1. Course Detail

Professor: Dr. Misuk Lee (Pigott 413, leem@seattleu.edu)

Websites: All assignments and class materials will be posted on Canvas.

Meeting Times: **Sign up for weekly meeting schedule**

Office Hours: By appointment

2. Course Objective

The purpose of the Capstone Project is for the students to apply knowledge acquired during the MSBA program to a project involving actual data in a realistic setting. During the project, students engage in the entire process of solving a real-world data science project, from processing actual data to applying suitable and appropriate analytic methods to the problem.

Topic 1: Modeling Failure to Appear Rate and Time to Disposition for King County Court

The common wisdom is that there is an ongoing problem of defendants failing to appear for court. However, the rate at which defendants fail to appear, consequences of it (disposition), and potential causes have yet to be thoroughly analyzed. In the criminal justice arena the question of how long a criminal case takes to resolve is always of concern. There is that famous legal quote "justice delayed is justice denied". A thorough analysis of this has yet to be done. There is a vast amount of data available and it would be both interesting and useful to identify the time it is talking to resolve cases, factors contributing to that, and potential choke points that appear to delay the process.

Topic 2: Forecasting Hotel Room Demand

Demand forecasting is a crucial part of hotel revenue management that aims to maximize revenue by matching demand to available capacity. The goal of this project is to develop forecasting models that predicts future booking arrivals based on real hotel demand data. This project will investigate three categories of forecasting models: time-series models (exponential smoothing), advance booking models, and machine learning models. Specific focus will be on various neural network models and comparison of deep learning and other machine learning methodologies. Based on the comparative analysis, best forecasting models will be discussed and proposed.

3. Assessment

Weekly Assignments: 40%

Final Paper and Presentation: 40%

Peer Assessment: 20%

4. Grade

-   95 to 100: A,   90 to 94 : A-
-   85 to 89 : B+,   80 to 84 : B,   77 to 79 : B-
-   74 to 76 : C+,   70 to 73 : C,   67 to 69 : C-

5. 64 to 66 : D+,   60 to 63 : D,   50 to 59 : D-
6. Peer Assessment

After submitting your final paper, each student should provide feedback and assessment on other teams' final paper. In addition, you will rate yourself and your team members on the relative contributions that were made in preparing and submitting your group assignments and project.

7. Non-Disclosure Agreement

Data, codes, papers, reports, and lecture materials, including assignments, lecture notes, and others, should not be shared by anybody or any other organization.

Students or anybody need to obtain an explicit permission from the faculty member for any use outside of class, including posting them on GitHub or anywhere else.

8. Honor Code

Seattle University is committed to the principle that academic honesty and integrity are important values in the educational process. Academic dishonesty in any form is a serious offense against the academic community. Acts of academic dishonesty will be addressed according to the Seattle University Academic integrity Policy.

Academic Policies on Registrar website

(https://www.seattleu.edu/redhawk-axis/academic-policies/)
* Academic Integrity Policy
* Academic Grading Grievance Policy
* Professional Conduct Policy (only for those professional programs to which it applies)

If you are not sure whether a particular action is acceptable according to the Academic Honesty Policy, you should check with your instructor before engaging in it.

9. Disability

If you have, or think you may have, a disability (including an 'invisible disability' such as a learning disability, a chronic health problem, or a mental health condition) that interferes with your performance as a student in this class, you are encouraged to arrange support services and/or accommodations through Disabilities Services staff located in Loyola 100, (206) 296-5740. Disability-based adjustments to course expectations can be arranged only through this process.

10. Office of Institutional Equity

Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination based on sex in educational programs or activities that receive Federal financial assistance. This prohibition includes sexual misconduct, which encompasses sexual harassment and sexual violence. Seattle U remains committed to providing a safe and equitable learning, living, and working environment. Seattle U offers emergency, medical, and other support resources, as well as assistance with safety and support measures, to community members who have experienced or been impacted by sexual misconduct.

Seattle U requires all faculty and staff to notify the University's Title IX Coordinator if they become aware of any incident of sexual misconduct experienced by a student. For more information, please visit https://www.seattleu.edu/equity/. If you have any questions or concerns, you may also directly contact the Title IX Coordinator in the Office of Institutional Equity (email: oie@seattleu.edu; phone: 206.296.2824) University Resources and Policies.

11. Notice Regarding Religious Accommodation

It is the policy of Seattle University to reasonably accommodate students who, due to the observance of religious holidays, expect to be absent or endure a significant hardship during certain days of their academic course or program. Please see, Policy on Religious Accommodations for Students (https://www.seattleu.edu/media/policies/Policy-on-Religious-Accommodations-for-Students---FINAL.PDF)."

12. Academic Resources

- Library and Learning Commons (http://www.seattleu.edu/learningcommons/)

(This includes: Learning Assistance Programs, Research [Library] Services, Writing Center, Math Lab)

- Academic Integrity Tutorial (found on Canvas and SU Online)