Computing Science Course Outlines 2022 Spring

CMPT 705 - G100 Design/Analysis Algorithms

Instructor(s): Igor Shinkar

SFU Burnaby

Calendar Objective/Description:
Design/Analysis Algorithms

Instructor's Objectives:
The goal of this course is to provide a solid theoretical basis for the design and analysis of algorithms used throughout different branches of computer science. By the end of this course students will be able to design their own algorithms for commonly encountered computational problems and analyze their efficiency, or prove that an efficient algorithm is unlikely to exist and design and evaluate an approximation algorithm.

Prerequisites:
see go.sfu.ca

Topics:
- Greedy Algorithms
- Dynamic Programming
- Linear Programming
- Approximation Algorithms
- Randomized Algorithms
- NP-Completeness

Grading:
To be announced during the first week of classes.
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).

Required Books:
Algorithm Design, J. Kleinberg, E. Tardos, Addison-Wesley, 2006, 9780321295354

Reference Books:

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).