



Katz

Katz School
of Science and Health

M.S., Data Analytics and Visualization

Course: Analytics Programming

Instructor: Professor Joy Payton

Contact: Contact via Canvas inbox

Course Overview

Code-based solutions can be richer, more accurate, and more flexible than those that rely on off-the-shelf software and analytic packages. This course teaches the programming skills that data analysts need to prepare structured and unstructured data for downstream analysis. You will learn to use high-level programming languages to create rich data analysis workflows.

Course Learning Outcomes

By the successful completion of this course, you will be able to:

1. Write programs to clean, filter, aggregate, restructure, and combine data.
2. Load data from both structured and unstructured sources.
3. Perform basic exploratory data analysis.
4. Apply scientific method principles and reproducible reporting to the development and presentation of code-based solutions.
5. Create high-quality data visualization components to support effective computational, reproducible analysis

Course Requirements

Pre-Requisites: This course has no prerequisites

Textbooks: McKinney, W. (2018). *Python for Data Analytics: Data Wrangling with Pandas, NumPy, and IPython*. (2nd ed.). Beijing: O'Reilly.

Course Format

This course is taught completely online in the Canvas Learning Management System. Online course lessons involve text, audio and visual resources, interactive assignments, review quizzes as well as weekly Live Sessions. In order to optimally benefit from this course, please closely review all provided resources in their entirety.

Course Schedule

This course will run for 15 weeks, officially beginning Monday 9/2/19 and concluding on Sunday 12/22/19.

The standard week for all courses in the program begins on Monday and concludes the following Sunday. However, weekly modules will open every Friday night to allow you to get a head start on the next module's work. Please check the due dates in the course schedule for weekly assignments.



Live Sessions:

Required live sessions will be held each week (with the exception of the week of 11/25) via Zoom video conference.

- Thursdays, 7:00 pm to 8:15 pm, New York time.

Course Components

Your final grade in this course will be based on the following, please review Module 0 for additional detail.

Grading Percentages

Activity	Grading
Live Session Participation	10%
Quizzes	10%
Muscle Builder Exercises Individual programming challenges	30%
Final Project Group project (Final Draft: 10%, Final Submission: 20%, Final Presentation: 5%)	35%
Community Participation Various program and project related discussions and activities + feedback loop posts	15%

Rubrics:

In order to guide your work and help you understand the expectations of your performance for each assignment, rubrics are posted on Canvas. These rubrics detail the requirements of each assignment and provide benchmarks for success.

Course Communication

Announcements:

Announcements will be posted in Canvas on a regular basis. They appear on your Canvas dashboard when you log in and/or will be sent to you directly through your preferred method of notification. Please make certain to check them regularly, as they will contain any important information about upcoming projects or class concerns.

Email:

We will exclusively use the email in Canvas. To receive, send, and manage course email, please see **Inbox** on the left-hand navigation bar.

Office Hours:

I will be available for virtual office hours by request.

Turnaround/Feedback:

During the week, I will check email within Canvas and monitor course communications. If you have a concern and send me a message, you can expect a response within 24 hours on business days.



Netiquette:

When posting on the discussion boards and chat rooms, it is important to understand how to interact with one another online. You can read more about the rules of netiquette by reviewing the materials in the Getting Started module.

Course Policies

Incompletes:

The MS in Data Analytics program follows a cohort model where students take courses in pre-defined order and matriculate within a year. As a result, the marketing program only accepts incomplete requests after 50% of the course has been completed and in the case of dire emergency.

Late Work:

Late work will not be accepted; please see the course schedule for due dates and plan accordingly. A grade of zero will be entered for any work not completed by the due date.

University Policies

Accessibility and Accommodations:

The Office of Disability Services collaborates with students, faculty and staff to provide reasonable accommodations and services to students with disabilities. Students with disabilities who are enrolled in this course and who will be requesting documented disability-related accommodations should make an appointment with the Office of Disability Services, (646) 592-4132, rkohn1@yu.edu, during the first week of class. Once you have been approved for accommodations, please submit your accommodation letter to ensure the successful implementation of those accommodations. For more information, please visit: <http://yu.edu/Student-Life/Resources-and-Services/Disability-Services/>

Student Support Services:

If you need any additional help, please visit Student Support Services: <http://yu.edu/academics/services/>

Academic Integrity:

The submission by a student of any examination, course assignment, or degree requirement is assumed to guarantee that the thoughts and expressions therein not expressly credited to another are literally the student's own. Evidence to the contrary will result in appropriate penalties. For more information, visit <http://yu.edu/registrar/grad-catalog/>