CS3300 Intro to Software Engineering Fall 2013

Location / Time

Klaus 2447
1635 - 1755 MW

Course Objectives

Team-based project class to introduce and apply software engineering principles and practices.

Overall we will try to at least mention everything in the SWEBOK

Our team project will try to make use of different development processes (RUP, TSP, TDD, Agile) to contrast the advantages and disadvantages of each.

In project management, we do both Agile (SCRUM) and traditional (Gantt, WBS)

Instructor

Bob Waters
CoC 120
Office Hours Tuesday 0800-1100. Open door policy, other hours available by request.

Teaching Assistant

Kangqi Ni
Klaus 2319
Office Hours: Tuesday 3-5pm
Email: kni3@cc.gatech.edu

Textbook

There is no required textbook.

There will be readings from internet sources and the GT library Safari site.

Collaboration Policy

The course project is a large development where the entire class develops one project, with different teams involved with different components. Obviously, intense collaboration is required between everyone involved.

Exams are individual work. Only resources identified on the exam sheet are authorized. No collaboration with other people is allowed.

The book review is also individual work and must be the result of your own analysis of the written material.

Other individual assignments in the class must be your own work. You may discuss problems

with other students and get help, but the actual work must be your own.

Grading

Class Participation (piazza polls, discussions of readings etc)	10%
Exams (midterm and final)	25%
Book Review	10%
Individual Assignments	25%
Project	30%

Tentative Individual Assignments

PSP x 2
Quantitative Project Management (CPM and EV)
Test Case Generation
Use Case Writeup

Project Components

Software Development Plan (SDP)
Software Requirements Specification (SRS)
Software Design Document (SDD)
Commented Source Code
Test Plan and Report
Project Post Mortem

Schedule

Week	Date	Topic	Readings
1	08/19	Course Overview, Introduction to Software Engineering, SWEBOK, CMMI, Software Development Plan (SDP)	Scan the following: http://www.computer.org/portal/web/swebok cmmi.pdf in resources If you are interested in original conference proceedings: nato.pdf in resources

			Read: No Silver Bullet in resources
	08/21	Project Management 101, WBS Intro, CPM/PERT	http://www2a.cdc.gov/cdcup/library/practices_guides/CDC_UP_WBS_Practices_Guide.pdf https://www.cprime.com/2010/10/work-breakdown-structures-wbs-the-forgotten-best-practice/ http://www.slideshare.net/joshnankivel/top-7-wbs-mistakes-project-managers-make http://www.pmipr.org/html/Presentaciones/The%20Critical%20Path%20Method.pdf
2	08/26	Quantitative Methods in PM (decision trees, decision matrix), SDP Revisited	http://vserver1.cscs.lsa.umich.edu/~spage/ONLINECOURSE/R4Decision.pdf http://asq.org/learn-about-quality/decision-making-tools/overview/decision-matrix.html Readings Directory: Risk management
3	09/02	Labor Day Holiday	
	09/04	Software Lifecycles	Winston Royce original paper
4	09/09	Requirements 101Other Requirements techniques and challenges, User	http://incontextdesign.com/contextual-design/

		Stories, Contextual Design	http://www.andrew.cmu.edu/course/90-754/umlucdfaq.html http://www.interaction-design.org/encyclopedia/contextual_design.html
	09/11	Rational Unified Process, Use Cases, UML Use Case Diagrams, Analysis Diagrams, Deployment Diagrams, Component Diagrams	
5	09/16	POSA Design Patterns I	
	09/18	POSA Design Patterns II	
6	09/23	Software Architecture and Analysis	
	09/25	Team Design Meetings	
7	09/30	Continuous Integration and Integration Strategies	
	10/02	Static Testing	
8	10/07	Dynamic Testing	
	10/09	Team Meetings	
9	10/14	Fall Break	
	10/16	Configuration Management	
10	10/21	Team Presentations	
	10/23	Team Presentations	
11	10/28	Team	

		Presentations	
	10/30	Extreme Programming and TDD	
12	11/04	Personal Software Process (PSP)	
	11/06	Personal Software Process (PSP)	
13	11/11	Team Software Process (TSP)	
	11/13	Team Software Process (TSP)	
14	11/18		
	11/20	Team Meetings	
15	11/25		
	11/27	Before Thanksgiving Team Meetings	BOOK REVIEW DUE (so I can read them over the break)
16	12/02	Final Project Presentation	
	12/04	Project Post Mortem Evaluation	
	12/09 - 12/13	Finals Week	