<u>**Final Exam Coverage and Tips for ECSE 321**</u>

Here are list of focus topics for the final. I would suggest deeper understanding of the following areas. If you don't understand some points on the lecture slides, I would strongly suggest that you refer to the textbook.

1. Software processes (lecture 3 pt 1 & lecture 3 pt 2); we covered waterfall, agile, and iterated models; good understanding of the individual models and the knowledge of the pros and cons of the different models are expected. Also think about the applicability of the different models in different target software development situations. For example, what is the appropriate method for game development? Why? (The guest lecture might help here.) What process were you using in the semester long project? *Note: The questions I am posing here are just for the discussions.*
2. Project management (lecture 4); We covered many aspects of project management and discussed risk issues. You are expected to know concepts such as CPM (in the slides) and risk factors in applying it.
3. Testing strategies (lecture 16); You are expected to know key testing strategies and their pros and cons; Regression testing (you are encouraged to look up the textbook for additional information), unit testing, system testing, and integration testing are some of the key topics. In integration testing we discussed top-down, bottom-up, and sandwich strategies.
4. Design patterns (lectures 13, 14, 15); All the design patterns. We covered some as architectural styles and others as design patterns. You could get questions which ask you to briefly describe the different design patterns.
5. Application of software engineering to game development (guest lecture from EA); see the software processes issue; other software engineering issues raised during the talk might be relevant as well.
6. Analysis (lectures 7 & 10 (mid level design));
7. Architectural design (lectures 8 & 9); we covered many key issues information hiding, coupling, cohesion, reuse, etc.
8. Case study (look at the previous semester's final on WebCT); the case study you get can be similar to the one on that exam.

Other slides:

lectures 0, 1, 2 - not covered in the final exam

lecture 5 - UML - although not explicitly covered, you are expected to know UML. You could be asked to draw class diagrams or others in UML notation. By doing the semester long project you are expected to know UML. Our discussion of UML is in lecture 5 and also others that are already included in the list above.

lecture 6 - again I expect the semester long project to provide sufficient coverage here. You can read these slides to refresh your memory.

lecture 11 - not covered

lecture 12 - not covered