POLI 482: Data and Models Capstone
Winter 2024
Department of Political Science
The University of British Columbia

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COURSE DESCRIPTION

This is the capstone seminar for the Data and Model (Political Science) certificate. The seminar provides students an opportunity to develop a capstone project with the support of a supervising faculty member. Students will report on their project during seminars, give feedback on their fellow students' projects, and write a thesis. Specifically, it aims to:

- help you integrate knowledge from other political science courses
- identify where you can make an original contribution
- give you experience in designing, conducting, and writing up original research
- develop your presentational skills
- learn how to criticize work by others in a way that is helpful and respectful; and
- improve your writing by reviewing work by others

CLASS MEETING/FORMAT

This course meets in-person on Fridays 2:00 PM - 5:00 PM

COURSE REQUIREMENTS AND GRADING

1. Class Discussion/Participation (15%)
2. Reviewer/Discussant Service (10%)
3. Group Work on Data Analysis (15%)
4. Capstone Project (60%)

Class Participation (15%). Your participation in class discussions will be graded. This includes your participation in discussing the assigned readings and work by students. Also, asking questions and/or providing comments when other students present their work counts as class participation. The grade for participation will be based on two criteria: 1) evidence of having read the relevant readings and 2) meaningful contributions in the class discussions and other's work. Missing a class without a legitimate excuse will result in 3% deduction in your participation grade (e.g. 15% to 12%). To be excused, you need to get an approval from the Arts Advising. Arts Advising's online academic concession form is available at https://students.air.arts.ubc.ca/academic-concession-form/.

Reviewer/Discussant Service (10%). Each student will serve as a reviewer for another student in class. As a reviewer, you will write two reviewer reports: on the initial report and first draft. These reports should be about half-page (single-spaced). The reviewer will lead the Q&A session when the paper is presented. Each report is due right before the reviewed paper is presented.

Group Work on Data Analysis (15%). During Weeks 3, 4, and 5, three or four students will work as a group to do a data analysis. Students will be grouped based on their choice of subfield (i.e., Canadian, CP, IR, and US politics). Each group will do data analysis as covered in Weeks 3, 4, and 5.

Capstone Project (60% - prospectus (5%), initial results (10%); first draft (20%), and final version (25%)). The capstone project consists of conducting data analysis in the pursuit of answering a research question. These reports are typically in a range of 10 to 15 pages (double-spaced), not including tables and plots. Before you work on your prospectus, you need to find a data source first. Make sure that the data set includes the variables of your interest. In your prospectus, you should write a one-paragraph note to describe what data set you will use and what your tentative research question is. Your research question should ask how one dependent variable is related to one or more independent variables.

Students are expected to complete the following course elements in relation to their projects.
- Element 1: Prospectus Presentation (5%). Students will present their prospectus in class. In your presentation, you need to provide 1) an *overview* of the question/puzzle you are addressing, 2) a brief overview of relevant academic *literature* to highlight the contributions of your research, and 3) your *research design*. A research design is your plan of attack; how you will go about supporting your own thesis. You should identify main sources and describe key measures and units of analysis.
- Element 2: Report on Initial Results and Presentations (10%). You will collect original or existing data and analyze the data to test your hypotheses. In your report (3 - 5 pages, single-spaced), you need to start with your research question and hypotheses.
- Element 3: First Draft and Presentation (20% - by peer-review). This draft should include all the components for a thesis: Introduction with a clearly stated research question, literature review, theory and hypotheses, data analysis, and conclusion.
- Element 4: Final Version (25%). The final version of your project is submitted. Written projects will be required to adhere to stipulated page limits (15 pages max; double-spaced) and formatting instructions. Late submission will be penalized by 5% (of your project grade) per day. Violation of the page limits or formatting guidelines will be penalized by 2% (of your project grade) per line. The final version is due on April 18th (11:59PM).

Research Ethics
Research that collects primary data about individual people, (e.g. by questioning or observing them), needs to be approved by the University's Behavioural Research Ethics Board (BREB). Using data collected by other researchers (e.g. datasets from existing surveys) or that is in the public domain (e.g. media reports or speeches made in a public forum) will generally not require BREB approval. Interviews with experts such as academics are also exempt – as long as the interviewee is not the subject of your research. If your research question is about the behavior or opinions of your interviewee, or a group that they belong to, then they are your research subject. If, however, the interviewee is sharing their specialized knowledge of how others think or act then they are an expert interviewee. If you wish to collect this kind of data, you will have to ensure that you have enough time built into your research plans to take a required research ethics tutorial and to wait for project approval before beginning data collection.

COURSE SCHEDULE (Subject to change)

Week	Topics	Assignments and activities
1	Course Overview	No Readings

2	Doing a Political Science Research AND Introduction to R	1) Install R in your computer prior to class 2) Do the readings prior to class. 3) Prepare to discuss your research topic in class (3 minutes) 4) Submit your choice of subfields
3	Data analysis tools I – Simple Regression AND Introduction to R	1) Do the readings prior to class. 2) Prepare to discuss your research topic and three related studies in class (5 minutes). 3) Do data analysis as a group - Choose a dataset from https://github.com/erikgahner/PolData and examine the variables of your interest.
4	Data analysis tools II – Multiple Regression	1) Do the readings prior to class. 2) Prepare to discuss your research topic and the dataset in class (5 minutes). 3) Do data analysis as a group.
5	Data analysis tools III – Binary and Ordinal Dependent Variables	1) Do the readings prior to class. 2) Prepare to discuss your research topic and the dataset in class (5 minutes). 3) Do data analysis as a group.
6	Element 1: Prospectus Presentations	Do your reviewer/discussant service.
7	Midterm Break	
8	Data analysis tools IV – Models for Causal Effects	1) Do the readings prior to class. 2) Prepare to discuss your progress on the project.
9 - 10	Element 2: Report on Initial Results and Presentations.	1) Submit your report on your initial results. 2) Do your reviewer/discussant service.
11	Individual meetings	No class. Individual meetings
12 – 13	Element 3: First Draft and Presentation.	1) Submit your first draft. 2) Do your reviewer/discussant service.
14	Element 4: Final Version.	Submit your final version, incorporating feedback, by April 18th (11:59PM)

READING LIST
All readings are required. The material is available online through the UBC Library either as an online or course reserve holding accessible through Canvas.

Week 2: Doing a Political Science Research Project

- Jeffrey C. Dixon, Royce A. Singleton, Jr., and Bruce C. Straits. 2019. The Process of Social Research, 2nd Edition. Oxford University Press. Chapter 2 and pp. 74-84. [course reserve]
- Leanne C. Powner. 2015. *Empirical Research and Writing: A Political Science Student's Practical Guide*. London: SAGE Publications. pp. 6-19 in Chapter 1. **[course reserve]**
- Watch all videos in Lesson 1. Variables and Data Structures (about 30 minutes) of *Data Analysis and Visualization Using R* http://varianceexplained.org/RData/
- John Verzani. SimpleR: *Using R for Introductory Statistics*. pp. 1 – 18.

Week 3: Data Analysis Tools I
- Jeffrey C. Dixon, Royce A. Singleton, Jr., and Bruce C. Straits. 2019. The Process of Social Research, 2nd Edition. Oxford University Press. 84-96. [course reserve]
- Karl W. Broman & Kara H. Woo (2018) Data Organization in Spreadsheets, *The American Statistician*, 72:1, 2-10.
- Michael Lewis-Beck. *Applied Regression: An Introduction*, Chapter 1. **[course reserve]**

Week 4: Data Analysis Tools II
- Michael Lewis-Beck. *Applied Regression: An Introduction*, Chapter 3. **[course reserve]**
- Carles Boix. 1999. "Setting the Rules of the Game: The Choice of Electoral Systems in Advanced Democracies," *American Political Science Review* 93:3: 609-624.

Weeks 5: Data Analysis Tools III: Binary and Ordinal Dependent Variables
- David Evans et al. 2014. *How to Write a Better Thesis*. (Springer). Chapter 8: Outcomes and Results. **[course reserve]**
- Chapter 11 of Introduction to Econometrics with R: https://www.econometrics-with-r.org/
- Ordinal Logistic Regression | R Data Analysis Examples by UCLA's Institute for Digital Research and Education: https://stats.oarc.ucla.edu/r/dae/ordinal-logistic-regression/

Week 6: Prospectus Presentations
Read this BEFORE starting your prospectus:
- L. J. Zigerell. "Rookie Mistakes: Preemptive Comments on Graduate Student Empirical Research Manuscripts." *PS: Political Science and Politics* 46 (2013): 142-6. [re-read it!]
- Margot Northey, Lorne Tepperman, and Patrizia Albanese. 2012. *A Student's Guide to Research and Writing: Making Sense Social Sciences*. Fifth edition. (Oxford University Press). Chapter 7. **[course reserve]**

Week 7: Midterm Break

Weeks 8: Data Analysis Tools IV: Causal Inference
- Chapters 3 and 7 of Impact Evaluation in Practice - Second Edition – available at https://openknowledge.worldbank.org/server/api/core/bitstreams/7462fd4b-79de-537c-8171-ee7c695bd5f6/content
- Naomi Egel and Nina Obermeier. 2023. "A Friend like Me: The Effect of International Organization Membership on State Preferences." *Journal of Politics* 85:1: 340-344.
- Time-Series Cross-Section Data and Fixed-Effects Models

Week 9-10: Element 2: Report on Initial Results and Presentations

Week 11: Individual Meetings

Week 12-13: Element 3: First Draft and Presentations