COMP 4350 Software Engineering 2

Description: Advanced treatment of software development methods. Topics will be selected from requirements gathering, design methodologies, prototyping, software verification and validation.

Prerequisite: COMP 3350.

The core component of this course is a 5-6 member team group project. The current project scope includes a cloud based database/application/web server implemented using the group's choice of framework. The server system must be accessed via a combination of a native mobile application and a web client. The students are also expected to use modern distributed version control and project tracking to manage their code and schedule, respectively.

Course Topics:

1. Software development environment (2 weeks)
   - enterprise computing (and how it differs from desktop computing)
   - code management (useful for the project so cover it early)

2. Architecture design (1-2 weeks)
   - selection of the system architecture
   - architecture design decisions

3. System design (2 - 3 weeks)
   - review of basic design patterns from 3350
   - enterprise design patterns

4. Refactorings (2 – 3 weeks)
   - review of refactorings from 3350 and enterprise refactorings

5. Quality assurance (2 – 3 weeks)
   - testing strategies
   - test-first development

6. Interaction design (1 week or less)
   - importance of good interaction design

7. Performance Issues (1 week)
   - performance monitoring

8. Safety-critical systems (1 week)
   - issues specific to safety-critical systems

Recommended Text: none.