

**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:**

There is only one assignment for the class - the project. The project will consist of three aspects: the writing, the coding and the presenting. 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 Tuesday December 15 at 7PM although presentations may be scheduled before that.

**Required Texts and Materials:**

None

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

This course requires using the R language. Students must be familiar with the language and know how to install packages. All homework must be written in R and submitted as code that can easily be cut and copied into R Studio 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.*

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