

**Syllabus**

**School of Professional Studies**

**DATA 698 Capstone**

**Instructor Name:** Sabrina Khan

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**Degree Program:** M.S. in Data Science

**Credits:** 3 graduate credits

**Prerequisites:** Department Consent Required

**Type of Course:** Required course

**Course Summary:**

In this course, you will integrate the knowledge and skills derived from your previous MSDS classes into a real-world project. Working in a small team or by yourself, you will identify a topic, develop a research plan, conduct research, and collect and analyze data. Note that the project may be organized in collaboration with a partner organization (e.g. a local company, non-profit, research lab, etc.).

**Course Learning Outcomes:**

At the end of this course, students will be able to:

* Identify a research topic and develop a research plan
* Conduct a literature review and perform research.
* Collect and analyze data
* Write-up and disseminate research results.

**Program Learning Outcomes/Competencies addressed by the course:**

* Business Understanding: Build data-analytic solutions from an understanding of business goals
* Data Understanding: Collect, describe, explore, model and verify data.
* Model Implementation: Implement models for the various predictive, prescriptive and descriptive models covered throughout the MSDS program
* Dissemination: Students will deliver presentations and report of their project results.

**How is this course relevant for analytics professionals?**

The purpose of this analytics master’s level research project is for you to integrate the knowledge and skills derived from your previous MSDS classes. You will identify a relevant topic, conduct research, and collect/analyze data.

**Assignments and Grading:**

|  |  |  |
| --- | --- | --- |
| **Class participation through Proposal and Update presentations** | **10%** | **10 points** |
| **Project Presentation and Report (DUE: May 20, 2022 at 11:59 PM EDT)\*** | **90%** | **90 points** |
| **TOTAL** | **100%** | **100 points** |

\*We will revisit this to schedule project presentations

There is only one assignment for the class – **the final project**. To ensure you are on track to complete on time, a proposal presentation (5% of final grade) and a project update presentation (5% of final grade) are required. The project will consist of three aspects: the write-up (35%), the codes (15%) and the presentation (40%). All are significant portions of the project grade. Note you have an entire semester no late work will be accepted. Please plan accordingly. The final date for submission is Friday May 20 at 11:59PM although presentations will be scheduled before that.

**Required Texts and Materials:**

None

**Relevant Software, Hardware, or Other Tools:**

You are welcome to use R, and/or Python for this course. Students must be familiar with the language and know how to install packages. All homework must be written in R/Python and submitted as code that can easily be cut and copied into R Studio/Jupiter/any other IDE to run. Students must describe in written form their approach and analysis for all problems. The exposition is used to not only determine whether thought processes are sound but also to provide partial credit on problems.

**Contact Information:**

I am available by email ([sabrina.khan@sps.cuny.edu](mailto:sabrina.khan@sps.cuny.edu)). We can also set up an interactive session for screen share. For the most part, you can expect me to respond to questions by email within 24 to 48 hours.

**Course Outline:**

*We will due regular meetups to make sure you are on track.*

**ACCESSIBILITY AND ACCOMMODATIONS**

The CUNY School of Professional Studies is firmly committed to making higher education accessible to students with disabilities by removing architectural barriers and providing programs and support services necessary for them to benefit from the instruction and resources of the University. Early planning is essential for many of the

resources and accommodations provided. Please see: <http://sps.cuny.edu/student_services/disabilityservices.html>

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**ACADEMIC INTEGRITY**

Academic dishonesty is unacceptable and will not be tolerated. Cheating, forgery, plagiarism and collusion in dishonest acts undermine the educational mission of the City University of New York and the students' personal and intellectual growth. Please see:

<http://media.sps.cuny.edu/filestore/8/3/9_dea303d5822ab91/839_1753cee9c9d90e9.pdf>

**STUDENT SUPPORT SERVICES**

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<http://sps.cuny.edu/student_resources/>