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 actively participate in in-class components and meet with their teams to collaborate on the term project.

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.

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:
The Pragmatic Programmer: your journey to mastery, 20th Anniversary Edition, Andrew Hunt, David Thomas, Addison-Wesley Professional, 2019, 9780135956977

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, "sourced from Amazon, not available at SFU Bookstore"
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).