CS587
Software Project Management
Syllabus

Instructor: Dr. Atef Bader
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Text Book:

Title: Managing and Leading Software Projects
Author: Richard E. Fairley
ISBN: 978-0-470-29455-0
Year: 2009,
Publisher: Wiley - IEEE Computer Society Press

Grading:		
	4 Assignments	40%
	Midterm Exam	20%
	Term Paper	40%

Important Dates:

Midterm Exam	3/4/2016
Spring Break	3/14/2016 – 3/19/2016
Term paper due	4/29/2016 by 11:59pm

Course Description

This course covers the concepts necessary to successfully manage the software projects. All phases of the project management cycle are covered including project initiation, project planning and control, project status reporting and reviews through project completion and post project lessons learned analysis. The concept of process maturity is introduced using the SEI Capability Maturity Model to show the correlation between established management and development practices and project success. In addition to treating the key project management processes, tools, and techniques, the course gives special emphasis to the human side of project management including leadership and motivation strategies. The course emphasizes the importance of software quality and the use of disciplined software development processes in managing successful projects. The course delivery format is a blend of lectures, class discussions, and team presentations.

Course Objectives

At the completion of this course, students will have the following competencies:

- Understand how to create project plan, track and record task status, and present project status to management
- Have a thorough understanding of the software project management process and the software development process
- Understand the fundamental concepts necessary to manage a modern software project including techniques and tools used for project initiation, project planning and control, project status reporting and reviews, project completion and lessons learned analysis
- Understand why risk management and contingency planning are at the heart of any successful project
- Understand the issues regarding the project cost, resources, schedule, productivity and quality

- Understand the skills required of a successful project manager that capable of leading and managing the team members and reliable relationships with the customers and higher management

The calendar of lectures, exams, project, and class assignments are subject to change based on the level of difficulty and nature of the subject matter; The instructor reserves the right to alter the schedule of the class.

The following topics are covered in detail:

- **Introduction**
  - Roadmap for Software Product Line
  - Software: Computer Science, Software engineering, and Software Project Management
  - Organizational Structures
  - Software Applications
  - Software Process
  - The Growth of Project Management as a Profession
- **Principles of Project Management**
  - Defining
  - Planning
  - Executing
  - Controlling
  - Closing
- **Project Analysis**
  - Estimating project size and complexity
  - Tools and techniques
  - Scheduling
- **Resource Management**
  - Assessing Competencies and Skills
  - Resource allocation
- **Project Monitoring**
  - metrics collection and analysis
  - milestones
  - status reporting
- **Defect Detection/Prevention**
  - Defect Removal Effectiveness
  - Phase-based defect removal model
- **Risk Management**
  - risk identification, quantification, and prioritization
  - risk avoidance, mitigation, and contingency planning
- **Configuration Management**
  - Basic configuration concept
  - Configuration management process
  - Configuration Control and Configuration Audits
- **Quality Control, Planning and Assessment**
  - Rational Unified Process
  - ISO Audits & quality reviews
  - Testing process and Product Certification
  - Monitoring compliance with processes
  - Process improvement