CMPT 225 - D200 Data Structures/Programming

**Instructor(s):** Anne Lavergne

**SFU Surrey**

**Calendar Objective/Description:**
Data Structures/Programming

**Instructor's Objectives:**
This course explores fundamental algorithms and data structures that can help in developing elegant and efficient solutions to complex problems. We will study their specification, analysis, implementation (in C++), experimental evaluation, and applications.

Platform: Linux (Ubuntu)
Language: C++

**Prerequisites:**
see go.sfu.ca

**Topics:**
- Object-oriented programming
- Abstract data types (ADTs)
- Data structures: lists, stacks, queues, trees, heaps, hash tables, disk-bound data
- Algorithms: searching and sorting as well as time and space efficiency analysis of algorithms

**Grading:**
Grades for this course may be based on: classroom participation and weekly exercises, programming assignments; lab activities and quizzes; in-class written midterm exam; written final exam. The exact details of the marking scheme will be discussed during the first week of the semester.

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).

**Reference Books:**
- Programming, Principles and Practice Using C++ (2nd ed), Bjarne Stroustrup, Addison Wesley, 2014, 9780321992789, Available online. Also, any good C++ reference is okay.

**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).