CMPT 373 - D100 Software Development Methods

Instructor(s): Nick Sumner

SFU Surrey

Calendar Objective/Description:
Software Development Methods

Instructor's Objectives:
This course exposes students to modern software development practices. Several software best practices will be introduced. Students will gain experience with different programming methodologies and their advantages and disadvantages during software development. The includes lectures, discussions, exercises, and project homework to supplement significant development work. Students will work in groups of roughly eight individuals on term projects assigned by the instructor. Projects will be implemented using C++, developed for and using a Linux oriented platform. Students are marked individually depending on their adherence to good programming and development practices and contributions to the project.

This course involves substantial independent and collaborative work. To succeed, students must be able to asynchronously watch video lectures and synchronously participate in class components at the scheduled time via video and voice chat. Students must also synchronously meet with their teams via voice and/or video chat. Participation from remote time zones is heavily discouraged.

Prerequisites:
see go.sfu.ca

Topics:
- Development best practices
- Agile software development in practice
- Managing complexity and designing maintainable software
- Software-engineering tools and environments

Grading:
Course work will consist of reading responses, code reviews, quizzes, a significant semester project, significant programming exercises, and a final exam. The marking scheme will be given in the first week of the course.

Required Books:

Reference Books:
Working Effectively with Legacy Code, Michael Feathers, Prentice Hall, 2005, 9780131177055
More Effective Agile, Steve McConnell, Construx Press, 2019, 9781733518215
Effective Java, Joshua Bloch, Addison-Wesley Professional, 2017, 9780134685991
A Philosophy of Software Design, John Ousterhout, Yaknyam Press, 2018, 9781732102200

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).