PSC 400 – Data Analytics for Political Science

Instructor

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Syllabus: Spring 2021

Class Information

Days: Monday/Wednesday

Time: 2:15 - 3:35

HB Crouse Kittredge

Office Hours

Day: Wednesday Time: 12:00 - 1:30 Zoom (Meeting ID 967 4250 4513, Password 884019)

Course Description

Data and data analysis are increasingly important for political science research, but also in the public discourse and the workplace. In this class, you will learn how to conduct data analysis yourself. We'll cover topics such as finding data, data cleaning and data manipulation, data visualization, and data analysis. Along the way, we'll learn basic statistical functions and plots in the powerful (and free) statistical program R. Throughout, the class takes an applied approach, so students will develop their own research project and conduct their own data analyses.

MAIN THINGS TO KNOW

Textbook

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

Assignments and Grading

- *Class Participation (15%):* Attendance, preparation class, come prepared by working through assigned reading before class, participate and ask questions.
- Class Programming Review Exercises (10%): Weekly review exercises, each graded P/F.
- *Problem Sets (30%):* Approximately every two weeks.
- *Data Analysis Memos (15%)*: Approximately every two weeks.
- Data Analysis Paper (30%): Final paper due May 18.

Course Website

http://www.simonweschle.com/psc400

The website has the continuously updated class schedule, including all readings and assignments. Please check the page EVERY WEEK.

Covid

You are expected to adhere to all public health guidelines, in particular to wear a mask at all times. If you have any symptoms, do not come to class. Instead, let me know and you can participate remotely. If you experience personal stress or hardship (for any reason, Covid or not), *please* get in touch with me. I'll work with you to help you succeed in the class.

MORE DETAIL ON IMPORTANT THINGS

Assignments and Grading

Your grade in this class will be based on class participation, three in-class exams, problem sets, and your grade from the discussion section.

- Class Participation (15%): To succeed in this course, you have to attend class on a regular basis, come prepared by having worked through the assigned reading **before** class, and actively participate and ask questions.
- Class Programming Review Exercises (10%): There will be short weekly review exercises that cover the basic R material we learned. Each exercise is graded as pass/fail, where a pass is worth 1 point and a fail worth 0.
- *Problem Sets (30%):* There will be 5 to 6 problem sets (approximately every 2 weeks, alternating with data analysis memos) in which you are asked to use what you have learned in class to analyze different kinds of data. The answers to these problem sets should be typed. They are graded on a scale from 1 to 5, and late submissions will be penalized by 1 point for every 24 hours past the due date. Any extension requests must be made to me personally and as soon as possible.
- Data Analysis Memos (15%): Your main task in this class will be to write a paper with your own data analysis on a question that is of interest to you. To help you along the way, you will submit reports about the individual steps throughout the semester (approximately every 2 weeks, alternating with problem sets). The memos will cover: your research question and potential confounders, your data, data cleaning, descriptive statistics, bivariate relations, (first) regression results. The memos should be short (2-3 pages) and typed in their entirety. They are graded on a scale from 1 to 5, and late submissions will be penalized by 1 point for every 24 hours past the due date. Any extension requests must be made to me personally and as soon as possible. I will provide feedback to every memo to help you improve your final paper.
- *Data Analysis Paper (30%):* Your final paper should set out your research question, explain the data and statistical methods you use to investigate it, and describe what, based on your data analysis, the answer is. There is no minimum or maximum paper length. It should be as long as needed, but as short as possible. The papers are due on May 18.

For your final grade, I use the following scale as a guide: A (93-100), A-(90-92), B+ (87-89), B (83-86), B-(80-82), C+ (77-79), C (73-76), C-(70-72), D (60-69), and F (0-59). However, the final determination about grades is with me and may deviate from this scale. I will post grades to Blackboard. You are expected to keep track of your own grade using the raw scores from Blackboard and the weights above.

If you feel, at any point, depressed, panicked, or anything the like, please come talk to me. There's always something that can be done to help you and to make sure you are in a position to complete the course. The same goes if you are in danger of failing the class. I'm happy to help, but I cannot read your mind or otherwise intuit what is going on in your life. So, come talk to me as early as possible. It's much more difficult to do something after the fact.

Office Hours

Office hours are the designated time that I set aside each week specifically for meeting with students. If you want to come during that time, you do not need to let me know in advance or ask permission, I will always be there. These hours are your chance to talk to me about course material, college in general, or just to chat so we can get to know each other. I am also happy to meet with you outside of the designated office hours, but for that you need to schedule an appointment in advance.

Due to Covid, I'll be holding my office hours on Zoom this semester. Connect using the information given above and you'll be admitted to the virtual waiting room. If you prefer to meet in person, send me an email and we'll find a spot outside where we can sit 6 feet apart from each other.

As mentioned in the previous section, it is easiest for everyone if you talk to me as early as possible about any issues or questions. Instead of waiting until you get a bad grade in an exam and asking how you can "make up" for it, come talk to me before the exam and ask questions about the material. That way, we can walk through the material together and I can explain a course concept in a different way. Similarly, rather than waiting until the end of the semester to tell me about issues that prevented you from focusing on school, talk to me earlier when there is still time for me to accommodate your circumstances. You get the point—if you find yourself asking whether you should come talk to me about something, come talk to me.

This Unpleasant Covid Thing

We unfortunately can't ignore the fact that we're doing this class in the middle of a worldwide pandemic. So things will be a bit different than usual, and probably in ways that are not reflected in this syllabus. What's in here right now is assuming the best-case scenario (cases remain low and we can safely do in-person instruction until the end of the semester). I have no clue whether that's going to happen, and neither does anybody else. So we'll probably have to adjust things along the way. It'll probably be bumpy, and not everything is going to work in the way you (and I) want it to. But let's all do our best.

But here's the main thing: Whatever we do, the guiding principle is that your health, and all our health, is the most important thing.

- We'll have classes in-person as long as it's safe to do so. One of the first things I do each morning is check the Covid statistics. If infections on campus or in the wider Syracuse area go beyond what experts consider to be safe, I will move classes online.
- This is an in-person class, so the default is that you attend in person.
- However, do **not**, under any circumstance, come to in-person sections when you show any symptoms, even if it's just a runny nose or scratchy throat. Just send me an email and you can participate online until you're cleared.
- If you experience personal stress or hardship (for any reason, Covid or not), *please* get in touch with me. I'll work with you to help you succeed in the class.

The following rules apply:

• Please wear a mask at all times and maintain a distance of at least 6 feet to other people. Eating and drinking require the lowering of the face mask, creating a potentially dangerous situation. For this reason, students are not allowed to eat or drink in class.

• If you do not follow public health guidelines, I will ask you to leave the class and will refer you to the Office of Student Rights and Responsibilities for violating the Stay Safe Pledge.

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• If you participate *online*, please have your *camera on* with your *sound muted*. Please dress and behave as you would in an in-person class.

Tentative Course Outline

The course outline below is preliminary and subject to change. The exact week-to-week schedule will be developed and updated throughout the semester to reflect student interest and the pace at which we are progressing.

- Week 1 (Feb 8 & 10): Getting Started with R
- Week 2 (Feb 15 & 17): Causality, Analyzing Single Variables
- Week 3 (Feb 22 & 24): Causality, Analyzing Single Variables
- Week 4 (Mar 1 & 3): Finding and Cleaning Data
- Week 5 (Mar 8 & 10): Bivariate Relations
- Week 6 (Mar 15 & 17): Bivariate Relations
- Week 7 (Mar 22 & 24): Linear Regression
- Week 8 (Mar 29 & 31): Linear Regression
- Week 9 (Apr 5 & 7): Extensions to Linear Regression
- Week 10 (Apr 12 & 14): Topic Choice: Prediction, Spatial Data, Network Data, Text as Data
- Week 11 (Apr 19, no class Apr 21): Topic Choice: Prediction, Spatial Data, Network Data, Text as Data
- Week 12 (Apr 26 & 28): Topic Choice: Prediction, Spatial Data, Network Data, Text as Data
- Week 13 (May 3 & 5): Website Scraping (Guest Lecturer: Sebastian Karcher)
- Week 14 (May 10 & 12): Data Analysis Paper Workshop
- May 18: Final Data Analysis Paper due

ADDITIONAL RESOURCES, FINE PRINT, AND THINGS I HAVE TO PUT ON THE SYLLABUS

Stay Safe Pledge

Syracuse University's Stay Safe Pledge reflects the high value that we, as a university community, place on the well-being of our community members. This pledge defines norms for behavior that will promote community health and wellbeing. Classroom expectations include the following: wearing a mask that covers the nose and mouth at all times, maintaining a distance of six feet from others, and staying away from class if you feel unwell. Students who do not follow these norms will not be allowed to continue in face-to-face classes; repeated violations will be treated as violations of the Code of Student Conduct and may result in disciplinary action.

Campus Resources

As an SU student you have access to a variety of resources that can help you in this class and beyond. Please make use of them.

- Mental health and overall well-being are significant predictors of academic success. As such it is
 essential that during your college experience you develop the skills and resources effectively to
 navigate stress, anxiety, depression and other mental health concerns. Please familiarize yourself
 with the range of resources the Barnes Center provides (ese.syr.edu/bewell) and seek out support
 for mental health concerns as needed. Counseling services are available 24/7, 365 days a year, at
 315.443.8000.
- Counseling Center: http://counselingcenter.syr.edu/faculty-staff/helping-stu dents-in-distress.html and http://counselingcenter.syr.edu/_documents/Bill_of_Rights.pdf.
- Writing Center: http://wc.syr.edu/?_ga=2.101027140.454082058.1534346263-13875 13330.1433439063
- \bullet Tutoring Services: CenterforLearningandStudentSuccess:http://class.syr.edu/tutoring
- Financial Counseling: http://financialaid.syr.edu/financialliteracy
- Career Services: http://thecollege.syr.edu/advising/index.html?_ga=2.101048900 .454082058.1534346263-1387513330.1433439063
- Sexual Harassment/Title IX Concerns: Sheila Johnson-Willis, Compliance Officer. titleix@syr.edu. 315.443.0211
- Sexual & Relationship Violence Response Team: 315.443.4715

Harassment, Confidentiality, and Mandatory Reporting

Federal and state law, and University policy prohibit discrimination and harassment based on sex or gender (including sexual harassment, sexual assault, domestic/dating violence, stalking, sexual exploitation, and retaliation). If a student has been harassed or assaulted, they can obtain confidential counseling support, 24-hours a day, 7 days a week, from the Sexual and Relationship Violence Response

Team at the Counseling Center (315-443-8000, Barnes Center at The Arch, 150 Sims Drive, Syracuse, New York 13244).

Incidents of sexual violence or harassment can be reported non-confidentially to the University's Title IX Officer (Sheila Johnson Willis, 315-443-0211, titleix@syr.edu, 005 Steele Hall). Reports to law enforcement can be made to the University's Department of Public Safety (315-443-2224, 005 Sims Hall), the Syracuse Police Department (511 South State Street, Syracuse, New York, 911 in case of emergency or 315-435-3016 to speak with the Abused Persons Unit), or the State Police (844-845-7269).

I will seek to keep information you share with me private to the greatest extent possible, but as a professor I have mandatory reporting responsibilities to share information regarding sexual misconduct, harassment, and crimes I learn about with the University's Title IX Officer to help make our campus a safer place for all.

Communication

If you have questions about the material, chances are that you are not the only one. Therefore the best way to ask questions is in class. If your question is not related to class material or relevant to other students, please come to my office hours to talk about questions, difficulties with the class material or with homework, and so on. If you cannot make office hours, feel free to send me an email to set up an appointment.

I will usually respond to email within 24 hours during the week. I will not respond to emails during weekends, except for urgent matters. As with all business-related correspondence, please include an appropriate salutation, identify yourself, and write in complete sentences. Students are expected to check their email accounts regularly, as I will be using email to provide announcements and updates about the course. See Syracuse's email policy at http://supolicies.syr.edu/it/email.htm.

Religious Observances

SU's religious observances policy, at http://supolicies.syr.edu/emp_ben/religious_obser vance.htm, is intended to recognize the diversity of faiths represented among the campus community and protect the rights of students (as well as faculty and staff) to observe religious holy days according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance - provided they notify their instructors no later than the end of the second week of classes.

Accommodations for Students with Disabilities

Syracuse University values diversity and inclusion; we are committed to a climate of mutual respect and full participation. There may be aspects of the instruction or design of this course that result in barriers to your inclusion and full participation in this course. I invite any student to contact me to discuss strategies and/or accommodations (academic adjustments) that may be essential to your success and to collaborate with the Center for Disability Resources (CDR) in this process.

If you would like to discuss disability-accommodations or register with CDR, please visit Center for Disability Resources. Please call (315) 443-4498 or email disability resources@syr.edu for more detailed information.

The CDR is responsible for coordinating disability-related academic accommodations and will work with the student to develop an access plan. Since academic accommodations may require early planning

and generally are not provided retroactively, please contact CDR as soon as possible to begin this process.

Academic Integrity

Syracuse University's Academic Integrity Policy reflects the high value that we, as a university community, place on honesty in academic work. The policy defines our expectations for academic honesty and holds students accountable for the integrity of all work they submit. Students should understand that it is their responsibility to learn about course-specific expectations, as well as about university-wide academic integrity expectations. The policy governs appropriate citation and use of sources, the integrity of work submitted in exams and assignments, and the veracity of signatures on attendance sheets and other verification of participation in class activities. The policy also prohibits students from submitting the same work in more than one class without receiving written authorization in advance from both instructors. Under the policy, students found in violation are subject to grade sanctions determined by the course instructor and non-grade sanctions determined by the School or College where the course is offered as described in the Violation and Sanction Classification Rubric. SU students are required to read an online summary of the University's academic integrity expectations and provide an electronic signature agreeing to abide by them twice a year during pre-term check-in on MySlice.

The Violation and Sanction Classification Rubric establishes recommended guidelines for the determination of grade penalties by faculty and instructors, while also giving them discretion to select the grade penalty they believe most suitable, including course failure, regardless of violation level. Any established violation in this course may result in course failure regardless of violation level. For more information and the complete policy, see http://class.syr.edu/academic-integrity/policy.

This class will use the plagiarism detection and prevention system Turnitin. You will have the option to submit your papers to Turnitin to check that all sources you use have been properly acknowledged and cited before you submit the paper to me. I will also submit all papers you write for this class to Turnitin, which compares submitted documents against documents on the Internet and against student papers submitted to Turnitin at SU and at other colleges and universities. I will take your knowledge of the subject matter of this course and your writing level and style into account in interpreting the originality report. Keep in mind that all papers you submit for this class will become part of the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers.

Privacy and Student Records

The Family Educational Rights and Privacy Act (FERPA) sets forth requirements regarding the privacy of student records. FERPA governs both the access to and release of those records, known as education records, and the information they contain. Under FERPA, faculty have a legal responsibility to protect the confidentiality of student records. For additional information about FERPA and SU's FERPA policy, see: http://www.syr.edu/registrar/staff/ferpa.