SOSC 13300: Social Science Inquiry III

DETAILS
Remote for the Spring 2021 quarter
TuTh 1PM – 2:20PM (section 3) / 2:40 PM – 4 PM (section 4)
Course website on Canvas
wschultz@uchicago.edu

INSTRUCTOR
Dr. William Schultz
Virtual "Town hall" office hours
- WEDNESDAY from 1PM-2PM
- WEDNESDAY from 9PM-10PM

One-on-one Zoom meetings by appointment

"Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less." — Marie Curie

COURSE DESCRIPTION
It is easy to come up with stories that *sound* like they explain social phenomena around the world, or what the impacts of a public policy choice will be. But how do we determine whether those stories are accurate, or useful? The answer: science.

As the course catalog explains, this sequence provides students with an introduction to the philosophy of social science inquiry, a sense of how that inquiry is conducted, and an understanding of how policy implications can be drawn responsibly from evidence provided by empirical social science. The sequence's objective is to expose students to some classic and contemporary perspectives on the promise of social science, as well as a sense of its uses and abuses.

At this point in the sequence, you should have a basically familiarity with social science research design, and basic familiarity with how we can use statistics to evaluate evidence as a part of those research designs. Now, it's time to practice doing research yourself. The Autumn Quarter was more conceptual, and the Winter Quarter was more technical. The Spring Quarter will fall somewhere in the middle.

COURSE STRUCTURE
I'm providing the course material in both synchronous and asynchronous formats to make sure that it is accessible to students who are not able to easily participate synchronously during the pandemic. I only request that students reach out to me if you need to take in the class material asynchronously.

I'll post presentation slides for each class day on Canvas. I'll also host virtual class sessions in which I'll present those slides and discuss the material with students as in a normal in-person course. I'll record those virtual sessions and post them to Canvas. I'm not grading attendance in the virtual class sessions

(as you can see below), but students should keep in mind that there will sometimes be important material in the recorded classes that are not in the slides.

I'll happily answer questions over email, but I encourage students to post questions about the course material on the Canvas discussion board. Often, if something is confusing you, it is confusing to others as well. It's helpful for me to know what material students are struggling with.

My scheduled office hours for this course will be virtual "town hall" Zoom meetings for students to drop in either individually or as a group and ask questions about the material. You can come and go from these meetings whenever you like. I've scheduled time for these later in the evening that may be more reasonable for students who are not in the Central US time zone. All students are, of course, welcome to attend the later timeslot. Private meetings are available by appointment for anyone who wants them; we can always find a time that works for you.

COURSE MATERIALS
Readings for this course will be posted on Canvas, or I will tell you where to look for them in the syllabus itself. It is important to your own education that you do the assigned readings for each day. It's a poor use of your own time to take a class without putting in the effort to learn something from it. I try to limit the amount of reading I assign without threatening your education by leaving something important out. That's my end of the bargain. Your end of the bargain is keeping up with the readings I do assign.

GRADING PHILOSOPHY AND EXPECTATIONS
Grades in college have several purposes: assessment; signaling a student's overall ability; and signaling a student's effort to master the course material. In my personal view, the last purpose is most important. That is my priority when designing and grading assignments.

RESEARCH PROJECTS
The purpose of this quarter is helping students develop own social science research projects. Every class session this quarter is intended to assist with some aspect of that project. Students can work on the research projects alone, or in teams of 2. Collaboration is the heart of scientific progress, so I encourage students to find teammates to work with.

Your team's research project must use a statistical analysis to test a theory about a social science phenomenon. My intention is for you to apply techniques covered in the Winter quarter, but if you'd like to use other statistical techniques you are familiar with that's fine as well. Whatever techniques you use, you need to apply them appropriately. I will know if you do not.

Each team must complete several assignments over the course of the quarter. These are:
- After the first two weeks:
  - Propose a research topic (in-class presentation)
- After the first four weeks:
  - Propose a research design (paper and in-class presentation)
- By the end of the quarter:
  - Perform your proposed analysis and summarize the results (paper and in-class presentation)

I have more some details on these assignments below. The *vast majority* of your grade for this quarter is based on elements of this research project.

EARNING YOUR GRADE
Your overall grade will be out of 300 points. I will provide rubrics for all presentations and written assignments on Canvas. *See those rubrics when posted for full details*. I provide brief summaries below.

Participation assignments: 45 points = 15%
- Simple assignments to show that you are following along with the class. These are intended to be easy points as long as you do them sincerely.
- Sometimes these will be discussion board posts like in the Fall Quarter, sometimes they will be coding assignments in the R Studio Cloud like in the Winter Quarter, and sometimes they will be something else.
- I'll review how the R Studio Cloud works when coding assignments arise, for students who are new to my sections this quarter. If you did SOSC 13200 with someone else and your instructor didn't teach R, let me know and we'll work something else out.

Presentations (dates in schedule below): 75 points = 25%
- Research puzzle (5%)
  - Short, 3-minute-thesis style presentations we'll do in class, wherein a representative of each team (or both members of the team) will give a *brief* presentation of their idea for a research topic. As best as possible, your goal should be to frame this research topic as a puzzle that needs solving. We'll discuss "puzzles" early in the quarter.
- Research design (10%)
  - Around the middle of the quarter, teams will present a proposed research design to myself and the rest of the class. Recorded asynchronous presentations are an option as well. I've set aside a week of class for these presentations. Each team will be assigned a discussant (another classmate) who will provide feedback on the presentation and write-up. There will also be a few minutes for each team to get feedback from the rest of the class.
  - ~10 minutes
- Final presentation (10%)
  - At the end of the quarter, students will present their finished research projects to myself and their classmates (recorded asynchronous presentations are an option). This presentation should include a *brief* review of your research puzzle and research design. Then, you should explain your data analysis, and tell us what you conclude based on that analysis. Once again, I've set aside a week of class for these presentations.
  - ~10 minutes

Discussant: 45 points = 15%
- Research design (15 points, 5%)
    - o Each student will be randomly assigned as a "discussant" for another team's research design presentation. After their presentation, you will be responsible for providing thoughtful feedback on their project, including: (1) topics they handle well, or things about their proposed research design that you find interesting; and (2) *constructive* feedback on ways their proposed research design could be strengthened (problems they haven't considered, wasy they could handle problems better, etc.). If you are not participating synchronously, you can provide that feedback in writing after watching their presentation.
    - o You will receive a grade based on the quality of and effort put into the feedback you provide. Discussants play an important role in real academic conferences! You take your research to a conference to get feedback from others studying similar topics; your discussant is often the only guaranteed feedback you know you will receive.
- Final presentation (30 points, 10%)
    - o Same as above, but for final presentations

Research design proposal: 45 points = 15%
- Your team must write the "front-end" of a research paper. It should include an introduction, a literature review, a discussion of how your team plans to contribute to this literature, and a description of your proposed research design. Keep in mind that you will need to conduct whatever data analysis you propose.
    - o Obviously, you are allowed to change your design if discover that your initial plan was not feasible. This happens sometimes!
- Due May 9TH at 11:59PM, but I encourage you to complete them earlier if possible
- See rubric online closer to the due date

Final paper: 90 points = 30%
- Your team should resubmit your research design proposal (with revisions as needed), along with two new sections added: (1) a section walking through your data analysis and explaining what it tells you; and (2) a section that discusses what your team thinks we learn about your research puzzle from your statistical analysis.
- Due May 28th at 11:59PM
- See rubric online closer to the due date

MISSED/LATE ASSIGNMENTS
I accept missed assignments without penalty for documented medical reasons, family crises, call to active military duty or jury duty, religious holy days, and official University activities. I also give deference to parents with dependent children who are sick.

Otherwise, late assignments drop 10% of their full worth for each day they are late, but you can still submit them to me through email.

PETITIONS FOR A GRADE CHANGE
I consider written petitions for a change of grade on assignments. However, I require students to wait two business days after receiving a grade before submitting their petition.

EMAIL POLICY
Please include your first and last name and course information in the subject line of your email. When I receive your email, I will make effort to respond in a timely manner, usually within 48 hours. You may receive a reply sooner than that, but you should not expect an immediate response. Please treat all email correspondences with your instructor as you would treat any other professional exchange. I expect emails to be respectful and polite, to use correct grammar and complete sentences.

Schedule

(Class 1) Tuesday, Mar 30th — Intro; social science data

Read for today:

- King (2011). "Ensuring the Data Rich Future of the Social Sciences." *Science*.

(Class 2) Thursday, April 1st — Finding a puzzle

Read for today:

- Zinnes (1980). "Three Puzzles in Search of a Researcher." *International Studies Quarterly*.
    - Preface, 315-319
    - Why are some nations war prone, 326-330
    - What is puzzlement, 337-339
- Gustafsson and Hagström (2018). "What is the point? Teaching graduate students how to construct political science research puzzles." *European Political Science*.
    - 639-641
    - 643-645

(Class 3) Tuesday, April 6th — Literature reviews and social science paper structure

Read for today:

- Malesky and Taussig (2017). The Danger of not Listening to Firms: Government Responsiveness and the Goal of Regulatory Compliance. *Academy of Management Journal*.
    - Pages 1743-1746
- Andersson and Agrawal (2011). Inequalities, institutions, and forest commons. *Global Environmental Change*.
    - A paper by two high-profile researchers in my own subfield, using a relatively simple statistical analysis that relies on techniques you learned last quarter.

(Class 4) Thursday, April 8th — Concept formation

Read for today:

- Dahl (1971). *Polyarchy.* Chapter 1
    - Pages 1-10.
- Gerring (1997). What makes a concept good? A criterial framework for understanding concept formation in the social sciences. *Polity*.
    - 357-361; 366-384

(Class 5) Tuesday, April 13th — Review of measurement and latent variables

Read for today:

- Bollen (2002). Latent Variables in Psychology and the Social Sciences. *Annual Review of Psychology.*
    - 606-617. Note: The technical details in pages 609-613 cover some concepts you won't be familiar with (at least from this class). But I want you to try and think about the intuition underlying each of the four definitions he covers on these pages.
    - 629-631

(Class 6) Thursday, April 15th — Presentations: research puzzle (3-minute-thesis)

(Class 7) Tuesday, April 20th — Crash course: causal inference
Read for today (pick one of the three studies below).
- **(Matching)** Andam et al. (2008). Protected areas reduced poverty in Costa Rica and Thailand. *Proceedings of the National Academy of Sciences*.
- (**Synthetic control**) Abadie et al. (2010). Synthetic Control Methods for Comparative Case Studies: Estimating the Effect of California's Tobacco Control Program. *Journal of the American Statistical Association*.
- (**Instrumental variable**) Clingingsmith et al. (2009). Estimating the Impact of the Hajj: Religion and Tolerance in Islam's Global Gathering. *The Quarterly Journal of Economics*.

(Class 8) Thursday, April 22nd — Crash course: maximum likelihood models
Read for today (pick one of the studies below):
- **(Ordered Probit Regression; for ordinal outcomes)** Boisjoly et al. (2006). Empathy or Antipathy? The Impact of Diversity. *The American Economic Review*.
- **(Probit Regression; for binary outcomes)** Crabtree et al. (2018). Mass Media and the Diffusion of Collective Action in Authoritarian Regimes: The June 1953 East German Uprising. *International Studies Quarterly*.
- **(Event count regression models)** Fisman and Miguel (2007). Corruption, Norms, and Legal Enforcement: Evidence from Diplomatic Parking Tickets. *Journal of Political Economy*.

(Class 9) Tuesday, April 27th — Data wrangling and the "Tidyverse," 1
Read for today:
- Wickham and Grolemund. *R for Data Science*. Ch 9-12
  - Available online: https://r4ds.had.co.nz/

(Class 10) Thursday, April 29th — Data wrangling and the "Tidyverse," 2
Read for today:
- Wickham and Grolemund. *R for Data Science*. Ch 17-19, 21

(Class 11) Tuesday, May 4th — Research design presentations, 1

(Class 12) Thursday, May 6th — Research design presentations, 2

Research Design Proposals due, May 9th at 11:59PM

(Class 13) Tuesday, May 11th — Visualization: ggplot2
Read for today:
- Wickham, Navarro and Pederson. *ggplot2: elegant graphics for data analysis*. Ch. 2.
  - Available online: https://ggplot2-book.org/index.html
- Chang. *The R Graphics Cookbook*. Ch 2. Skim 3-5.
  - Available online: https://r-graphics.org/

(Class 14) Thursday, May 13th — Visualization: a few more advanced topics
Read for today:

- Chang. *The R Graphics Cookbook*. Ch 6, 9, 12, skim 13 and 14.
  - Available online: https://r-graphics.org/

(Class 15) Tuesday, May 18th — Writing with style, 1
Read for today:

- Thomas and Turner (2011). *Clear and Simple as the Truth*.
  - Pages 7 – 17
  - Pages 24 – 32
  - Pages 34 – 41
  - Pages 45 – 46

(Class 16) Thursday, May 20th — Writing with style, 2
Read for today:

- Thomas and Turner (2011). *Clear and Simple as the Truth*.
  - Pages 109 - 115
  - Pages 123 – 127
  - Pages 130 – 135
  - Pages 144 - 145

(Class 17) Tuesday, May 25th — Final presentations, 1

(Class 18) Thursday, May 27th — Final presentations, 2

Final Paper due Friday, May 28th at 11:59PM