CMPT 318 - D100 Spec. Topics: Computational Data Science

Instructor(s): Gregory Baker

SFU Burnaby

Calendar Objective/Description:
Special topics in computing science at the 300 level. Topics that are of current interest or are not covered in regular curriculum will be offered from time to time depending on availability of faculty and student interest.

Instructor's Objectives:
Offering title: "Computational Data Science".

Prerequisites:
CMPT 225, MACM 201.

Topics:
- Basics of data science: concepts, goals, motivation, expectations.
- Introduction to (selected) data processing tools: Python with numpy and pandas; SQL basics.
- Working with data. Cleaning data; extract, transform, load tasks; applying concepts from statistics.
- Machine learning basics with existing implementations (such as scikit-learn).
- Data analysis strategies: selecting techniques from statistics and machine learning.
- Data visualization and summarizing results.
- Big data tools.

Grading:
Details to be announced in first week of class. Will include weekly exercises, a project, quizzes, and exams.
Students must attain an overall passing grade on the weighted average of exams in the course in order to obtain a clear pass (C- or better).

Academic Honesty Statement:
Academic honesty plays a key role in our efforts to maintain a high standard of academic excellence and integrity. Students are advised that ALL acts of intellectual dishonesty will be handled in accordance with the SFU Academic Honesty and Student Conduct Policies (http://www.sfu.ca/policies/gazette/student.html).