

Course Overview

17-653**MANAGING SOFTWARE DEVELOPMENT****FALL 2018****Miranda & Telang****COURSE INFORMATION****Revised: 08/27/2018**

Class Meetings

Tuesday and Thursdays 1:30 - 2:50 pm**Room 265, 300 S. Craig St.**

Instructors

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Objectives

Large scale software development requires the ability to manage resources — both human and computational — through control of the development process. This course is a breadth oriented course, designed to help technically-trained software engineers to acquire the knowledge and skills necessary to lead a project team, understand the relationship of software development to overall project engineering, estimate time and costs, and understand the software process. The nature of software development is sufficiently unique to require specialized management techniques, especially in the areas of the estimating and scheduling.

Organization

This course is structured around lectures, in-class activities, reading quizzes and case studies. Student participation is a critical part of the course content and is an essential part of the student's grade.

Grading

See grading policy.

Text

Pressman, Roger S., *Software Engineering, A Practitioner's Approach*, Eighth edition, McGraw Hill, ISBN-13: 978-0078022128

Readings you will have to buy

There is one case study that you will need to buy from Harvard Business Review (HBR) online. They typically cost \$4.25 each and can either be sent to you hard copy or downloaded. The link to the course material is:

Harvard Course Pack

Some browsers, systems don't handle the link . If so then paste the below into your browser

<https://hbsp.harvard.edu/import/563358> [_https://hbsp.harvard.edu/import/563358\)](https://hbsp.harvard.edu/import/563358)

You will have to register with the site. Email Eduardo or Jen Potter if you have any problems.

1. Microsoft Corporation: Office Business Unit 691033-PDF-ENG

Grading Policy

Class activities 24%

Each class activity is worth 3 points

Each student will be individually graded in each activity in three dimensions

Being absent (-3 points)

Lack of preparation (-2 points)

Participation (- 1 point)

A student that is not present at the beginning of the first activity during the class activity will be consider absent for the purpose of grading

Two peers evaluations 6%

Each peer evaluation is worth 3 points

Five Quizzes 20%

Each quiz is worth 4 points

Will cover all topics presented in class and all mandatory readings

Includes two types of questions: knowledge questions & comprehension questions

Two Case studies 10%

Each case study is worth 5 points





Two Exams 40%





Midterm exam is worth 20 points





Final exam is worth 20 points




Exams will be closed book, in class

Lecture Plan

Week	Date	Lecture topic	Due	Mandatory readings	Complementary readings
1	Tuesday, Aug 28	Introduction. Working in teams, the need for coordination and knowledge management.			SchwaberTheScrumGuide2017.pdf (https://canvas.cmu.edu/courses/5662/files/2776172/download?wrap=1)  https://canvas.cmu.edu/courses/5662/files/2776172/download?wrap=1
	Thursday, Aug 30	Introduction to Scrum. How much time do we have for coding and testing?		Pressman: Ch. 3	
2	Tuesday, Sept 4	Office Business Unit	Case Study OBU	Pressman: Ch. 4	LeffingwellUserStoryPrimer.pdf (https://canvas.cmu.edu/courses/5662/files/2776191/download?wrap=1)  https://canvas.cmu.edu/courses/5662/files/2776191/download?wrap=1 UnkGoalDrivenProductBacklogs.pdf (https://canvas.cmu.edu/courses/5662/files/2776192/download?wrap=1)  https://canvas.cmu.edu/courses/5662/files/2776192/download?wrap=1
	Thursday, Sept 6	Work Item List. User and technical stories.		Pressman: Ch. 5	
3	Tuesday, Sept 11	Class Activity — Work Item List Practice			
	Thursday, Sept 13	Human aspects of SE	RQ1 Ch: 3, 4	Pressman: Ch. 8	TrendowiczPlanningPoker.pdf (https://canvas.cmu.edu/courses/5662/files/2776222/download?wrap=1)  https://canvas.cmu.edu/courses/5662/files/2776222/download?wrap=1

			& 5		
4	Tuesday, Sept 18	Planning poker. Project feasibility.		Pressman: Ch. 9	
	Thursday, Sept 20	Class Activity — Exercise planning poker. All teams perform a planning poker session in class.	RQ2 Ch: 8 & 9	Pressman: Ch. 12	
5	Tuesday, Sept 25	Sprint planning explanation		Pressman: Ch. 13	HayesAgileMetricsProgressMonitoringAgileContractors.pdf (https://canvas.cmu.edu/courses/5662/files/2776223/download?wrap=1)  (https://canvas.cmu.edu/courses/5662/files/2776223/download?wrap=1) BrodzinskiBurndownVsBurnup.pdf (https://canvas.cmu.edu/courses/5662/files/1892336/download?wrap=1)  (https://canvas.cmu.edu/courses/5662/files/1892336/download?wrap=1)
	Thursday, Sept 27	Class Activity — Exercise Sprint planning		Pressman: Ch. 16	https://canvas.cmu.edu/courses/5662/files/2776223/download?wrap=1
6	Tuesday, Oct 2	Burn down charts		Pressman: Ch. 19	MitchellSprintRetrospectivesInPractice.pdf (https://canvas.cmu.edu/courses/5662/files/2776238/download?wrap=1)  (https://canvas.cmu.edu/courses/5662/files/2776238/download?wrap=1)
	Thursday, Oct 4	Class Activity — Sprint execution	RQ3 Ch: 12, 13 & 16	Pressman: Ch. 20	
7	Tuesday, Oct 9	Reflections		Pressman: Ch. 21	AndersenWarningActivityPlanningHazardousProjectHealth.pdf (https://canvas.cmu.edu/courses/5662/files/2776239/download?wrap=1)  (https://canvas.cmu.edu/courses/5662/files/2776239/download?wrap=1)

					GlobersonWorkBreakdownStructures.pdf https://canvas.cmu.edu/courses/5662/files/1892249/download?wrap=1  https://canvas.cmu.edu/courses/5662/files/1892249/download?wrap=1
	Thursday, Oct 11	Review Session			
8	Tuesday, Oct 16	Mid-term Exam			
	Thursday, Oct 18	Milestone Planning		Pressman: Ch. 22	DSMCCriticalPath.pdf (https://canvas.cmu.edu/courses/5662/files/1892224/download?wrap=1)  (https://canvas.cmu.edu/courses/5662/files/1892224/download?wrap=1)
9	Tuesday, Oct 23	Class Activity — Milestone planning exercise		Pressman: Ch. 28	https://canvas.cmu.edu/courses/5662/files/1892224/download?wrap=1
	Thursday, Oct 25	Activity Planning		Pressman: Ch. 29	
10	Tuesday, Oct 30	Work break down structures		Pressman: Ch. 30	JonesManualEstimatingMethods.pdf (https://canvas.cmu.edu/courses/5662/files/1892308/download?wrap=1)  https://canvas.cmu.edu/courses/5662/files/1892308/download?wrap=1 LongstreetFundamentalsOfFunctionPointAnalysis.pdf https://canvas.cmu.edu/courses/5662/files/2776269/download?wrap=1  (https://canvas.cmu.edu/courses/5662/files/2776269/download?wrap=1)
	Thursday, Nov 1	Class Activity — Work break down exercise	RQ4	Ch: 22, 28 & 29	Pressman: Ch. 32
11	Tuesday, Nov 6	Estimation methods		Pressman: Ch. 35	

	Thursday, Nov 8	Class Activity — Estimation methods practice	RQ5 Ch: 30, 32 & 35		https://canvas.cmu.edu/courses/5662/files/2776269/download?wrap=1
12	Tuesday, Nov 13	Risk management		Pressman: Ch. 36	OakEarnedValueTutorial.pdf (https://canvas.cmu.edu/courses/5662/files/1892335/download?wrap=1)  https://canvas.cmu.edu/courses/5662/files/1892335/download?wrap=1
	Thursday, Nov 15	Risk statement		Pressman: Ch. 37	
13	Tuesday, Nov 20	Tracking projects		Case Study: Pearson	
	Thursday, Nov 22	Thanksgiving			
14	Tuesday, Nov 27	Class Activity — Earned value practice			RubinReleasePlanning.pdf (https://canvas.cmu.edu/courses/5662/files/2776272/download)  https://canvas.cmu.edu/courses/5662/files/2776272/download MirandaBufferedMoscowRules.pdf (https://canvas.cmu.edu/courses/5662/files/2776271/download)  https://canvas.cmu.edu/courses/5662/files/2776271/download
	Thursday, Nov 29	Release planning			
15	Tuesday, Dec 4	Case(Pearson) discussion			

	Thursday, Dec 6	Exam			
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