

Principles of Software
Engineering:
Introduction

COSI 120b, Spring 2005

Overview

- What is this class?
 - What should you get out of this class?
 - What should you put into this class?
- Syllabus
 - Semester schedule
 - Instructor and TA
 - Textbook and recommended reading
- Next Topic

What is this class?

- The study of software engineering, including the principles and practices
- Software engineering is multi-faceted
 - Methodologies for efficiently constructing software
 - Techniques for building better software products
 - Leveraging software tools
- This class presents a survey of all of these areas

What should you get from this class?

- An understanding of the field
- Practical experience in the use of various software tools, techniques and methodologies
- Experience working on a software development team

What should you put into this class?

- Prerequisites
 - Understanding of software development (i.e. you have written some software applications)
 - Java
 - Your term project will be written in Java, using Java libraries and tools
 - Ability to work in a team
 - *NO ONE* will do a term project alone
- The prerequisites are not negotiable.

What should you put into this class?

- Term project
 - Groups of 3 - 4 people
 - Two presentations, one in the middle of the semester and one at the end of the semester
- Tests
 - Two quizzes, one in the middle of the semester and one at the end of the semester
 - No final
- Occasional Homework Assignments
- Attend Class

Semester Schedule

Date	Topic	Due
1/19	Introduction, Administration, Why Study Software Engineering?	
1/24, 1/26	Software Methodologies, Requirements Engineering	
1/31, 2/2	The Term Project, Developer Collaboration	Term Project distributed
2/7, 2/9	Performance Engineering and System Modeling	
2/14, 2/16	System Design, Requirements to Design	
2/28, 3/2	Presentations	Term Project, Part 1 due
3/7, 3/9	System failures, implementation strategies, patterns and refactoring	
3/14, 3/16	Development tools, system debugging, system visualization, system profiling	
3/21, 3/23, 3/24	Quiz 1 (3/21), architectures, software libraries	
3/28, 3/30	System testing, component oriented development, aspect oriented programming	
4/4, 4/6	The Mythical Man Month and the Death March, DoD Architectures	
4/11, 4/13	Presentations	Term Project, Part 2 due
4/18, 4/20	Conclusions, Quiz 2 (4/20)	

Instructor and TAs

- Instructor: Seth Landsman
 - seth@cs.brandeis.edu
 - Office Volen 110
 - Hours: by appointment
- TAs: TBD

Textbook and Recommended Reading

- Required
 - Software Engineering by Roger Pressman
- Recommended
 - Mythical Man Month by Fredrick Brooks
 - Death March by ...

Next Topic

- Why Study Software Engineering?