin L. Brewster. 2021. "Psychological Distress in Middle Eastern Immigrants to the United States: A Challenge to the Healthy Migrant Model?" *Social Science & Medicine* 274: 113765.

Clark, Shelley, Madeleine Henderson, and Caroline Kabiru. 2023. "Single Motherhood and Stress in a Kenyan Slum: The Importance of Paternal and Kin Support." *Journal of Family Issues*.

Da Mata, Daniel, Lucas Emanuel, Vitor Pereira, and Breno Sampaio. 2023. "Climate Adaptation Policies and Infant Health: Evidence from a Water Policy in Brazil." *Journal of Public Economics* 220: 104835.

Joshi, Supriya, and Yubraj Acharya. 2022. "Women's Extreme Seclusion during Menstruation and Children's Health in Nepal." *PLOS Global Public Health* 2 (7): e0000355.

Kelly, Monique D. A. 2023. "Racial Inequality in the Anglophone Caribbean: Comparing the Cases of Jamaica and Trinidad and Tobago." *Journal of Ethnic and Migration Studies* 49 (5): 1125–1153.

Linke, Andrew M., and Andreas Forø Tollefsen. 2021. "Environmental Stress and Agricultural Landownership in Africa." *Global Environmental Change* 67: 102237.

Mehraban, Nadjia, Bethelhem Legesse Debela, Ummi Kalsum, and Matin Qaim. 2022. "What about Her? Oil Palm Cultivation and Intra-Household Gender Roles." *Food Policy* 110: 102276.

Raza, Syed Hassan, Zulfiqar Ali Shah, and Wajiha Haq. 2022. "Role of Birth Order, Gender, and Region in Educational Attainment in Pakistan." *Scientific Reports* 12 (1): 11842.

Thom, Rowan Ropata Macgregor, and Arthur Grimes. 2022. "Land Loss and the Intergenerational Transmission of Wellbeing: The Experience of Iwi in Aotearoa New Zealand." *Social Science & Medicine* 296: 114804.