CSC 531 Software Engineering

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TA: TBD

Office: Graduate School - 101 Albert Pick Hall

Office Hours: [Please let me know in class/by e-mail if you plan to come]
TTh 11:15am-12:15pm - Dr. Blake
TTh 12:15pm-1:15pm - Dr. Saleh
Course Time: TTh 9:30-10:45am (1/15 – 4/25)
Location: Mahoney-Pearson Commons 101

Textbook: *Object-Oriented Software Engineering: Using UML, Patterns and Java*
Bernd Bruegge, Adjunct, Carnegie Mellon University
Allen H. Dutoit, Technical University of Munich
(THIS IS FOR REFERENCE)

Grading: Course Assignments 20%, Participation 10% (Based on In-class projects)
In-Class Exams 30%, Final Project 40%

Description:

The purpose of this course is to teach the student how to design and develop large software systems. A term project is assigned that implements the techniques described in the course on a real world problem with corporate partners. Students work on this project in teams each week through the course they learn different aspects of software engineering. Topics covered include: software reliability and its implications; the software development lifecycle; object and software modeling using the Unified Modeling Language (UML); cost-benefit analysis; and rapid prototype development. The class will consider the impact of innovations such as, event-based programming, distributed programming, and Internet technologies. Additional topics that may be covered are software estimation, design patterns, aspect-oriented design, and model-driven architecture. Prerequisites: Familiarity with a higher-level programming language is the only pre-requisite.

Jan 15 *Class Overview* (Introductions, Intro to the Class) [BB]
(Get a make-up class time)

Jan 17 *Overview of Software Engineering, Objects, Software Lifecycles* [BB]

Jan 22 *Problems Statements* [BB]
Assignment 1 – Problem Statement Exercise

Jan 24 **Finish Problem Statement**
Guest Speaker: Dr. Tao Xie – Associate Professor, NCSU (Testing)

Jan 29	*Configuration Management* [IS] **Assignment 1 - DUE**
Jan 31	*Configuration Management – Setting Up Google SVN* [DC] **Assignment 2 – Groups need to set-up your CM environments**
Feb 5	*Corporate Presentation* *Problem Statement Exercise/ CVS Configuration* [BB] **Assignment 3 – TBD**
Feb 7	*Requirements Engineering – Requirements Elicitation – Scenarios* [IS] **Assignment 2 DUE** **Assignment 4 – Requirements Exercise**
Feb 12	*Use Cases and Rational Rose Demonstration* [BB] **Assignment 3 DUE** **Assignment 4 – Use Case Exercise**
Feb 14	*No Class*
Feb 19	*UML Modeling: Class Diagrams* **Assignment 4 DUE**
Feb 21	*UML Modeling: Class Diagrams (Exercises)*
Feb 26	*UML Modeling: Class Diagrams (Exercises)*
Feb 28	*Test Review (Game Show Format)*
Mar 5	**Test 1**
Mar 7	*UML Modeling: Interaction Diagrams* **Assignment 5 – First Deliverable (Final Project) Due to Blackboard**
Mar 9-17	***SPRING BREAK***
Mar 19	*UML Modeling: Interaction Diagrams* **Assignment 6 – (First Class Diagram and 3 Sequence Diagrams for Final Projects)**
Mar 21	*UML Modeling: State and Activity Diagrams*
Mar 26	*Prepare Initial Class Diagrams & Interaction Diagrams for Project (Independent Work)*
Mar 28	*Mapping Models to Code (IS)* **Assignment 6 – DUE (Friday March 29th at Midnight)**
Apr 2	*Interim Project Presentations in Class* **Assignment 7 – Assigned (Update Final Project Docs & Upload to SVN by 11:59PM)**
Apr 4	*Design Patterns (IS)*
Apr 9	*Agile Software Development (IS)* **CANCELLED - *TAKE HOME TEST ISSUED (Need a Prototype/Simulation for Final Project)***
Apr 11	In-Class Project Questions and Answers **Assignment 7 – DUE (Update Final Project Docs & Upload to SVN by 11:59PM)**

Apr 16	*Software Estimation*
Apr 18	*Service-Oriented Architecture* ***CANCELLED - TAKE HOME TEST IS DUE (in Hard Copy)***
Apr 23	*Group Presentations*
Apr 25	*Group Presentations*

Final Exam Period

Final Reports Due to your Configuration Management Environment