SOC 390: Quant Methods for Multimethod Research

University of San Francisco
Meeting: TuTh 4:35 – 6:20pm

Spring 2024 CRN: 22381
Location: Cowell Hall 312

Instructor Information:

Professor: Konrad Posch
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Mail: McLaren 101 (Economics Main Office)

Office Location: McLaren 107
Office Hours: In person, Tuesday 3-4pm
(zoom by appointment)

Course Description

Designed to complement courses that introduce students to research methods, this course provides a survey of quantitative, computational, and "big data" methods used by social scientists in industry, non-profits, government, and academia. Rather than simply toss a bag of tools on the table, we will adopt a theory-driven approach which focuses on when and why (and when not and why not) to use particular tools for particular questions. Thus knowing what a tool is (and isn't), we will practice how to use these tools to generate useful insights into social questions. The course will include readings on both how to use methods as well as examples of methods in use in addition to several problem sets which allow students to practice using the methods we study on actual data. This course will cover methods such as descriptive statistics, regression analysis, quantitative causal inference, natural experiments, computational analysis and machine learning, and logical Bayesian inference.

While a background in research methods from SOC308 or another social science department would be useful for students, **this course has no pre-requisites and is designed assuming no formal background in research design or methods.** If you are wondering if this course would be a good fit for you and your interests, please don't hesitate to reach out to the instructor for advice (kposch@usfca.edu).

Canvas site: https://usfca.instructure.com/courses/1620172

Grading Breakdown & Policies

Attendance & Participation	10%
Labs (3 total, one per part in Parts 2, 3, & 4)	30%
Final Project Prospectus (due 12pm (noon), Thursday 3/7)	5%
Prospectus Peer Reviews (in class, Thursday 3/7)	5%
Final Project Presentation (May 7th, in class)	10%
Final Project Writeup (1500 words min, 20pg with visualizations)	40%

Everyone taking the class for credit (letter grade or pass/fail) is expected to complete all assignments or they will receive an F. Conflicts and crises do arise and will be dealt with graciously, but it is your responsibility to communicate with the Professor as early as possible to sort out issues.

Grading Scale

Percentage grade will be mapped to letter grades in the following manner (percentages will be rounded up to the unit digit):

A+	A	A-	B+	B	B-	C+	C	C-	F
97-100%	93-96%	90-92%	87-89%	83-86%	80-82%	77-79%	73-76%	70-72%	0-69%

Grade Disputes

All assignments in this class require you to take a position and defend it. As with any such endeavor, there is a certain amount of subjectivity to the grading of how successfully you are able to defend your position within the constraints of the courses and the expectations of a USF student. I therefore highly recommend that you not attempt to dispute your grades unless you believe the grade you have earned is more than 2/3 of a grade category (e.g. B- --> B+) different from the grade you believe you should have earned. If you are unsure why you earned the grade you did, speak with your instructor so you can improve on future assignments

If you do wish to pursue a grade dispute, please note: All grade disputes must be made in writing, in not less than a paragraph, not more than a page. The dispute should outline very specifically why you feel that you received a grade in error and should not contain information about what kinds of grades you usually get, the effort you put in, or how long you studied. You must wait at least 24 hours after receiving your grade to raise the issue of a dispute with the instructor, but you must turn in your written dispute within a week of getting the grade. There are no exceptions to this policy.

Office Hours (See top of syllabus for regularly scheduled time; zoom by appointment)

By default, I run my office hours as group office hours for substantive questions related to course material. I've found that this creates the maximum opportunity for students to learn from each other as well as to lower the barriers to come to office hours. Everyone is always welcome at office hours, but I do ask that if you wish to come you try to come with at least one question or topic you would like to discuss to get the conversation started. I heartily encourage you to stay as long as you are interested in the conversation as some of the greatest learning resources at USF are your fellow students, how they think, and how they ask questions. If you wish to discuss an individual matter privately, please let me know using the web form and we will excuse ourselves from the group and speak in private.

Texts & Supplies

As this course is a survey of a large variety of quantitative methods, you are not required to purchase any books for this class. Where relevant, I will provide a good textbook which can help you if you want to dive deeper into the topic of the week.

HOWEVER, for research guidance, I strongly and deeply suggest purchasing the following book that talks about research design and writing:

> Booth, Wayne C., Gregory G. Colomb, Joseph M. Williams, Joseph Bizup, and William T. FitzGerald. 2016. *The Craft of Research, Fourth Edition*. University of Chicago Press.

I cannot express how useful this book has been to me as a researcher, as a methodologist, and as a human. A new edition is being published in July 2024. I own two editions. I will be publishing another one then. Truly, this book is perennial if what you care about is using what you know to craft and answer questions that matter using evidence.

I will post several vital chapters of (Booth et. al 2016), but having the entire book can be very helpful when you get stuck on a conceptual or compositional issue.

All required readings will be posted under modules on the Canvas Site.

Technology Stack

You must have a laptop running a modern generation of Windows, Mac OS, or Linux.

This course will use R and R Studio for text analysis. You should download and install them before the second class.

Python (specifically Anaconda) and Jupyter Notebook will be needed for the class on text scraping.

You are welcome to use whatever additional analysis programs are needed for your final project (e.g. Stata, Mathematica, Latex, etc), but note that the final submission will need to be a PDF that incorporates analysis and explanation, code syntax, code output, and graphics. The assignments are designed to achieve this through R markdown files (Rmd) and I will support students in this implementation; if you decide to go rogue, you do so at the risk that I will not be able to explain how to use your software suite to you. I'm happy to try to help, but students working with Rmd will receive priority in office hours.

ChatGPT and Coding…

Perhaps unique among your courses so far, this class ***expects*** you to use ChatGPT (https://chat.openai.com/) to help you with your coding. Writing syntax is a constant battle of trial & error where a single missing punctuation mark can break your code or lead to misleading results.

In the bad old days, searching for advice on the internet meant hoping someone else had the exact problem you did AND that, when they finally found an answer, they would post it rather than just finish their project and go to bed.

Figure 1: The Bad Old Days: Wisdom of the Ancients (https://xkcd.com/979/)

For better or worse, we live in the troubling current times when you no longer have to use search queries to find snippets of poorly formatted old code with partially incorrect and partially incomplete solutions. Now, you can ask a Large Language Model (LLM) like ChatGPT how to do something.

BE WARNED: ChatGPT can make mistakes! You are ultimately responsible for your code, the analysis you base on it, and the conclusions you draw. Assignment rubrics will require you to explain what your code is doing.

NOTE: ChatGPT *does* give you explanations to go with the syntax. You are **absolutely welcome to use the syntax** (although you might want to note that ChatGPT helped you with it). You **MAY NOT copy ChatGPT's explanations word-for-word without attribution** (you must put them in quotes and cite both the prompt, time, date, and a durable link to you chat which ChatGPT can provide you; it's easier just to write your own words) and an explanation in your own words of what is going on and why this code solves your *research* or *analytic* problem. Copying the explanations without attribution is a form of academic dishonesty and violates USF academic integrity.

ChatGPT is an essential resource for analytic coding in 2024; it's just not worth pretending otherwise so we won't. But just like algebra back in high school and calculus in college, even though a computer can do it doesn't mean you don't have to think about it. You MUST learn what the computer can and cannot do as well as how to tell the difference. We'll work on developing that intuition together.

Course Learning Outcomes

By the end of this course, students will:

1) Understand when (and when not) to use various quantitative analysis methods to answer specific research questions
2) Understand how to use R to perform quantitative data cleaning and analysis
3) Understand how to use online resources and computational programs (e.g. Python) to gather textual data

Attendance Policy

Participation (10% of overall grade)

Participation in this course will be evaluated by your instructor based on your active engagement in the class. Participation requires showing up and being involved in the course. This includes lecture Q&A and office hours. Please read the assignment descriptions on the Canvas site and talk to your instructor well in advance of the end of the session if you are concerned with your participation. If you would like to earn a higher participation grade, participate more actively whether in lecture Q&A or office hours.

You are **required to attend all class sessions**. Please contact your instructor in advance using the Excused Absence Request Form (on the canvas home page) if you need to be excused from a class session.

A **makeup assignment** consisting of a 500 word (approx. 2 page, double spaced) response to the assigned reading for the class period must be turned in to the professor **no later than one week after an absence for the absence to be excused**. This response need not be particularly formal, but it should do more than summarize the chapter; it should reflect on the meaning of the chapter to you, perhaps with respect to your final project.

No more than one absence may be excused during the term due to the very short term of summer courses.

Note: No one may be absent on the last day of class without serious harm to their grade as that is when we will be doing in-class Project Presentations (10% of your grade for the course).

Lab Assignments

As a hands on methods course, you will be responsible for completing three labs through the middle of the course (parts 2,3, and 4). Each lab will consist of a series of coding problems which you must resolve and then explain how and why your solution works. Equal weight will be given to the code solution and the quality of your explanation, so do not skip the explanations!

You are welcome to collaborate on this with your classmates (and with ChatGPT), but ***the final explanations of your syntax must be your own***. I encourage you to work together and talk over any difficulties, but do NOT split the assignment up and then create identical final submissions.

All labs will be completed in Rmd and submitted as a PDF file through Canvas.

Labs will be circulated after the final lecture in each part and will be due 8 days later (generally the Friday 8 days after the Thursday they are assigned). For Labs 1 and 3, there will be in-class work days where Prof. Posch will be on hand to answer technical and substantive questions.

Check the Course Schedule that makes up the end of the syllabus for specific due dates.

The Final Project (Total of 60% of Grade)

The final project will require you to perform an original analysis of quantitative data using one or more of the methods we learned in this course to answer a research question of interest to you. You are encouraged to think about what you would like to do early and speak with me about it long before it is due. The assignments below will provide incremental progress as well as assess the final outcome.

Final Project Prospectus (5% of overall grade) (Due by 12pm (noon) Thursday, 3/7)

A 500 word (approx. 2 pages, double spaced) explanation of the research question, quantitative method(s), the data source(s), and the specific potential challenges you expect to encounter (such as data access, analytic complexity, etc). If you have not fully settled on one research question by this point, you may outline two, but you must then concretely explain the practical pros and cons of each so that, in peer evaluations, we can help you settle on the most feasible one.

Prospectus Peer Reviews (5% of overall grade) (In class on Thursday 3/7)

Given the small size of our course this term, all students will be expected to read and comment on all other students' prospectuses during class time on Thursday, 3/7. Further details will be given on the day of, but the goal of this review is to help your colleagues define a project that is (in order of priority):

1) Achievable during this term
2) Appropriately selected methods to answer research question
3) Interesting to the author for articulable reasons

Final Project Presentation (10% of overall grade)

The last week of class (Tuesday, May 7th and Thursday May 9th) will be a mock research conference where you will each present your final projects in the format of a scholarly conference presentation.

You will each have 15 minutes of class time to present your research. You are required to have a powerpoint slide deck (see the templates USF provides here) which you will submit in advance of your presentation (uploaded to Canvas).

Your presentation should include:

1) Your research question
2) An explanation of your method
3) A justification of why this method in (2) fits your question in (1)
4) Appropriate visualizations, tables, and charts based on your methods
5) Your research answer
6) A concluding statement about why we should (a) believe and (b) care about your findings based on your methodological choices in (2)

A rubric will be provided on Canvas before the presentations so you know how much each element contributes to your grade. You will be evaluated on how well you provide the six pieces of key information above as well as how well you present the material both on your slides as well as in person.

The presentation is also your last chance to get feedback to incorporate into your Final Project Writeup (explained below).

As with the final writeup below, I will not watch/read entire presentations in advance of the due date, but if you want to bring a work in progress to office hours I'm happy to workshop any questions or issues you have to help you succeed.

Final Project Writeup (40% of overall grade)

Due the Wednesday of Exam Week (May 15th, 2024), the Wednesday AFTER the end of the class

Write a research report in the style of an online appendix that includes an annotated set of analyses, visualizations, and explanations. You can see an old online appendix of mine for context (yours will likely be much shorter, but no less detailed or well organized).

You should expect to include all code syntax that is necessary for data gathering, processing, analysis, and visualization.

However, it is also at least as important that you include prose explanations of exactly what you did, why, and how it worked. You should expect to include **a minimum of 1500 words of explanations** NOT INCLUDING any code output or syntax.

Combined with the code and visualizations, your final output will likely be 15-20 pages.

This project must be submitted as a PDF that is most easily generated from an R markdown (Rmd) file in R studio.

I am always happy to talk with you in office hours as you develop your paper. While I will not read and comment on full drafts prior to submission, I'm happy to workshop paragraphs and pages with you during office hours.

Note: You are strongly encouraged to discuss your paper topic with the instructor well in advance of the due date.

Note as well: The Final Project Writeup is **due the Wednesday AFTER the end of classes**. This is intended to give you some time to incorporate presentation feedback. If you plan to travel immediately after the term (e.g. because you don't have finals), you will want to submit your paper before you depart as the grade submission deadline means **I cannot offer any extensions on this due date.**

USF Policies & Legal Declarations

Students with Disabilities

The University of San Francisco is committed to providing equal access to students with disabilities. If you are a student with a disability, or if you think you may have a disability, please contact Student Disability Services (SDS) at sds@usfca.edu or 415 422-2613, to speak with a disability specialist. (All communication with SDS is private and confidential.) If you are eligible for accommodations, please request that your

accommodation letter be sent to me as soon as possible; students are encouraged to contact SDS at the beginning of the semester, as accommodations are not retroactive. Once I have been notified by SDS of your accommodations we can discuss your accommodations and ensure your access to this class or clinical setting. For more information please visit the SDS website.

Behavioral Expectations

All students are expected to behave in accordance with the Student Conduct Code and other University policies (see http://www.usfca.edu/fogcutter/). Students whose behavior is disruptive or who fail to comply with the instructor may be dismissed from the class for the remainder of the class period and may need to meet with the instructor or Dean prior to returning to the next class period. If necessary, referrals may also be made to the Student Conduct process for violations of the Student Conduct Code.

Academic Integrity

As a Jesuit institution committed to *cura personalis* -- the care and education of the whole person -- USF has an obligation to embody and foster the values of honesty and integrity. USF upholds the standards of honesty and integrity from all members of the academic community. All students are expected to know and adhere to the University's Honor Code. You can find the full text of the code online at http://myusf.usfca.edu/academic-integrity/. The policy covers:

- Plagiarism — intentionally or unintentionally representing the words or ideas of another person as your own; failure to properly cite references; manufacturing references.
- Working with another person when independent work is required.
- Submission of the same paper in more than one course without the specific permission of each instructor.
- Submitting a paper written by another person or obtained from the Internet (this includes papers generated by a large language model such as ChatGPT).

Counseling and Psychological Services (Caps)

Counseling and Psychological Services (CAPS) is a great source of support for issues of sadness, anxiety, loneliness, college adjustment, relationship struggles, and others not requiring medical intervention. CAPS offers online workshop series open to all students; consultations and referrals; and extensive website resources. In addition, CAPS All Hours "warmline" can be contacted by calling (855) 531-0761 or students can use the peer-led Crisis Textline by texting HOME to 741741. CAPS also offers remote individual and group teletherapy to students residing within California. (State regulations prevent provision of therapy across state lines.) The student may choose to talk either by video or telephone and can engage in Single Session Therapy (SST), brief ongoing therapy, or group therapy. There are no fees for services. Please call 415.422.6352 to make an appointment. Visit CAPS for more details. Students seeking off campus mental health services can also receive information and support from Case Management (part of the Office of the Dean of Students).

Confidentiality, Mandatory Reporting, and Sexual Assault

As an employee of USF, one of my responsibilities is to help create a safe learning and working community at USF. I have mandatory reporting responsibilities related to my role as a faculty member. I am required to share any disclosure or notice of information regarding sexual misconduct (including sexual harassment, sexual assault, dating or domestic violence, and stalking). In the event I become aware of any of these behaviors I will share this information, including any names, with the Title IX Office in order to connect our students to the best resources and information about how the University can support you. Further information and resources may be found on the Title IX page. In addition:

- To report any sexual misconduct, students may contact the Title IX coordinator at jvarga@usfca.edu or (415) 422-4563) or use the Online Reporting Form.
- Students may speak to someone confidentially or report a sexual assault confidentially by contacting Counseling and Psychological Services at (415) 422-6352. Speaking with a licensed clinician at CAPS does not generate a report to the Title IX or any other university office.
- For an off-campus resource, contact San Francisco Women Against Rape (SFWAR) at (415) 647-7273.

Communication

All course communications, like all other USF communications, will be sent to your USF official email address. You are therefore strongly encouraged to monitor that email account.

Please put "ECON 368" in the subject line of your emails so that your instructor can respond to them in a timely manner. Emails which are received on a weekday will generally receive a response within **1 business day** while those received on a weekend will receive a response by the end of the next business day. Emergencies happen, when in doubt email to document the time when you had a problem and your instructor will endeavor to reply quickly if needed. **However, you should endeavor to never leave a matter so late as to need an answer faster than these response times.**

Generally, questions about procedures & assignments might be handled in email. Substantive questions about class material are always best handled in office hours or during lecture Q&A periods.

Announcements will be made through Canvas. Be sure to check your notification settings (including frequency and email address) to ensure that you receive them. They will always also be archived on the Canvas site for this course.

Course Schedule & Readings

How (and why) to do the readings for this class: It is a common aphorism among instructors that people learn things the third time they engage with them. To that end, this course is designed to present similar information to you in three ways: the readings, lecture, and application (in the labs and final project). Therefore, an essential part of this course is that you do the readings. However, "doing" the readings does not necessarily mean touching every word on every page with your eyes. Instead, since the readings are written by social scientists with the intention of communicating information as clearly as possible to the reader, we can leverage the common design of the readings to improve clarity and make it easier to actually complete the readings.

Therefore, your instructor recommends the following minimal approach to the readings:

1. Read the Title, Introduction, and Conclusion of ***every*** reading for a given week.
2. Ask yourself what key terms and concepts in the title, intro, and conclusion you do NOT understand after you have read only those parts. Go and strategically read the middle portions in order to clarify those terms and concepts.
3. After steps 1 & 2, select at least one reading each week that you find particularly interesting (maybe it discusses a country, technology, issue, or historical period you're interest in) and read it through entirely.
4. Treat each week as a stand-alone reading obligation. We all have bad weeks and there are moments when you will likely fall behind in the reading. Start each week anew with that week's reading assignments and apply steps 1-3 rather than falling further behind by trying to catch up on a prior week's readings. If you have time and interest, definitely go back; but prioritize moving forward with the coming week over re-evaluating the past week.

If you have the time and the inclination, **doing the entirety of all the readings will absolutely help you to gain a deeper understanding of the course and to be more successful on the assignments.** However, "doing the reading" should not be an all or nothing endeavor; do as much as you can with the strategy outlined above.

Part 1: Introduction & Theory

Tuesday (1/23): Introduction

- No Assigned Readings

Thursday (1/25): What is Theory

- Anderson, Chris. 2008. "The End of Theory: The Data Deluge Makes the Scientific Method Obsolete." *Wired*, June 23, 2008. https://www.wired.com/2008/06/pb-theory/.
- Bates, Robert H. 2009. "From Case Studies to Social Science: A Strategy for Political Research." In *The Oxford Handbook of Comparative Politics*, edited by Carles Boix and Susan C. Stokes, 1:172–85. Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199566020.003.0007.
- Rodrik, Dani. 2015. "Chapter 5: When Economists Go Wrong" in *Economics Rules: Why Economics Works, When It Fails, and How to Tell the Difference*. Oxford, UK: Oxford University Press. pg.147-176

Week 2 (1/30 & 2/1): What are Methods? Ontology & Epistemology

- "Chapter 1: Literature" in Latour, Bruno. 1987. *Science in Action: How to Follow Scientists and Engineers through Society*. Cambridge, Mass: Harvard University Press. p21-62
    - OPTIONAL: You may also wish to read "Introduction: Opening Pandora's Black Box" in Latour. It's good, it's interesting, but it was another 17 pages and I didn't want to add even more to the selection. There are lots of pictures in both though, so don't be intimidated by the page count!
- Adcock, Robert, and David Collier. 2001. "Measurement Validity: A Shared Standard for Qualitative and Quantitative Research." *American Political Science Review* 95 (03): 529–46. https://doi.org/10.1017/S0003055401003100.
- "Introduction" and "Chapter 1- Bomb Parts: What is a Model?" in O'Neil, Cathy. 2016. *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*. Crown.

Part 2: Classic Quantitative Methods

Week 3 (2/6 & 2/8): The Fundamental Ontolog(ies) of Quantitative Methods

- "Chapter 8: Contrasting Logical Bayesianism and Frequentism" in Fairfield, Tasha, and Andrew E. Charman. 2022. *Social Inquiry and Bayesian Inference: Rethinking Qualitative Research*. Strategies for Social Inquiry. Cambridge: Cambridge University Press. https://doi.org/10.1017/9781108377522.
- "Chapter 1: The *Science* in Social Science" in King, Gary, Robert O. Keohane, and Sidney Verba. 1994. *Designing Social Inquiry: Scientific Inference in Qualitative Research*. Princeton, N.J: Princeton University Press.
- Collier, David, Jason Seawright, and Gerado L. Munck. 2010. "The Quest for Standards: King, Keohane, and Verba's Designing Social Inquiry." In *Rethinking Social Inquiry: Diverse Tools, Shared Standards*, edited by Henry E. Brady and David Collier, 2nd ed, 33–64. Lanham, Md: Rowman & Littlefield Publishers.

Recommended Book for Further Reading: Brady, Henry E., and David Collier, eds. 2010. Rethinking Social Inquiry: Diverse Tools, Shared Standards. 2nd ed. Lanham, Md: Rowman & Littlefield Publishers.

Week 4 (2/13 & 2/15): Descriptive Statistics & Samples

- "2: Descriptive Statistics: Data and Information" and "3: Observable Data and Data-Generating Processes" in Gailmard, Sean. 2014. *Statistical Modeling and Inference for Social Science*. New York, NY: Cambridge University Press.
    - Note: These are going to be extremely math-y (a technical term). Try to see past the math to understand the concepts rather than getting hung up on the equations and derivations.

Recommended Book for Further Reading: Gailmard, Sean. 2014. Statistical Modeling and Inference for Social Science. New York, NY: Cambridge University Press. (Note: as mentioned above, this book is written primarily for an introductory PhD level course; it goes in to immense detail, but it also does a great job of really establishing the ontology of statistics)

Week 5 (2/20 & 2/22): Linear Regression Analysis

- "Chpt 1: Think Clearly in a Data-Driven Age" and "Chapter 2: Correlation: What is it and What is it Good For?" and "Chapter 3: Causation: What is it and What is it Good For?" in Bueno de Mesquita, Ethan, and Anthony Fowler. 2021. *Thinking Clearly with Data: A Guide to Quantitative Reasoning and Analysis*. Princeton: Princeton University Press.
- "1. Statistical Models and Social Science" and "2. What is Regression Analysis" in Fox, John. 2015. *Applied Regression Analysis and Generalized Linear Models*. Third edition. Los Angeles: SAGE Publications, Inc.

Recommended Book for Further Reading: Bueno de Mesquita, Ethan, and Anthony Fowler. 2021. Thinking Clearly with Data: A Guide to Quantitative Reasoning and Analysis. Princeton: Princeton University Press.

Recommended Book for Technical Implementation of Regression: Fox, John. 2015. Applied Regression Analysis and Generalized Linear Models. Third edition. Los Angeles: SAGE Publications, Inc.

Week 6:

Tuesday (2/27): Tech Stack & Lab 1 In-class Work Day

- No Assigned Readings
- Lab 1 will be circulated after lecture on 2/22. You should do your best to get started with it before this class so you can come with questions and issues to resolve.
- In class on this day, Prof. Posch will start by demonstrating how to open, answer, and submit the assignment as well as how ChatGPT can help with coding. The remainer of the time will be open lab time with the Professor and your peers on hand to settle and tech glitches. By the end of this class, everyone should be "up and running" with the Tech Stack and able to focus just on the substance of the questions and explanations.

Thursday (2/29): Wrapup of Classic Quantitative Methods

- Prof. Posch will go over prospectus expectations in class
- No New Readings

Lab 1 due 11:59pm on Friday, 3/1/2024 uploaded to Canvas as a PDF

Week 7:

Tuesday (3/5): Where are we going from here? (Overview of Part 3 and 4 of the course)

- Prof. Posch will survey what Parts 3 and 4 of the course will entail
- No New Readings

Thursday (3/7): Prospectus Peer Reviews

- Prospectus uploaded to Canvas by 12pm (noon) on this day, Attendance in class this day is 5% of your overall grade (and will be very helpful for your final project!)

Spring Break (3/11 – 3/15): NO CLASS

Part 3: New Innovations in Quantitative Methods

Week 8 (3/19 & 3/21): Beyond Linear Regressions (logit, probit, etc)

- " 14. Logit and Probit Models for Categorical Response Variables" and "15. Generalized Linear Models" in Fox, John. 2015. *Applied Regression Analysis and Generalized Linear Models*. Third edition. Los Angeles: SAGE Publications, Inc.
    - This is going to be very technical, the book is written with a "bag of tools" approach but nevertheless does an excellent job of showing you how linear regressions become something much more useful than they seem (and why they've become the basis of essentially all quantitative social science). Try, again, to see past the technical jargon to understand the concepts.

Recommended Book for Technical Implementation of Regression: Fox, John. 2015. Applied Regression Analysis and Generalized Linear Models. Third edition. Los Angeles: SAGE Publications, Inc.

Week 9 (3/26): "Causal Inference"

- "1 – Introduction" and "2 - Counterfactuals and the Potential Outcome Model" in Morgan, Stephen L., and Christopher Winship. 2014. *Counterfactuals and Causal Inference: Methods and Principles for Social Research*. 2nd ed. Analytical Methods for Social Research. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9781107587991.

Recommended Book for Further Reading: Morgan, Stephen L., and Christopher Winship. 2014. Counterfactuals and Causal Inference: Methods and Principles for Social Research. 2nd ed. Analytical Methods for Social Research. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9781107587991.

No class 3/28 (Holy Thursday Holiday Begins at 4pm)

Week 10 (4/2 & 4/4): Natural Experiments and Wrappup of New Innovations in Quantitative Methods

- "Introduction: Why Natural Experiments" in Dunning, Thad. 2012. *Natural Experiments in the Social Sciences: A Design-Based Approach*. New edition. Cambridge ; New York: Cambridge University Press.

Recommended Book for Further Reading: Dunning, Thad. 2012. Natural Experiments in the Social Sciences: A Design-Based Approach. New edition. Cambridge ; New York: Cambridge University Press.

Lab 2 due 11:59pm on Friday, 4/5/2024 uploaded to Canvas as a PDF

Part 4: Bridging Methods across the Qual/Quant Divide

Week 11 (4/9 & 4/11): Logical Bayesian Inference

- "1: Introduction: Bayesian Reasoning for Qualitative Research" and "3: Heuristic Bayesian Reasoning" in Fairfield, Tasha, and Andrew E. Charman. 2022. *Social Inquiry and Bayesian Inference: Rethinking Qualitative Research*. Strategies for Social Inquiry. Cambridge: Cambridge University Press. https://doi.org/10.1017/9781108377522.

Recommended Book for Further Reading: Fairfield, Tasha, and Andrew E. Charman. 2022. Social Inquiry and Bayesian Inference: Rethinking Qualitative Research. Strategies for Social Inquiry. Cambridge: Cambridge University Press.

Week 12 (4/16 & 4/18): Computational Text Analysis

- "Chapter 1: Introduction" and "Chapter 2: Social Science Research and Text Analysis" in Grimmer, Justin, Margaret E. Roberts, and Brandon M. Stewart. 2022. *Text as Data: A New Framework for Machine Learning and the Social Sciences*. Princeton University Press.
- The "Principles" chapters from each major section in (Grimmer, Robers, & Stewart 2022) (these are all short and extremely efficient overviews of the detailed chapters in between which are very useful if you actually want to execute these methods):
    - Grimmer, Roberts, & Stewart "Chapter 3: Principles of Selection & Representation"
    - Grimmer, Roberts, & Stewart "Chapter 10: Principles of Discovery"
    - Grimmer, Roberts, & Stewart "Chapter 15: Principles of Measurement"
    - Grimmer, Roberts, & Stewart "Chapter 22: Principles of Inference"

Recommended book for Further Readings AND Technical Implementation: Grimmer, Justin, Margaret E. Roberts, and Brandon M. Stewart. 2022. *Text as Data: A New Framework for Machine Learning and the Social Sciences*. Princeton University Press.

Note: Prof. Posch has also taught an entire course just on Computational Text Analysis (ECON 630) at USF. If you are interested in it, speak with me about when it will be taught again.

Week 13:

Tuesday (4/23): Bridging Methods Wrappup

- "Introduction" and "1: Set Relations in Social Research: Basic Concepts" in Ragin, Charles C. 2008. *Redesigning Social Inquiry: Fuzzy Sets and Beyond*. Chicago: University of Chicago Press.

Recommended Books for Further Reading:

- *Ragin, Charles C. 1987. The Comparative Method: Moving Beyond Qualitative and Quantitative Strategies. University of California Press.*
- Ragin, Charles C. 2008. *Redesigning Social Inquiry: Fuzzy Sets and Beyond*. Chicago: University of Chicago Press.
- Ragin, Charles C. 2023. *Analytic Induction for Social Research*. University of California Press. https://doi.org/10.1525/luminos.159.

Thursday (4/25): Lab 3 & Final Project In-Class Work Day

Lab 3 due 11:59pm on Friday, 4/26/2024 uploaded to Canvas as a PDF

Part 5: Final Project Presentations and Writeup

Week 14 (4/30 & 5/2): Conclusion

- Prof. Posch will do a demonstration of a 15 minute scientific talk on Tuesday, 4/30 to give you an example of expectations for your presentations next week.

Week 15 (5/7 & 5/9): Final Project Presentations

- We'll randomly assign folks to Tuesday vs. Thursday at the end of the previous week lecture

Wednesday May 15th, 2024, 11:59pm: Final Project Writeup due, uploaded to Canvas as a single PDF including syntax, visualizations, and detailed explanations