



Python Coding for Public Policy - Spring 2020

Instructor Information

- [Aidan Feldman](#)
- Email: alf9@nyu.edu
- Office Hours:
 - Wednesdays at [6pm Eastern Time \(US\)](#)
 - At Sunday [Hacker Hours](#)

Course Information

- Course Number: [PADM-GP 4506](#)
- Class Meeting Times: Thurs, 4/2-5/15 [6:45-8:25pm Eastern Time \(US\)](#)
- Class Location: Online (Zoom)

Course Prerequisites

- [Statistical Methods \(CORE-GP 1011\)](#) or prior knowledge of programming

Course Description

This 7-week mini course exposes the students to the application and use of Python for data analytics in public policy setting. The course teaches introductory technical programming skills that allow students to learn Python and apply code on pertinent public policy data. The majority of the class content will utilize the [New York City 311 Service Requests](#) dataset. It's a rich dataset that can be explored from many angles relevant to real-world public policy and program management responsibilities.

Class will be split between:

- Lecture
- Demonstration
- Hands-on time to:
 - Play with the code from lectures
 - Start on the homework
 - Ask questions

Homework

Homework assignments will consist of two different formats:

1. Online tutorials: In advance of classes, online tutorials will be assigned as homework. These online tutorials will introduce students to critical Python concepts. The following lecture will then focus on applying those concepts to real public policy data questions.
2. Data exploration, analysis, and visualization: Students will complete Python coding exercises that apply new concepts they have learned in lecture. Coding assignments will build off of concepts covered in previous assignments.

Course and Learning Objectives

Students will learn how to:

- Use the [Google Colaboratory](#) environment
- Have an understanding of Python fundamentals
 - Common data types
 - Functions
 - How to read documentation
 - How to troubleshoot
- Know how to use several Python packages for different kinds of data analysis, manipulation, and visualization

Communications

- All announcements and assignments will be delivered through the [NYU Classes](#) site.
- Assignments, due dates, and other aspects of the course may be modified mid-course.
 - As much advance notice will be given as possible.
- Troubleshooting and other communications between class sessions will be done over Zoom chat, in the `wagner-python-spring-2020` channel.
 - Email is also an option.
- The instructor will try to respond within 24 hours, 48 hours max.

Course Schedule

Lecture	Date	Topics	Homework
0	4/2	Intro to coding	Survey & Zoom setup due, HW0 assigned
1	4/9	Intro to Pandas	HW0 due, HW1 assigned
2	4/16	Manipulating and combining data	HW1 due, HW2 assigned
3	4/23	Data visualization	HW2 due, HW3 assigned
4	4/30	Working with dates and time series analysis	HW3 due, HW4 assigned
5	5/7	Natural language processing	HW4 due, HW5 assigned
6	5/14	Review and topic(s) of student choice	HW5 due, HW6 assigned - due 5/21

Assignments and Evaluation

There will be a total of 8 assignments, 7 of which will count towards the final grade. Students are encouraged to look at problem sets in advance of the class that's relevant to the material being tested. This makes the classes more interactive and eases the completion of the assignments.

The Course Grade is based on the following:

- Participation: 10%
- 7 Assignments: 90%
 - HW0: 12.5%
 - HW1: 12.5%
 - HW2: 12.5%
 - HW3: 12.5%
 - HW4: 12.5%
 - HW5: 12.5%
 - HW6: 15%

Assignments are due at [6:45pm Eastern Time \(US\)](#) (the start of class) on the day listed in the Schedule above.

Class Policies

A student may work with other students. However, each student should submit their assignment separately. In addition, students need to indicate with whom they have worked in the comments of their submission.

All submissions must be made using a Google Colab Notebook file following [these instructions](#). All submissions should follow the style guide that will be provided during the first class.

Attendance is mandatory but most importantly, important. Learning programming requires commitment from the part of the student and the skills are built out of practice.

Academic Integrity

Academic integrity is a vital component of Wagner and NYU. All students enrolled in this class are required to read and abide by Wagner's Academic Code. All Wagner students have already read and signed the Wagner Academic Oath. Plagiarism of any form will not be tolerated and students in this class are expected to report violations to me. If any student in this class is unsure about what is expected of you and how to abide by the academic code, you should consult with me.

Accessibility

Academic accommodations are available for students with disabilities. Please visit the [Moses Center for Student Accessibility](#) website 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.

NYU's Calendar Policy on 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 me in advance of religious holidays that might coincide with exams to schedule mutually acceptable alternatives.

Letter Grades

Letter grades for the entire course will be assigned as follows:

Letter Grade	Points	Description	Criteria
A	4.0 points	Excellent	Exceptional work for a graduate student. Work at this level is unusually thorough, well-reasoned, creative, methodologically sophisticated, and well written. Work is of exceptional, professional quality.
A-	3.7 points	Very good	Very strong work for a graduate student. Work at this level shows signs of creativity, is thorough and well-reasoned, indicates strong understanding of appropriate methodological or analytical approaches, and meets professional standards.
B+	3.3 points	Good	Sound work for a graduate student; well-reasoned and thorough, methodologically sound. This is the graduate student grade that indicates the student has fully accomplished the basic objectives of the course.

Letter Grade	Points	Description	Criteria
B	3.0 points	Adequate	Competent work for a graduate student even though some weaknesses are evident. Demonstrates competency in the key course objectives but shows some indication that understanding of some important issues is less than complete. Methodological or analytical approaches used are adequate but student has not been thorough or has shown other weaknesses or limitations.
B-	2.7 points	Borderline	Weak work for a graduate student; meets the minimal expectations for a graduate student in the course. Understanding of salient issues is somewhat incomplete. Methodological or analytical work performed in the course is minimally adequate. Overall performance, if consistent in graduate courses, would not suffice to sustain graduate status in "good standing."
C+	2.3 points	Deficient	Inadequate work for a graduate student; does not meet the minimal expectations for a graduate student in the course. Work is inadequately developed or flawed by numerous errors and misunderstanding of important issues. Methodological or analytical work performed is weak and fails to demonstrate knowledge or technical competence expected of graduate students.
C	2.0 points	"	"
C-	1.7 points	"	"

Letter Grade	Points	Description	Criteria
F	0.0 points	Fail	Work fails to meet even minimal expectations for course credit for a graduate student. Performance has been consistently weak in methodology and understanding, with serious limits in many areas. Weaknesses or limits are pervasive.