# Linear Models

**Course Overview**

*Course:* PS 405
*Term:* Winter 2023

*TA:* Jennifer Lin
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***Discussion Section***
*Time:* Tues. (10 - 11 AM)
*Room:* Scott Hall 212

***Office Hours***
*Time:* Fri. (11 AM - 12 PM)
*Room:* Scott Hall 229

*Syllabus Revision:* January 3, 2023

## About TA Sessions

**Note**

*Please note that this syllabus is only for the TA Sessions. For the complete syllabus, please consult the course Canvas site.*

**Purpose**

Each week, we will meet for an hour outside the lecture times to discuss the course materials. This is your opportunity to ask questions, review the material and clarify anything that can be confusing from the course. As such, here are some helpful tips to ensure that you are getting the most of this time:

- Come to section prepared to discuss the materials from the readings and lectures. I will briefly review the lecture material for the week during each section. However, the emphasis will be on your questions.
- Please be respectful of others when speaking, listening and responding.
- Please try to check your emails and Canvas at least once daily for any course readings and updates.

If you have any questions at any point in this course, please do not hesitate to email me. If you would like to speak to me and cannot make my office hours, I am happy to set up an appointment to meet. Please note that if you email me after 7 PM Central Time on the weekday or at any point during the weekend, I may not respond to your question until the next business day. If I can be of assistance in any way to you in this class, please do not hesitate to reach out.

**Software**

The purpose of this course is to introduce you to the fundamentals of linear models for Political Science research. However, a secondary goal is to get you familiar with software that are popular for computational social science. Therefore, please ensure that you have the following:

- R and R Studio on your computer
- The `tidyverse` R package (Install *after* you installed R and R Studio)
- An Overleaf account
- *(Optional)* A LaTeX distribution on your computer such as MiKTeX for PC or MacTeX for Macs

I recognize that learning both of these programs can be akin to learning a new language. Therefore, please do not hesitate to reach out to ask questions, especially if you are stuck. I encourage you to seek assistance if you have been debugging something for 15 minutes without success.

# Important Course Information

**Assignments**

This course consists of weekly assignments that may take the form of a problem set or exam. I encourage you to come talk to me if you have any questions regarding the problem sets and I will strive to ensure that you are prepared for each of the exams.

For each of the problem sets, you will be able to access the assignment following the general class discussion on Thursdays at around 5 PM CST. From there, you will be able to work on the problems until they are due on Sunday at 5 PM CST. I will strive to have feedback for you within 24 hours. Please come to section with the problems that you would like me to go over. Corrections for the Problem Set and the R Labs are due before class on Thursday, but I will strongly recommend that you submit them sooner to allow you time to move on to the next week's materials.

**Formatting Problem Sets**

While problem sets are not required to be typed, ***I strongly recommend you to type them.*** This is because you have the opportunity to do annotations to receive partial credit for incorrect responses. To ease your own workflow and my grading of your work in a timely manner, I recommend:

- **Bold** your answer, both in the original and corrected version
- Put all annotation text in a different color as the question and your response. This is up to you but I would recommend red or blue. You can change the color of the text by using `\textcolor{color}{text}`

Here is an example of my formatting recommendations. Note that this is to demonstrate formatting, not to communicate information about linear models.

> What is the symbol for a regression coefficient in a linear model? $\alpha$ **is the symbol for coefficients**
>
> **The correct answer is** $\beta$. Traditionally, $\beta$ is used to demonstrate changes in Y with each change in X, while $\alpha$ is the y-intercept, when X is zero.

Should you choose to hand-write your problem sets, please circle your final answer and find a different color pen to write your corrections. Please make sure your writing is legible!

For R labs, please submit them as PDFs. To do this, follow these steps:

1. Save the R script in a folder.
2. Relaunch R using the script in this folder.
3. Create a new blank R script.
4. Use `knitr::stitch("Hello.R")` – Replace `Hello.R` with the name of your R code. Keep the quotes.
5. Run the `knitr` code. You might get a warning, but that is ok as long as you have a PDF output that contains all the responses.
6. Upload the PDF output to Canvas.

**Due Dates**

- Problem Sets due on Sundays at 5 PM Central Time
- Problem Set Corrections due on Thursdays at 4 PM Central Time
- Midterm Exam – Week 6
- Final Exam – Finals week, due March 14 at 11:59 PM Central Time

# Wellness, Accessibility and Other Campus Resources

**Overview** I strive to make learning as accessible and as welcoming as possible. Therefore, I am very happy to work with each student to make sure that this TA section is suitable to their learning needs. Here are some notes on Wellness, Accessibility and other resources on campus.

**Accessibility** If you require accommodations for this course, please communicate with AccessibleNU at accessiblenu@northwestern.edu or 847-467-5530 and Mary McGrath as soon as possible. Please also confirm with me that Mary has passed this information to me as soon as possible as well. All information will remain confidential.

**Wellness** It is difficult to perform well in your studies if you are not feeling well. Therefore, Northwestern University provides a variety of health and wellness services to students to support them through their studies. Students can access primary care and sports medicine services through Northwestern Medicine Student Health Services. Additionally, graduate school can be stressful. Students can also receive mental health services through Northwestern Counseling and Psychological Services. Reach out to them by calling 847-491-2151 or reach out to their staff using the staff directory.

**Diversity and Inclusion** Students will not be discriminated based on race, gender, sexual orientation, creed, disability, or any other qualities in this TA section. For more information on Northwestern University's diversity, equity and inclusion policies, please visit the Office of Institutional Diversity and Inclusion.