

POLS 5000: Advanced Research Methods in Political Science

Utah State University

Fall 2019

Professor Josh M. Ryan

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Office Hours: Tuesday and Thursday, 10:30-11:30, and by appointment. If you cannot meet me at office hours, please email me and we will find a time that works.

Class Time and Location: 9-10:15 a.m. Tuesday and Thursday, Old Main 227.

Course Description

This course is the second course in the USU Political Science Department's research methods sequence. As such, it is more advanced than POLS 3000, and will extend and elaborate on different quantitative analytical techniques. The course assumes a basic knowledge of R and quantitative analytical techniques and data structures. Students will learn extensions to these techniques, and have the opportunity to engage with more complicated concepts and methods. It is my hope that by the end of the course, students will be comfortable with data cleaning, dataset manipulation, ordinary least squares, and other estimators that may be appropriate for different data structures.

This course will also focus on the scientific method, research design, and quantitative analysis. Though analyzing social outcomes in a quantitative manner is only one approach to the scientific study of politics, economics, and other disciplines, it has quickly become the (arguably) dominant one in most subfields of political science and other social science fields. In political science, Americanists use quantitative methods to study legislative outcomes and public opinion through the use of surveys, international relations scholars use it to study the frequency and causes of war and trade agreements, and comparativists use quantitative methods to measure public opinion and economic outcomes in other countries.

This course will allow students to become more fluent in quantitative data analysis, and I hope students will be able to use the skills here to make themselves more marketable in a world that is increasingly data driven. Students who take this course are encouraged to continue using statistics in their work in college and beyond. In today's information world, there is, a deficit of people trained to make sense of quantitative data. The role of statistics is rapidly increasing in public policy, government, politics, business, sports, media, and many other parts of society. For more, see: "For Today's Graduate, Just One Word: Statistics," "The 10 Skills Employers Most Want In 2015 Graduates," and "Why Basic Data Analysis Is The Most Valuable Skill You Can Learn."

Course Requirements and Other Important Information

The course plan is loosely constructed as this is an advanced-undergraduate/graduate course and I want to allow flexibility in the concepts taught based on student demand and/or interest. We will use readings from both the Imai book and the Monogan book as appropriation. We will also be reading a significant number of political science articles and engaging with the theory and empirics presented therein. All readings should be completed by the start of class. This ensures that you will fully understand the lecture topics, and that you are able to engage with other students and myself. There are many things I will not cover that will be in the reading that I will build on.

During lectures, I have a no cell phone policy. If you cannot avoid looking at your phone, please leave it at home. When we are in the computer lab or using our laptops, please avoid looking at the internet. Obviously, it is much more difficult to police the class in these conditions, but your use will not only distract you, but also your classmates. If I see a student using the computer for non-class related activities, I may give the

entire class a pop quiz on the spot.

Grades will be based on the completion of the assignments listed below, and the final poster presentation. If you cannot complete any of the assignments on the schedule below, you should drop the class. Make-up or late completion of assignments will be allowed at my discretion, and only under the most unusual extenuating circumstances.

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary. The most likely changes will be to the dates on the course schedule. This syllabus is not a contract and is subject to change at the sole discretion of the instructor as announced in class.

The tape recording of lectures is not permitted, though exceptions may be made for students with a documented disability.

This class, like many in political science, often deals with subjects that are controversial. Engaging with these issues is an important part of being an informed citizen and as such, we will not shy away from discussing controversial current events. This also means you should never feel embarrassed or afraid to share your opinion, even if it means disagreeing with other students in the class. However, each of us should remember that we have different experiences and different viewpoints. We must always be respectful of other students and other opinions. I take this policy very seriously and have **zero tolerance** for inappropriate, crude, disrespectful, or demeaning comments. I reserve the right to use an appropriate punishment for any student who engages in disrespectful behavior. This may include removal from the class, receiving a zero on an assignment, or being reported to university officials. Please speak with me promptly if you feel there is a civility problem in the classroom. See the USU Student Code of Conduct at <https://studentconduct.usu.edu/studentcode/article5>.

If you need to contact me or set up a time to meet outside of my regularly scheduled office hours, don't hesitate to speak to me after class or send me an email. I check my email at least once daily and usually multiple times per day. If you have questions or do not understand the material please come to my office hours prior to an assignment due date. I view this class as collaborative and want to help all students maximize learning outcomes from the class. I will make every effort to respond to your email as soon as possible. During the normal work week, I promise to respond to an email within 24 hours. On the weekends, and during breaks, vacations, or holidays, I may not respond as quickly. In other words, if you email me Friday night, it is entirely possible I won't respond until sometime Monday. If 24 hours have gone by during a normal work week and I haven't responded, please email me again. It's possible I lost/forgot about/never received the message.

I do not take attendance *per se*, so if you miss a class it is not necessary to tell me. However, there are some substantial costs to missing class. First, you will miss items that are discussed in class that will be on assignments. This class moves very quickly and if you miss a number of classes it will be almost impossible for you to catch up and do well. I also encourage students to be active learners, asking questions in class of me, and engaging in discussion with your fellow students.

The Americans with Disabilities Act states: "Reasonable accommodation will be provided for all persons with disabilities in order to ensure equal participation within the program." If a student has a disability that will likely require some accommodation by the instructor, the student must contact the instructor and document the disability through the Disability Resource Center (797-2444), preferably during the first week of the course. Any request for special consideration relating to attendance, pedagogy, taking of examinations, etc., must be discussed with and approved by the instructor. In cooperation with the Disability Resource Center, course materials can be provided in alternative format, large print, audio, diskette, or Braille.

I will periodically send out emails to the class list. You are automatically subscribed to the list if you are enrolled in the class through your campus email account or other email you specify. The list will allow

me to inform you of changes in assignments, the schedule or to attach additional reading. I cannot send emails out to an email account not recorded by the University. The USU preferred email listed is an official means of communication between myself and the students. If you have any questions, please see USU's Email Communications Policy at <http://catalog.usu.edu/content.php?catoid=12&navoid=3142> and/or talk to me.

Please see <http://www.usu.edu/provost/faculty-life/syllabus.cfm> for additional USU and course policies on academic freedom, the grievance process, sexual harassment, and the withdrawal and incomplete process.

Textbooks

Imai, Kosuke (2017). Quantitative Social Science: Introduction. Princeton University Press.

Monogan, Jaime (2015). Political Analysis Using R. Springer Press.

We will discuss in class the best way to obtain and use the books.

Statistical Software

We will be using the R language environment. R is free and open-source, making it a popular and powerful tool for statistical computing and graphics. It makes simulation and sampling easily accessible. To get a better sense of R's popularity: read a summary of software use in data analytics here: <http://r4stats.com/articles/popularity/>.

We will program in R (www.r-project.org), using an interface RStudio (www.rstudio.com). While very powerful, R can be more difficult to learn than some of its alternatives. For this reason it is critical you come to class and give this course your full attention and effort. I assume that students have a basic working knowledge of R as taught in POLS 3000 or a similar course.

Grading

There are three grades for this class: replications, four tests, and a research poster.

Please submit all assignments through Canvas. I will provide directions in class.

Replication Assignments, @ 40%

There will be a replication of a political science article about once a week. I will provide the articles, and replication data, and you will be responsible for creating the correct R code to replicate the assigned tables and figures. I intend for these exercises to be collaborative, and you are welcome to work with other students. I will also provide assistance. While you are welcome to work with other students and share your code, please turn in your own work. Copying code from other students without assisting with the assignment constitutes cheating. I will provide guidance for how to writeup the replication assignments in class.

Four Exams, @ 10% each

The format of the tests will be short answer for conceptual questions, and producing the correct R code and results. The tests will broadly cover the material discussed in class in the previous weeks. The exams will be closed books and closed notes and will be completed during the class session on the assigned date. Your grade on this section will be the total number of points received across all four exams. No late exams or makeup exams will be accepted. Please look at the schedule below and ensure that you will be able to attend on the exam days.

Poster Presentation, @ 20%

You will be responsible for developing a research poster similar to those presented at professional political science conferences. (I also hope that some students will consider submitting their poster for the Midwest Political Science Conference in Chicago, in April of 2020. The deadline for submission is December 5th.) I will provide more details on completing the research poster in class. The posters will be displayed in the political science department office for viewing by other students and the faculty.

Misc. Grading Information

I will be happy to regrade anything with the understanding that the grade could be higher or lower than the original grade. In order to have me regrade something, you need to give me a written explanation of your specific concerns within one week.

There will be no extra credit assignments given or accepted.

Plagiarism and/or cheating will not be tolerated under any circumstances. Anyone caught plagiarizing or cheating will receive a grade of zero on the assignment and/or the course, and may be reported to the Vice President of Student Services. Please see the Student Code of Conduct at <http://www.usu.edu/studentservices/studentcode/article6.cfm> for USU's policies on plagiarism.

You must complete all assignments to pass the class.

Schedule

Please note this schedule is tentative. I reserve the right to change it, and add or subtract readings or assignments.

Aug. 27: Syllabus and review of social science concepts

Aug. 29: Review of OLS

Sept. 3: OLS

Sept. 5: Replication of Barnes & Holmes

Sept. 10: Replication of Barnes & Holmes (cont.)

Sept. 12: Introduction to Limited Dependent Variables

Sept. 17: Logit and Probit

Sept. 19: Replication of Glynn & Sen

Sept. 24: Replication of Glynn & Sen

Sept. 26: In-class exam I

Oct. 1: Ordered Logit and Probit

Oct. 3: Ordered Logit and Probit

Oct. 8: Interactions

Oct. 10: Interactions

Oct. 15: Replication of Nordas and Davenport

Oct. 17: Replication of Nordas and Davenport

Oct. 22: Replication of Nordas and Davenport

Oct. 24: In-class exam II and Multinomial Logit and Probit

Oct. 29: Multinomial Logit and Probit

Oct. 31: Replication of Mellon & Prosser

Nov. 5: Replication of Mellon & Prosser

Nov. 7: Count Models and In-class exam III

Nov. 12: Count Models

Nov. 14: Hazard Models

Nov. 19: Hazard Models and Replication of Arias, Hollyer, and Rosendorff

Nov. 21: In-class exam IV

Nov. 26: Replication of Arias, Hollyer, and Rosendorff

Dec. 3: Research Posters

Dec. 5: Summary and Research Posters

Finals Week: Research Posters due, day and time to be determined