

# PLS211: Qunatitative Methods

Spring 2021

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(**TENTATIVE and SUBJECT TO CHANGE**)

## 1 General Information

### Class Hours

Official Class Hours for this class is **5:00-5:50pm Mondays, Wednesdays, Fridays (Nur-Sultan local time)**. However, given that the course is remotely taught, following adjustments are planned to be made (subject to change as the semester proceeds):

- **Theoretical contents** of the course will be offered in a format of a **video presentation**. In each week (except for the first week), a video is planned be uploaded on Wednesday.
- **Applied contents (i.e., implementation of methods in R)** will be offered in a format of **video conference**, during **5:00-5:50pm Fridays (Nur-Sultan local time)**. Students are expected to attend, but in case one has technical troubles joining a live conference, a video recording will be uploaded after the class.
- In each week, a **question thread** will open on the course website. Students are encouraged to ask questions and also to answer the ones posted by others if possible.
- During **5:00-5:50pm Mondays/Wednesdays**, office hours will be held regularly to answer questions on class contents.

### Office Hours

Office hours will be held over Zoom and it is **by appointment only**. Schedule a meeting by checking the availability from the URL below.

<https://calendly.com/gentok/office-hours>

Each meeting slot is for 15 minutes. If you want longer meeting, reserve two slots separately. The Zoom invitation will be sent to your E-mail address once you successfully completed the reservation. **If the given slots do not work for you, contact me directly with the proposal of your available times.**

## 2 Course Objectives

What makes political science, a “science”? The purpose of this course is to learn the way in which political “scientists” describe and explain political phenomena. To avoid conclusions based on impressions and/or speculations, political scientists develop rules and methods that make their arguments and findings objective and persuasive. This course pays special attention to quantitative methods in political science. Students are introduced to key concepts and methods that are typically used in quantitative political science studies, and given an opportunity to develop simple research on their own.

After completing this course, students are expected to acquire the skills to ...

1. Evaluate theory, hypothesis, and quantitative research design of political science studies.
2. Summarize and interpret data using tables/figures.
3. Implement and evaluate outcomes of simple hypothesis testing methods.

Skills acquired from this course help to understand and apply the materials you will encounter in upper-division courses and beyond. The “scientific” perspective (hopefully) will give you an ability to evaluate and improve discussion on political issues.

## 3 Statistics and Statistical Software

- The part of this course utilizes the introductory statistical concepts. The prior knowledge of statistics is not required, but you need to know that you will have to deal with some *numbers* in this course.
- In this course we use the open-source statistical software R (<http://www.r-project.org>). R is already installed on the computer in the class room, but you are highly recommended to install R on your own computer. If using your computer, it is also recommended to install RStudio (<http://www.rstudio.com/>)—a user interface that simplifies many common operations.
- While R codes will be provided through the course website, online resources such as R Cookbook (<https://rc2e.com/index.html>) would be a great resource for you to start out using R and RStudio.

## 4 Textbook

The main textbooks of this course are:

- Kosuke Imai. 2018. *Quantitative Social Science: An Introduction*. Princeton University Press (denoted as QSS below)
- Paul M. Kellstedt and Guy D. Whitten. 2013. *The Fundamentals of Political Science Research*. 2nd ed. New York, NY: Cambridge University Press (denoted as FPSR below)

The books are available at the library for those of you who happened to be on campus. The relevant chapters will be uploaded to the course website for those of you taking classes at home. Other readings for this course will also be provided through the course website.

## 5 Course Requirements

There are five components to the course requirements:

1. **R Programming Assignments (20%)**: There will be (almost) bi-weekly online programming assignments. They will not be strictly graded but students are expected to submit them on time and show their effort.
2. **Group Project (30%)**: Students will form a group of 1-4 and have the opportunity to analyze the data. The project assignment will be separated into two parts (see below). The details of each assignment will be announced later in the quarter.
  - **Theory and Operationalization (10%)**: Due **Week 8**.
  - **Hypothesis Testing (20%)**: Due **Week 14**.
3. **Midterm Exam (20%)**: There will be an in-class midterm exam in **Week 6**. The exam will cover all material from lecture and readings. Additional details about the format will be provided one week before the exam.
4. **Final Exam (25%)**: There will be a final exam in **Week 12**. The exam will be cumulative, but focus more on the materials covered after the midterm exam. Additional details about the format will be provided one week before the exam.
5. **Participation (5%)**: The active engagements in the class materials will count towards 5% of the grade. Note that the participation to video conferences count, but I do understand the potential technical difficulties.

## 6 Course Outline

Schedule and contents are subject to change. Synchronous video conference is planned to be held on underlined dates

INTRODUCTION

**Week 1: August 11, 13, 15**

- READING: QSS Ch.1

- R ASSIGNMENT 1: Due **Wednesday, Week 2.**
- GROUP PROJECT MEMBER SURVEY: Due **Friday, Week 2.**

## THEORY BUILDING

### Week 2: January 18, 20, 22

- READING: FPSR **Chapter 1-2**

## CAUSALITY

### Week 3: January 25, 27, 29

- READING:
  - FPSR **Ch.3**
  - QSS Ch.2 (Section 2.3 & 2.5.2)
- R ASSIGNMENT 2: Due **Wednesday, Week 4.**

## EXPERIMENT

### Week 4: February 1, 3, 5

- READING:
  - QSS Ch.2 (2.4)
  - Cindy D. Kam and Elizabeth J. Zechmeister. 2013. “Name Recognition and Candidate Support.” *American Journal of Political Science* 57 (4): 971–986
  - (Optional) FPSR Ch.4 (4.1, 4.2)

## OBSERVATIONAL STUDY

### Week 5: February 8, 10, 12

- READING:
  - QSS Ch.2 (2.5)
  - FPSR Ch.4 (4.3)
- R ASSIGNMENT 3: Due **Wednesday, Week 6.**

## MEASUREMENT

### Week 6: February 15, 17, 19

- READING:
  - QSS Ch.3
  - FPSR Ch.5

## MID-TERM REVIEW

### Week 7: February 22, 24, 26

- Q&A SESSION: **Wednesday, 5:00-5:50pm.**
- MIDTERM EXAM: **Friday, 5:00-6:00pm.**

## PREDICTION

### Week 8: March 1, 3, 5

- READING: QSS Ch.4 (-4.3.2)
- GROUP PROJECT (TASK 1): Due **Saturday, March 6.**
- R ASSIGNMENT 4: Due **Wednesday, Week 9.**

## PROBABILITY

### Week 9: March 8, 10, 12

- READING: QSS Ch.6
- R ASSIGNMENT 5: Due **Wednesday, Week 10.**

## UNCERTAINTY

### Week 10: March 15, 17, 19

- READING: QSS Ch.7 (7.1)

## SPRING BREAK

## HYPOTHESIS-TESTING

### Week 11: March 29, 31, April 2

- READING: QSS Ch.7 (7.2-)
- R ASSIGNMENT 6: Due **Wednesday, Week 12.**

## FINAL-REVIEW

### Week 12: April 5, 7, 9

- Q&A SESSION: **Wednesday, 5:00-5:50pm.**
- FINAL EXAM: **Friday, 5:00-6:00pm.**

## PRESENTING YOUR OWN DATA (DESCRIPTIVE)

### Week 13: April 12, 14, 16

- READING: No specific readings.

## PRESENTING YOUR OWN DATA (PREDICTIONS)

### Week 14: April 19, 21, 23

- READING: No specific readings.
- GROUP PROJECT (TASK 2): Due **Saturday, April 24**.

## 7 Grading Policy

### 7.1 Grading Scale

Each assignments will be given a **letter grade**, either by A to F or Check plus to minus scale (For convenience, letter grades may be expressed in a number out of 400 in the course website). Each letter grade is translated to grade point by the following tables:

A to F Scale

Letter Grade	Out of 400	Grade Point
A	400	4.00
A–	367	3.67
B+	333	3.33
B	300	3.00
B–	267	2.67
C+	233	2.33
C	200	2.00
C–	167	1.67
D+	133	1.33
D	100	1.00
F	0	0.00

Check Plus to Minus Scale

Letter Grade	Out of 400	Grade Point
✓+	400	4.00
✓	300	3.00
✓–	200	2.00
Fail	0	0.00

The final letter grade in A to F scale will be determined by the weighted average of grade points according to the percentages presented in the Course Requirements section. I hold a discretion over what threshold I use to determine grade, while those at the midpoint will always receive the higher grade.

## 7.2 Late Submission

For any assignment, the following late submission policies will be applied. The assignment submitted incorrectly will be considered as missing.

- Late submission **within 24 hours of the deadline**: Allowed without penalty. However, **a student needs to notify me by E-mail before the deadline**. Without notification, the assignment will be treated in the same way as the *late submission within 1 week of the deadline*.
- Late submission **within 1 week of the deadline**: Allowed with penalty. **The highest grade a student can get will be B or ✓**. No notification is required.
- Late submission **after 1 week of the deadline**: Not allowed at all time.

If you have any special reasons that force you to submit after the deadline, please E-mail me or come talk to me **before the deadline**. If the reason is valid, I may extend the deadline for you. I will **not accept any request after the deadline**.

## 7.3 Regrading Request

If there is a very clear error in grading your assignment or exam, please let me know as soon as possible. However, if you wish to contest your grade on other grounds, then you must submit a written request to me with following contents:

- Clearly identify the components of the exam or assignment that should be reconsidered.
- For each component, **propose the score** that you think you deserve on that specific component.
- For each component, provide at least a paragraph length explanation for why you think your score should be reconsidered.

I will only have a right to **accept or reject** your proposal. If your proposed score and explanation are compelling, I will change your score on that specific component to the score you proposed. Otherwise, I will reject it and keep the score as it is.

*Under no circumstances will I change any score on any assignment **more than one week** after we have released the grades to the class. If you anticipate that it will take you more than a week to review your graded assignment and draft a response, then you will need to request an extension in advance.*

## 8 Academic Conduct

I do not expect that any of the students in this course will violate the University's Student Code of Conduct. However, please be aware that **cheating, plagiarism, or other violations of the Code will not be tolerated and will be reported to the Vice Dean and/or**

**the Dean** for appropriate action. Please check NU Student Code of Conduct for more details (<https://nu.edu.kz/wp-content/uploads/2017/11/NU-Student-Code-of-Conduct.pdf>). Also, NU library provides a helpful guideline regarding the academic integrity ([https://nu.kz.libguides.com/avoiding\\_plagiarism/academicintegrity](https://nu.kz.libguides.com/avoiding_plagiarism/academicintegrity)).

## 9 A Safe and Comfortable Learning Environment

As an instructor, one of my responsibilities is to help create a safe and comfortable learning environment for my students and for the university as a whole. If you have any problems or concerns regarding your student life, including, but not limited to relationships, stress, self-esteem, body image, sexuality, anxiety, and/or depression, Psychological Counselling Center (PCC) provides consultation service for you. Contact [nu\\_counseling@nu.edu.kz](mailto:nu_counseling@nu.edu.kz) or make an appointment with psychologist through NU web portal, under **SERVICES** → **Consultation** tab. PCC also has YouTube Channel (<https://www.youtube.com/channel/UCZZCN6Kc7UcwWJO4Ai3y0XQ>) and Instagram ([https://www.instagram.com/nu\\_pcc/](https://www.instagram.com/nu_pcc/)) with additional resources.

## References

- Imai, Kosuke. 2018. *Quantitative Social Science: An Introduction*. Princeton University Press.
- Kam, Cindy D., and Elizabeth J. Zechmeister. 2013. "Name Recognition and Candidate Support." *American Journal of Political Science* 57 (4): 971–986.
- Kellstedt, Paul M., and Guy D. Whitten. 2013. *The Fundamentals of Political Science Research*. 2nd ed. New York, NY: Cambridge University Press.