CMPT 276 - D100 Introduction to Software Engineering

Instructor(s): Brian Fraser

Calendar Objective/Description:
An overview of various techniques used for software development and software project management. Major tasks and phases in modern software development, including requirements, analysis, documentation, design, implementation, testing, and maintenance. Project management issues are also introduced. Students complete a team project using an iterative development process.

Instructor’s Objectives:
The theory and practice of software development are introduced using the Android operating system as a target device. Students will learn the standard methodologies underlying software development, plus gain experience using a number of software development tools and a revision control system. Assignments will cover learning to effectively use development tools and producing small applications using established development techniques. The focus of the course is on preparing students to be effective members of a software development team.

Prerequisites:
One W course, CMPT 225, (MACM 101 or (ENSC 251 and ENSC 252)) and (MATH 151 or MATH 150). MATH 154 or MATH 157 with at least a B+ may be substituted for MATH 151 or MATH 150. Students with credit for CMPT 275 may not take this course for further credit.

Topics:
- Requirements: system analysis and modeling, requirements specification
- High-level Design: UML, architectural, design patterns
- Implementation: coding style, code review, pair programming
- Quality assurance: unit & integration testing
- Development tools such as IDE, debugger, and revision control (Git/GitLab).
- Android application development and debugging
- Ethics of software development

Grading:
Midterm 20% Final 35% Assignments 15% Project 30% To be confirmed in the first week of class.
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).

Recommended 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).