

**CSI 518 Software Engineering**  
**Spring 2003 Final Examination**  
**May 15, 1 – 3 pm**

Q1: (10 points) Explain if encapsulating a mainframe legacy system and using it as a server should be a short-term or a long-term solution to the problems of a architectural evolution.

Q2: (20 points) What is software change impact analysis, why is it important in software development, and how to do an effective change impact analysis.

Q3: (30 points) Use the term project, autoweb, as examples to describe the design patterns: Singleton, Abstract Factory, and Factory Method.

Q4: (20 points) List two white-box testing techniques and compare their ability in error detection. (explain with an example!)

Q5: (20 points) Explain what testing technique(s) should be used in order to effectively test object-oriented software.

Q6: (Team evaluation) Give evaluations of your team members who, you think, deserve more/less credits.