# SWE 214–Introduction to Software Engineering, Fall 2006 Major Exam 2 Section 1

Date: Dec. 9th, 2006	Duration: 100 minutes
Name:	ID#:

## Question 1: [20 marks]

1. Explain the difference between a use case and a use case model.

2. State three benefits for using use cases to define a system.

3. Explain briefly how one can build a use case model.

4. In team skill 3 we define the system at a high level of abstraction without going deeper into the details (like the one in team skill 5 where we refine this definition). **State three advantages** for applying such technique.

## Question 2: [20 marks]

1. Why do we need to organize the requirements information of non-trivial software?

2. Explain how the requirements of a family of related software products are organized.

3. What is a vision document? and why it is needed?

4. What are the main classical sections in a vision document?

#### Question 3: [20 marks]

1. What is a project scope? and what does it depend on?

2. What does usually happen to the software quality when a project proceeds with a 200% project scope?

3. Brooks' law states that adding labor to a late software project makes it even later. **Explain why** this should be true.

4. The problem of project scope can be solved by defining a requirement baseline. **Explain** what this means **and how** it can be done.

#### Question 4: [22 marks]

1. The software requirement can be defined from the user's perspective or from the development team's perspective. **State these two definitions.** 

2. What are the five major classes needed to describe any software system?

3. Is it true that every requirement can be expressed by a use case? Support your answer by giving an example.

State and explain the difference between the three main types of software requirements. For each type, support your answer by giving an example of a requirement regarding a cash-withdrawing function in a bank ATM.

#### Question 5: [18 marks]

Refer to the prioritized feature of HOLIS case study (at the end of this exam) and answer the following:

1. State three of the mandatory features that have to be delivered in the current version of HOLIS.

2. State **three of the optional features** that could be delivered in the current version of HOLIS if they can be done.

3. State three of the future features that are not going to be delivered in the current version of HOLIS.