CMPT 213 - D100 Object Oriented Design in Java

Instructor(s): Bobby Chan

SFU Surrey

Calendar Objective/Description:
Object Oriented Design in Java

Instructor's Objectives:
Throughout the course, students will learn and use Java to solve interesting problems but no background in Java is expected. The course will cover a number of design patterns which students will use in the assignments. There will be a focus on designing and writing good maintainable code, as such all code submitted will need to conform to a coding standard which will be discussed in class.

Prerequisites:
see go.sfu.ca

Topics:
- Introduction to Java, including advanced features such as enum, generics, and mutable vs immutable.
- Inheritance, polymorphism, interfaces and abstract classes.
- Introduction to object oriented design (OOD) and some UML diagrams.
- Code construction, best practices and coding standard.
- Basic software design patterns such as iteration, singleton, observers, or template methods.
- Introduction to refactoring.
- Basic introduction to event driven user interface programming, and use of threads.
- Software development tools, such as advanced IDE features, build tools, debuggers, and JavaDoc.

Grading:
35% assignments and project, 20% midterm, 45% final exam. Grading will be confirmed in the first week of class.

Grading:
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).

Reference Books:
Head first design patterns, Freeman and Freeman, O'Reilly, 2004, 9780596007126
Patterns in Java (Volume 1), Mark Grand, Wiley, 2002, 9780471227298
Object-Oriented Design & Patterns, 2nd ed, Cay Horstmann, Wiley, 2006, 9780471744870

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