



NYU

**ROBERT F. WAGNER GRADUATE
SCHOOL OF PUBLIC SERVICE**

MSPP-GP 3101

Policy and Data Studio

Summer 2021

Version 1 - 2021-07-01

Instructor

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Schedule and Room

Mondays and Thursdays, 6:30-9:30 (Zoom)

Course Description

Policy and Data Studio builds on the core courses, your advanced coursework, and is specifically meant to deepen your data and data analytic skills, in the content of a policy issue. Studio is a unique end event where you will use data to shed light on a policy question of your choice using the technical skills and specialized knowledge gained from the program. Guided by the Studio instructor, you will identify data sources, perform data cleaning and analyses, create an issue brief, and present draft iterations of your project to your cohort for feedback and revisions. At the end of the Studio experience, you will present your findings to a panel of faculty and experts.

Learning Objectives

1. Learn how to find and access data, and understand sources, metadata, and limitations
2. Increase familiarity with a variety of types of data for policy analysis
3. Increase proficiency in open source data analysis software (R, Python)
4. Gain basic proficiency with Git/Github for version control and collaboration
5. Learn to create well documented and reproducible data analyses

6. Practice critical evaluation of data analyses
7. Further develop data visualization skills
8. Communicate analysis methods and results for technical and non-technical audiences

Class Format

This course is built around a self-directed data-driven analysis of a policy topic. Classes will include a mix of elements: lectures on general topics related to data analysis, live demos on more technical topics, student presentations, group discussions, peer review breakout sessions, and one-on-one meetings between each student and the instructor. In the days between each class students will be expected to make significant progress on their analysis, document their work, participate in discussions on Slack, and occasionally review the work of others.

GitHub - We have a GitHub organization, where each student will have a repository for all project files. Students will reproduce each other's work and provide peer review. For the duration of the class the repos will remain private, and at the end students will transfer the repos to their own account to be made public.

Slack - The Slack workspace for this course will be our primary communication tool. The instructor will create a slack workspace, organized into channels, and will share code snippets, examples, links, and other resources. Important class announcements will be made in the #announcements channel, and notify . Students are encouraged to ask all technical questions in the #question-and-answer channel and help each other when possible, so that everyone can benefit from the exchange. Students are also encouraged to share their work and any helpful resources in the #general channel.

Zoom - All classes will be conducted using Zoom. We will make use of breakout rooms for one-on-one meetings and peer review sessions.

NYU Classes - NYU Classes will be used only for grading.

Google Drive - There will be a shared Google Drive folder where all resources will be organized, including lecture slides, class notes, reading materials, etc.

Class Notes - The instructor and students will collaborate using a Google Doc during each session to keep track of notes, links, code snippets and other resources for students to reference. Students are encouraged to participate in the note-taking for the benefit of themselves and the entire class.

Peer Reviews - On four occasions students will organize into pairs and reproduce each other's work and provide peer review on GitHub and then meet to discuss the projects in class breakout groups.

Presentations - Students will give three presentations throughout the course to update the group on their progress, prompt class discussion, and refine their material for the final presentation.

Readings - The instructor will send reading materials or other resources prior to class. No materials will need to be purchased.

Software - All software used in this class will be free and open source. Students will be required to install software on their personal computers.

Class Schedule (Subject to change)

Given the self-directed nature of this course, the material covered in class will adjust to reflect the interests and needs of students. As we identify common challenges or particular topics of interest, we can devote additional time and develop new materials to meet those needs. For example, some topics that we could cover in the flex classes might include: web scraping, working with web APIs, SQL databases, interactive data visualizations, spatial data analysis and mapping, developing R/Python packages, regular expressions, geocoding, Docker containers, etc.

Thursday June 17 - Introduction

- Introductions
- Course overview
- Project discussion
- One-on-one meetings

Monday June 21 - Projects & Technical Setup

- Student presentations on questions & data
- Git & GitHub basics
- R & RStudio setup
- Python & Jupyter Notebook setup
- One-on-one meetings

Thursday June 23 - Exploratory Data Analysis & Intro to R

- Exploratory data analysis
- Intro to R for data analysis
- Pair-programming and check-in

Monday June 28 - Collaboration & Reproducibility

- Reproducibility
- Collaboration
- Spatial data basics
- Breakout groups & check-ins

Thursday July 1 - Data Visualization

- Student presentations on analysis & methods
- Data visualization

- Breakout groups & check-ins
- (Peer review 1 due)

Thursday July 8 - Flex Class

- Student visualization feedback
- Student selected topics
- Breakout groups & check-ins
- (Peer review 2 due)

Monday July 12 - Flex Class

- Presentations on visualization & results
- Student selected topics
- Breakout groups & check-ins
- (Peer review 3 due)

Thursday July 15 - Final Presentations

- Final presentations with faculty guests

Evaluation and Grading Breakdown

- **Final Presentation (15%)**
- During the last class session you will give a concise presentation of your analysis and findings.
- **Final Blog (30%)**
- Published blog post, written for a general audience, that presents the policy topic and your questions, data sources, analysis techniques, data visualizations and results, and comes to some conclusion. This will be due after the final presentation, to give you extra time to incorporate feedback.
- **Code and Documentation (15%)**
- The code should be clearly written and well organized, the analysis and data should be thoroughly documented, and the entire project should be easily reproducible. This will be due at the same time as the final blog.
- **Peer Reviews (15%)**
- On three occasions throughout the course students will be paired up for peer review of each other's work. Students will reproduce the other's analysis, provide written feedback via GitHub, and discuss their projects in the following class.
- **In-Class Presentations (15%)**

- Throughout the course students will give three short presentations, giving incremental updates on their progress and building towards their final presentations.
- **Participation (10%)**
- This will include in-class discussions, participating in the Slack group (asking/answering questions, sharing resources, giving feedback, etc.), and interacting with other students via GitHub (eg. submitting and commenting on GitHub "issues").

Additional Notes

Academic Integrity

Academic integrity is a vital component of Wagner and NYU. Each student is required to sign and abide by Wagner's Academic Code. Plagiarism of any form will not be tolerated since you have all signed an Academic Oath and are bound by the academic code of the school. Every student is expected to maintain academic integrity and is expected to report violations to me. If you are unsure about what is expected of you should ask.

Accommodations for Students with Disabilities

Academic accommodations are available for students with disabilities. Please visit the Moses Center for Students with Disabilities (CSD) website at www.nyu.edu/csd and click on the Reasonable Accommodations and How to Register tab or call or email CSD at (212-998-4980 or mosescsd@nyu.edu) for information. Students who are requesting academic accommodations are strongly advised to reach out to the Moses Center as early as possible in the semester for assistance.

Religious Holidays

NYU's Calendar Policy on Religious Holidays states that members of any religious group may, without penalty, absent themselves from classes when required in compliance with their religious obligations. Please notify your lab instructor in advance of religious holidays that might coincide with exams to schedule mutually acceptable alternatives.