**Software Engineering Methods**

**Tutorial 3:**

**Question 1:**

As a class do the quiz at:

<http://highered.mcgraw-hill.com/sites/0077125363/student_view0/chapter4/multiple_choice_quiz.html>

To Q 14

**Questions:**

1. What is the difference between a class and an object?
2. What do we mean when we refer to the behaviour of an object?
3. How does the state of an object affect its behaviour?
4. What is meant by the term encapsulation?
5. How do objects communicate?
6. What do we mean when we talk about the public interface of an object?
7. What is an abstract class? Why do we use them?
8. What is the difference between a class and an object?

Class is a template for an instance of a class – an *object.*

1. What do we mean when we refer to the behaviour of an object?

The things that an object can *do.* E.g. provide services to other objects, change values of its attributes

1. How does the state of an object affect its behaviour?

(What is state?) The object’s behaviour may vary depending on the state it is in.

1. What is meant by the term encapsulation?

Sometimes called information hiding. An object protects its data from other objects. The only way data inside and object can be changed is via the operations in its interface.

1. How do objects communicate?

By message passing. Each method in an object’s public interface has a signature. Other objects send messages in the form of object a “.” and the name of the operation being invoked.

1. What do we mean when we talk about the public interface of an object?

The interface is the operations that the class lets other classes use.

1. What is an abstract class? Why do we use them?

A class that is never instantiated – e.g. one that no objects ever exist for. E.g. Picture – specialised as Painting or Photo.