Student ID: _____

Software Engineering Comprehensive Examination
Spring, 2003

Answer any four of the following six questions. Please mark below the questions that you want graded. Use only the space provided. ***Do not attach additional sheets or use the back of the exam.***

Circle the question numbers to grade: **1 2 3 4 5 6** (If you leave this blank, questions 1-4 will be graded.)

1. Compare and contrast two lifecycle models. What advantages and disadvantages does each model have over the other?

2. A basic algorithmic model is **Effort = A x Size^{B} x M**. What are the variables A, B, Size and M used for? What is one of the major problems of estimation and how is it affected over a project's lifetime?

3. Simplistically, software engineering risks can be categorized into three different types. Identify these types and list 3 examples of each.

4. What are some objectives in holding a Software Technical Review, e.g., code review, inspection? What preparations, if any, are needed prior to a review? What are some guidelines for conducting a review? What information should be recorded during and at the conclusion of a review?

5. Define the concept of Module Coupling? Why is Module Coupling considered an important software attribute? Identify and define 2 types of Module Coupling. Identify 2 metrics that are used to measure the degree of Module Coupling.

6. Describe “Top-Down Software Integration and Test” and “Bottom-Up Software Integration and Test”. Outline the steps to be performed in each approach. Identify 3 strengths and 3 weaknesses of each approach.