Computing Science Course Outlines

CMPT 307 - D100 Data Structures

Instructor(s): David Mitchell

SFU Burnaby

Calendar Objective/Description:
Data Structures

Instructor's Objectives:
The objective of this course is to introduce concepts and problem-solving techniques that are used in the design and analysis of efficient algorithms. This is done by studying various algorithms and data structures.

Prerequisites:
see go.sfu.ca

Topics:
- The following topics may be included:
  - Basic graph algorithms
  - Greedy algorithms
  - Divide and conquer algorithms
  - Dynamic programing algorithms
  - Network flow algorithms
  - Randomized algorithms
  - NP-Completeness
  - Data structures supporting algorithms studied

Grading:
Grading will be based on six in-class quizzes and a final exam. Details will be provided in the first week of classes.

Required Books:
Algorithm Design, J. Kleinberg, É. Tardos, Addison Wesley, 2006, 9780321295354, Available in various forms online, as well as hard cover.

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).