CMPT 129 - D100 Intro. to CS for Maths

Instructor(s): Janice Regan

Calendar Objective/Description:
Intro. to CS for Maths

Instructor's Objectives:
This course is a rigorous introduction to computing science and computer programming aimed at students who have already completed a basic computing science or programming course. Students will learn fundamental concepts of computing science as well as develop basic skills in software development, with application to problems in mathematics and allied areas.

NOTES REGARDING ONLINE PARTICIPATION FOR THIS COURSE
1) Assignments will be in an online format.
2) Zoom will be used for lectures and office hours.
3) Students must have access to a computer with internet access, a keyboard, and a webcam for use during quizzes and exams.
4) Some lectures/tutorials will be prerecorded/provided before the scheduled lecture times. For these lectures materials provided before the lecture time will be discussed along with examples during the scheduled lecture time.
5) Other lectures will be presented live during the lecture time.
6) All lectures will be available online after the lecture has occurred.
7) Some components of the course will require real-time participation during the scheduled lecture and/or exam times.

Prerequisites:
see go.sfu.ca

Topics:
- C/C++ review of ifs/loops, basic input and output using C++
- Writing simple functions, arguments passed by value and by reference
- File input and output, error handling,
- 1 and 2-D arrays
- Pointers, dynamic allocation of arrays, using arrays as function arguments
- Recursion
- Linear and binary search, algorithms for methods of sorting, Empirical comparison of sorting methods
- Introduction to classes
- Data structures (some as examples of classes), stacks, hash tables, linked lists

Grading:
30% lab quizzes 20% assignments 20% midterm 30% final
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:
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).