Course Outline

Software Requirement Engineering

Subject: Software Requirement Engineering			
Instructor: Muhammad Waseem			
Objective: To help students gain understanding of what is requirement engineering, the different stages and concepts of requirement engineering. To describe in detail the different activities of requirement engineering. To give them practical knowledge on how to make certain requirement engineering artifacts.			
Week	Lecture #	Topic	Reading
1	Lecture 1	Introduction	
	Lecture 2	What are Requirements?	
2	Lecture 3	What is Engineering?	
	Lecture 4	Managing Risk	Barry Boehm's "Software Risk Management: Principles and Practices" (IEEE), IEEE Software, January 1991
3	Lecture5	Feasibility Studies	Axel van Lamsweerde's Tutorial on Goal Modeling (IEEE) from the RE'01 conference
	Lecture 6	Stakeholders, Goals, Scenarios and Boundaries	Alistair Sutcliffe's Tutorial on Scenarios (IEEE) from the RE'03 conference;
4	Lecture 7	Elicitation Techniques	Ann Hickey and Alan Davis' paper on Elicitation Technique Selection (IEEE) from the RE'03
	Lecture 8	Systems Thinking	"What is a System?" the draft chapter 4 of Fundamental of RE
5	Lecture 9	Introduction to Requirements Modeling	
	Lecture 10	Modeling Enterprises	Stephen White's paper on Business Process Modeling and Activity Models
6	Lecture 11	Modeling Objects	
	Lecture 12	Modeling Relationships	
7	Lecture 13	Modeling State	
	Lecture 14	Modeling Events	Harel and Gery's paper Executable Object Modeling with Statecharts (IEEE), IEEE Computer, July 1997.
8	Lecture 15	Modeling Interactions	
	Lecture 16	Non-functional Requirements	
9	Mid Term		
10	Lecture 19	Requirements Specifications	
	Lecture 20	Verification and Validation	Readings: the IEEE Standard 830-1998 for Requirements Specifications.
11	Lecture 21	Prioritizing Requirements	Karlsson and Ryan's paper A Cost-Value Approach for Prioritizing Requirements (IEEE), in IEEE Software
	Lecture 22	Software Evolution	
12	Lecture 23	Software Evolution	
	Lecture 24	Software Architecture	

13	Lecture 25	Software Architecture	
	Lecture 26	Course Review & Exam prep	
14	Lecture 27	Course Review & Exam prep	
	Lecture 28	Demo	
15	Lecture 29	Demo	
	Lecture 30	Demo	
16	Lecture 31	Demo	
	Lecture 32	Demo	

Course Book: Managing Software Requirements: A Unified Approach by Dean Leffingwell and Don Widrig

Other books: Software Requirements by Karl Wiegers

Reading Material: Certain Articles and Case Studies which will be provided to you.

Marks Distribution:

1. Quizzes: 10%
2. Assignments: 20%
3. Midterm: 20%
4. Final Exam: 50%

Rules to follow:

1. No plagiarism will be allowed, if full or part of assignment or quiz is copied, the student will be given 0 marks.
2. A student 10 minutes late in class will be considered absent.
3. 75% attendance policy will hold.
4. There will be surprise quizzes.