Computing Science Course Outlines 2014 Fall

CMPT 473 - D100 Software Quality Assurance

Instructor(s): Nick Sumner

SFU Surrey

Calendar Objective/Description:
Factors in software quality include functionality, reliability, usability, efficiency, maintainability, and portability. Techniques for assessing the quality of software with respect to such factors, and methods for improving the quality of both software products and software development processes.

Instructor’s Objectives:
The goal of this course is to provide students a comprehensive understanding of the quality factors in software as well as the tools, technologies and techniques that may be used to assess and improve software quality. Students will apply these concepts to quality assessment and improvement of external open source software.

Prerequisites:
CMPT 373.

Topics:
- Overview of software quality assurance
- Defining quality: requirements and specifications
- Security as a fundamental aspect of quality
- Quality by design: building in quality
- Program verification technologies and methods
- Inspections and code reviews
- Testing methods - white box, black box, control flow, data flow
- Test data assessment: when have you tested enough?
- Tools and technologies for quality assessment and improvement
- Quality assurance process and process improvement
- Standards for software quality assurance

Grading:
10% in-class participation; 30% assignments; 30% course project; 30% quizzes and homework.

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).