Exam Review
Object-Oriented Concepts, Analysis and Design (Chapters 20, 21, 22)

• What is a class?
  – How does it relate to an object?
• Describe the concepts of a hierarchy and inheritance.
• What is polymorphism? Give an example.
• What is the OO concept of encapsulation?
  – What are some of the advantages to encapsulation?
• List some of the advantages of the OO approach over traditional approaches to SW development.
Object-Oriented Concepts, Analysis and Design (Chapters 20,21,22)

• What is a "Use Case"?
  – What roles does it play in the OO analysis process?

• Class Diagram

• Sequence Diagram (relation so UC)

• Statecharts

• What is UML
Introduction to Software Testing
(Chapters 17, 18, 23)

• What are the goals of the testing phase?
• Describe white-box testing strategies.
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• Describe the following white-box testing strategies:
  – statement, branch, multi-condition, basis-path and data flow.
• Describe the following black-box testing strategies:
  – random, equivalence partitioning and boundary value analysis.
• Develop white-box test cases for a given unit of code?
Introduction to Software Testing (Chapters 17, 18, 23)

- Develop black-box test cases for a given requirements specification?
- What is unit testing? What testing strategies are used?
- What is integration testing?
- What are some approaches to integration of conventional SW? Briefly describe them.
- What are stubs and drivers? When are they used?
- What is Validation testing? What testing strategies are used?
- What is System testing? What testing strategies are used?
Introduction to Software Testing
(Chapters 17, 18, 23)

• What are the different types of system testing?
• What is regression testing and when is it used?
• Compare unit testing for OO SW and a conventional SW.
• What is state-based testing?
• What is attribute-based testing?
• What is category-based testing?
Introduction to Software Maintenance (Chapters 9)

• What are the Software Configuration Management activities?

• What does it mean when a SW Configuration item is base-lined?
  – How does this limit change to the item.

• Give examples of a Software Configuration item.

• What is a version of a SW Configuration object?

• What is a variant of a version?
SW Matrics (Chapters 9, 30)

- Why?
- What?
- COCOMO?
- FP, LOC, etc.
- Measure
- Indicator
- Metric
- Domains ($P^3$)
- Size oriented vs. functional oriented?