

Quiz 1 Study Guide

Your quiz will be multiple choice, true/false, and short answer questions. The quiz is closed book, closed notes, closed website. You will have 20 minutes to complete the quiz. The quiz will be active from 8am-6pm Friday, May 1. The quiz is worth 25 points.

Here is a list of topics you should be comfortable with. All material listed below will not necessarily be represented on the quiz, but you should know it. Information on all the material below is presented in Panopto lectures, class notes/slides, class website links and class text:

- Pillars of OO (Abstraction, Encapsulation, Inheritance, Polymorphism) and their definitions
 - Especially know that inheritance is a white box approach to design and violates encapsulation principles (other classes have to know about the class they are inheriting from and if that class declares its fields anything other than private then other classes can make changes to those fields which is dangerous)
- Strategy pattern
- Observer pattern
- Decorator pattern
- Singleton pattern
- Coupling and Cohesion
- Code smells
- UML class diagram syntax rules and symbols
- Design Principles
 - Program to an interface, not an implementation
 - Open/Closed principle: classes should be open for extension but closed for modification
 - Single Responsibility Principle: a class should do one and only one thing (whatever the class is about and no more)
 - Liskov substitution principle: a sub-class should behave based on the specifications of the super class – it should not cover up or turn off or misrepresent behaviors
 - Favor composition over inheritance