

GOVT 310-003  
**INTRODUCTION TO POLITICAL RESEARCH**  
Seo-young Silvia Kim  
Fall 2020

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<b>Class Time:</b>	Mon/Thu 11:20am–12:35pm	<b>Classroom:</b>	Zoom/Canvas
<b>Instructor Email:</b>	sskim@american.edu	<b>Office Hours:</b>	Tue 2:30–3:30pm/9:30–10:30pm
<b>Teaching Assistant:</b>	Jennifer Lopez (jl0049a@student.american.edu)	<b>TA Office Hours:</b>	Wed 5:30–7:30pm

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## Overview

This course aims to teach you how to address quantitative political science questions through statistical methods, including how to perform research design, quantitative analysis, interpretation and communication using statistical techniques and programming skills. A final project is required, where you will undertake modern quantitative analysis on your own.

If you see any conflict between course details on Canvas and this syllabus, please let me know so that I may resolve it.

## Course Objectives

Students who successfully complete this course will be able to:

1. Define an original research project dealing with a political problem, using an appropriate methodology
2. Produce a literature review on the subject that summarizes and analyzes the state of knowledge in political science on a research question
3. Perform tests appropriate to different types of data
4. Analyze and interpret the results of the tests
5. Produce a well-written and thorough final research paper that includes a statement of the research question, literature review, study design, and analysis and conclusions
6. Present their research orally to the class and political science faculty

This class serves as the Department of Government's Quantitative Literacy II (Q2) requirement. The learning outcomes are designed as follows:

- ✓ Translate real-world questions or intellectual inquiries into quantitative frameworks.
- ✓ Select and apply appropriate quantitative methods or reasoning.
- ✓ Draw appropriate insights from the application of a quantitative framework.
- ✓ Explain quantitative reasoning and insights using appropriate forms of representation so that others could replicate the findings.

While the teaching heavily involves learning and coding in R, this is *not* a programming class. We will not go into the fundamentals of programming, but use only what is strictly necessary. A programming language is merely a tool, and it is more important to understand the quantitative frameworks taught in each class. No prior experience in programming is required to take this

class, but you must work through the lab materials and programming assignments diligently as the learning curve can be steep for beginners.

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## Class Format

This class adheres to AU Forward: The Plan for Fall 2020. Per the guideline updated on July 30, 2020, the class will online only, with mixed asynchronous and synchronous components. I will try my best to accommodate you and keep you engaged.

- All my lectures will be uploaded online on Canvas, whether (1) pre-recorded (= asynchronous), or (2) recordings of live online (= synchronous) sessions over Zoom. The class Canvas website will open on Aug 24, 2020.
  - I will try to provide a couple of offline office hours for those who remain in the DMV area and would like to engage (outside and socially distanced). This is of course strictly optional, and I will also provide ample online office hours, both daytime and nighttime, to accommodate those who are remote. Note that **non-medical face coverings (face masks) will be required for all community members at all times on campus per AU guidelines.**
  - I will be implementing student surveys several times during the semester to incorporate your feedback on the efficacy of the class.
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## Materials

The primary textbook for this course is the following:

Imai, Kosuke. *Quantitative Social Science: An Introduction*. Princeton University Press, Princeton, NJ, 2017.

For the data analysis, we will use the following, which are all open-source and freely available.

- ✓ R (<https://www.r-project.org/>)
- ✓ Rstudio (<https://rstudio.com/>) (or Rstudio Cloud (<https://rstudio.cloud/>))
- ✓ swirl (<https://swirlstats.com/>)
- ✓ Wickham, Hadley, and Garrett Grolemund. *R for Data Science: Import, Tidy, Transform, Visualize, and Model Data*. O'Reilly Media, Inc., 2016 (available at <https://r4ds.had.co.nz/>).

See CTRL resources for support on using R.

All slides/assignments will be on Canvas. **Please note that you need a computer and Internet access in order to take this class.** While my knowledge is that the University library is trying to resume their technology borrowing (e.g. curbside pickup), please consult the library website.

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## Requirements

**Participation.** Participation comprises of class participation, Canvas discussions, swirl exercises, and classroom courtesy. For each swirl exercise (1%), submit a screenshot of the completed exercise .

Attendance is not taken, although I strongly encourage you to view all class videos and/or participate in synchronous online sessions whenever possible.

**Problem Sets.** There will be four problem sets.

- They should be done in **R Markdown or R Notebook** and submitted as is. Note that file submission types are restricted. Please check well ahead, so that you do not run into problems when submitting.
- Problem sets will be done in groups of 4-5 students (pods). Pods will be randomly assigned to you and will change for each problem set. This is to help you get to know each other and gain a sense of community, as well as learn from each other. Members of a single pod will receive the same grade for the assignment.
- All results should be **fully replicable** by the code submitted through the file. Please retain your copies of the files.

**In-class Quizzes.** There will be some closed-book quizzes to check that you are understanding the class materials. The dates and format will be announced at a later date.

**Final Project: Research Paper and Presentation.** Instead of mid-term/final exams, you are required to do a **final project, that comprises of an original research paper and its presentation**. The paper should be submitted at a designated date towards the end of the course. While the topic of the analysis can be freely chosen, it must be original research based on a suitable political science research question. In the last week, you will present your paper in a ten-minute presentation.

— **Research Paper.** Progress toward the final research paper will occur in multiple stages. You will submit portions of their paper throughout the semester and receive feedback.

1. **Idea summary** (5% of final paper grade): A summary of what you will do in your research projects. Due Sep 16, 2020 11:59pm.
2. **Literature review** (30% of final paper grade): This should include seven or more academic journals/books as references (sources such as blog posts, TV documentaries, and Wikipedia are not academic sources). Due Sep 30, 2020 11:59pm.
3. **Study design (data & hypotheses)** (30% of final paper grade): The study design defines your research project and the method you will use to test your hypotheses. Due Oct 14, 2020 11:59pm.
4. **Analysis & conclusion** (30% of final paper grade): The analysis and conclusion summarize your results. Due Nov 18, 2020 11:59pm.
5. **Final complete research paper** (5% of final paper grade): The pieces you have constructed throughout the semester will come together by the end of the semester as a final paper. Due Nov 29, 2020 11:59pm.

Also note the followings:

- This should be article-length research paper. It should be 20 pages or more without annotated bibliography, one-half spaced, 12pt font, 8.5" × 11" paper size (US letter), with 1" margins on all sides. The paper should use the American Political Science Association citation style.
- You may use Microsoft Word, LaTeX (see my Overleaf template, which is preset with the class requirements), or R Markdown itself, but please submit the final product as a PDF export.
- The data should preferably be in the public domain, such as the American National Election Studies (ANES), Cooperative Congressional Election Study, Current Population Survey (CPS), American Community Survey (ACS), Pew Research Center Datasets, LobbyView, Federal Election Commission data, Open Data DC, and so on. If you wish to collect your own data, this is fine as long as this data can be shared with the class and does not violate things such as ethics, privacy, organization/website regulations (for example, robots.txt when web scraping), and so on.
- All results should be carefully documented and fully replicable through the files submitted.
- The Writing Center can be a great resource for students who would like to improve their writing skills. There is no fee—check out the Center’s website for details.
- You may collaborate with one or more students on this paper as a joint project, recognizing each student will earn the same grade, and that once a collaboration pair has been set, you cannot be paired with another student or return to working on your own.
- You have the option to revise each section before undertaking the next one and before turning the paper in for a final grade.

— **Paper Presentation.** Communication is an important part of the production of scientific knowledge. At the end of the semester, you will present your final research paper as an oral presentation. This will comprise of 7 min presentation + 3 min Q&A, and the instructor and other students will ask questions. The slides should be posted by Dec 3, 2020, 11:59pm.

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**Grades**

The following is the composition of grades:

Participation .....	20%
Problem Sets .....	30%
In-class Quizzes .....	10%
Final Paper .....	35%
Presentation .....	5%

The grading scale is as follows:

	B+	87-89%	C+	77-79%	D+	60-69%	
A	94% or above	B	84-86%	C	74-76%	D	55-59%
A-	90-93%	B-	80-83%	C-	70-73%	F	54% or below

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## Policies

**University Policies and Resources.** See American University's Policies, such as the Academic Integrity Code, Emergency Preparedness, Discrimination and Sexual Harassment Policy, Student Conduct Code, and so on. See also Disability-Related Accommodations.

- In particular, the Academic Integrity Code is extremely important. It governs all course-work in this class. Common violations include plagiarism, cheating, taking credit for work that is not one's own, and so on. Any violations should be reported to me or the teaching assistants, and I will process the reported violation per guidelines. These are grave offenses that will result in penalties down to the F grade.
- See Section VII of the Student Conduct Code (Classroom Behavior and Academic Dishonesty) and I ask that you to be courteous in the classroom at all times.
- The Academic Support and Access Center (ASAC) supports the academic development and educational goals of all American University students and is committed to promoting access for individuals with disabilities within the university's diverse community. If you have University-documented disabilities related to learning, please contact me to make the necessary arrangements.
- Consult our librarians for help on literature review. SPA's librarian is Olivia Ivey.

**Late and "Things Happen" Policy.** All submissions (swirl, problem sets, portions of the research paper, final paper) will be subject to 20% reduction each day (i.e., 24 hours after specified submission date/time) you are late. To put it another way, if you are late one day, your grade for the submission will be maximum 80%. If you are late for two days, your grade for the submission will be maximum 60%.

For **two** of these (regardless of what) I will accept a three-day extension without any necessary excuses or documentations. Things happen that make life difficult—and sometimes you need your privacy on those matters. After that, the above late policy will apply again similarly, so that if you are late for four days, your grade for the submission will be maximum 80%.

**Contact.** Please contact me through email if the specified office hours conflict with your other classes, and you wish to schedule an appointment (please provide a reason why). Please do *not* text or call through personal phone numbers of either myself or the teaching assistant! The class policy is that all questions should be first addressed during class or the TA's/my office hours.

Please address me as Dr. Kim or Professor Kim in the email correspondences. Consider these opportunities to prepare yourself for professional environments.

**Intellectual Property.** Course content is the intellectual property of the instructor or student who created it, and may not be recorded or distributed without consent.

**Changes to the Syllabus.** This syllabus is subject to change during the course as the instructor sees fit, depending on the situation and class progress—especially the weekly schedule below.

## Weekly Schedule

Readings should be completed before the scheduled course meeting under which they are listed below. Extra reading may be added as the course progresses—if so, an email/Canvas announcement will be made.

MODULE 1: Introduction				
WEEK 1				
Aug 24 (Mon)	Course Introduction		Readings Syllabus	swirl Exercises
Aug 27 (Thu)	Introduction to Statistical Computing Environments		QSS Ch. 1	INTR01
MODULE 2: Causality				
WEEK 2				
Aug 31 (Mon)	Causality I: Causal Effects and the Counterfactual		QSS 2.1-2.3	INTR02
Sep 3 (Thu)	Causality II: Randomized Experiments & Observational Studies		QSS 2.4-2.5	CAUSALITY1
WEEK 3				
Sep 7 (Mon)	Labor Day; no class			
Sep 10 (Thu)	Causality III: Descriptive Statistics		QSS 2.6-2.7	CAUSALITY2
MODULE 3: Measurement				
WEEK 4				
Sep 14 (Mon)	Measurement I: Visualization		QSS 3.1-3.4	
Sep 17 (Thu)	Measurement II: Bivariate Statistics/Survey Sampling		QSS 3.5-3.6	MEASUREMENT1
WEEK 5				
Sep 21 (Mon)	Lab I			MEASUREMENT2
MODULE 4: Prediction				
Sep 24 (Thu)	Prediction		QSS 4.1	PREDICTION1
WEEK 6				
Sep 28 (Mon)	Linear Regression I		QSS 4.2	PREDICTION2
Oct 1 (Thu)	Linear Regression II		QSS 4.3	
WEEK 7				
Oct 5 (Mon)	Regression & Causal Inference I		QSS 4.4	
Oct 8 (Thu)	Regression & Causal Inference I			PREDICTION3
WEEK 8				
Oct 12 (Mon)	Columbus day; no class			
Oct 15 (Thu)	Lab II			
MODULE 5: Probability				
WEEK 9				
Oct 19 (Mon)	Probability I		QSS 6.1-6.2.2	
Oct 22 (Thu)	Probability II		QSS 6.2.3-6.2.4	
WEEK 10				
Oct 26 (Mon)	Probability III		QSS 6.3	PROBABILITY1
Oct 29 (Thu)	Probability IV		QSS 6.4-6.5	PROBABILITY2
MODULE 6: Uncertainty				
WEEK 11				
Nov 2 (Mon)	Uncertainty I		QSS 7.1	UNCERTAINTY1
Nov 5 (Thu)	Uncertainty II		QSS 7.2	UNCERTAINTY2

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WEEK 12

Nov 9 (Mon) Lab III  
Nov 12 (Thu) Uncertainty III

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WEEK 13

Nov 16 (Mon) Uncertainty IV QSS 7.3-7.4 UNCERTAINTY3  
Nov 19 (Thu) Uncertainty V

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WEEK 14

Nov 23 (Mon) Course Review  
Nov 26 (Thu) Thanksgiving Day; no class

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**MODULE 7: Presentations**

WEEK 15

Nov 30 (Mon) Presentations  
Dec 3 (Thu) Presentations and Wrap-up

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Please note that the presentations may happen at exam week, depending on our class progress.