17-626, Agile Methods
Syllabus

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Office hours are by appointment

The Spring 2012 class meets Tue / Thur, 10:30-11:50, in 300SCR 265.

Course Description

The agile methods course will address what agile methods are, how they are implemented (correctly), and their impact on software engineering. A variety of agile methods will be described, but the focus will be on Scrum and Extreme Programming. Issues associated with planning and controlling agile projects, along with the implications of empowered teams on the customer-supplier dynamic, will give a fuller picture of how the agile practices are realized. The course will conclude with a discussion of some of the issues facing organizations adopting agile methods.

MSE and MSIT students will be expected to apply an agile perspective to describe the processes of their studio projects. (Other students may use industry or classroom projects.)

Course Objectives

1) Students will be expected to apply critical thinking in evaluating the options and tradeoffs implicit in selecting an appropriate software engineering methodology, with a focus on agile methods, for their projects.

2) Students will be expected to understand the implications of various methods on establishing an effective team environment, managing expectations, project planning, managing requirements change, tracking progress, implementing good engineering practices.

3) Students will be expected to predict the challenges in change management associated with adopting an agile method and discuss how these challenges can be addressed.

Course Materials

This is a readings and discussion course. Multiple papers / articles / reports / chapters will be assigned to read each class. These readings will be made available through Blackboard. Discussion involving all students will range around the topic for that class. Everyone is expected to actively participate.
Grades

The percentage breakout for grades is:

- Homework 30%
- Class participation 10%
- Quizzes 10%
- Project 50%

Late penalty (per day) for assignments -10%.

Exams

There will be no exams for this mini. There will be a class project.

Homework

A homework assignment may be to write a critique, answer an interesting question(s), etc., in a 1-4 page double-spaced paper. Students will do their homework individually and not as teams.

Homework assignments should be emailed to the instructor by the beginning of class on its due date.

Homework assignments will be graded on a 10-point scale.

Quizzes and Discussions

Many classes will begin with a brief (less than five minutes) quiz. Quizzes will cover the reading assignments for that week. Quizzes will be graded on a 5-point scale. Quiz grades do not apply to Distance Education students.

Discussion topics will be periodically added to the Discussion Board on Blackboard. All students are expected to participate in the discussions. Discussion grades will be combined with quiz grades. Discussion grades will be binary: participated (5 points) or not (0 points).

Project

There will be one project that will be graded on a 100-point scale. It is to write a 5-10 page, double-spaced analysis of why a particular software engineering method (examples are RUP, AUP, OUP, Scrum, XP, FDD, TSP) was (or will be) selected for a project. For MSE and MSIT students, I expect this project to be your studio project. Other students may team with MSE / MSIT students or pick another project.

Project will be done by teams of 3-4 students. MSE / MSIT students on the same studio team will be on the same project team, possibly supplemented by other students.
Your analysis will include at least three observations about the customer/user, the application domain, technologies, the operational environment, and/or the maintenance environment that affect the decision.

Your analysis will compare at least two software engineering methods (e.g., Scrum vs TSP) in terms of their strengths and weaknesses for this project and this team.

**Formatting Requirements**

Include the assignment number (or the phrase “Project”), the topic of the homework, and your name at the top of the assignment. For example,

- 17-626 HW 1, Critique of Paulk’s “Agile Methods and Process Discipline”, John Doe
- 17-626 Project, Analysis of XYZ Project, Jane Smith, Richard Jones, and Phillip Able

Failure to clearly include all required information in the title -5%.

All assignments should be received in either Word or RTF format. Failure to turn in assignments in Word or RTF format -5%.

The format of the file name should be “HWnn YourName” (where nn is the assignment number and YourName is a unique version of your name) for homework assignments. Replace “HWnn” with “Project” for projects. Failure to use the file name format -5%.

Too long -5%. Too short (maybe) -5%. Not double-spaced -5%.

**Critiques**

Critiques of books and papers include criticism: strengths and weaknesses that come with a rationale for why a particular point is a strength or weakness. A rationale is NOT “in my opinion” or a restatement of the arguments made by the author of the paper. Rationales may be based on personal experience, published research, or logical argument. Published research should include citations.

A Word template is available for critiques on Blackboard (“Critique Template.doc”). Critiques should include four separate, clearly identified sections:

- a summary of the paper(s) or book,
- two or more points that you consider strong (agree with), and
- two or more points you consider weak (deficiencies, oversights, etc.)
- one or more points that you learned as a result of critiquing this work (this will not be graded but is in many ways the heart of the critique)

Be explicit! It is far better to write “The first strength is X. It is a strength because of the research reported in X_n... The second strength is Y. I consider it a strength because of my experience with Y_n...” than to expect them to be obvious. This may be a boring style, but over the years, many students have stumped me as to exactly what strengths and weaknesses they were trying to identify… and if I have trouble figuring them out, you’ll have trouble getting credit for them in your grades.
Critiques are to include at least two strengths and two opportunities for improvement. The rubric for grading a critique assigned for homework is:

- No summary -2
- Poor summary -1
- Missing rationale (2 strengths + 2 opportunities per critique) -2
- Poor rationale -1

Revised 9 December 2011.