SOE2008 Course Sylabus

(Exam Questions)

Exam will be a regular oral exam with a final grade according to a regular scale. Each course participant will be examined individually for 17 minutes. You will pick up a question from the following list. Prepare a presentation for which can last from 8-12 minutes. You will be allowed to bring your notes. After the presentation examiner as well as censor can ask further questions related to the course.
The main criteria for the evaluation are:
(1) Demonstrate an overview of the topic seen from both paradigms,
(2) Be concrete and specific w.r.t. selected methods, tools or similar relevant to the topic,
(3) Compare the two paradigms and discuss pros and cons relevant to the topic.
(4) Reflect on your own practice * You have following possibilities to prepare for this:

(a) to reflect on a project which you have done in your study or elsewhere (based on your exercises and tutorials from the lectures for example)
(b) to reflect on a project you are doing currently
(based on your exercises and tutorials from the lectures for example)
(c) a project you have look at in your SOE exercises (your group mates made for example or you read about and thought about)

* The reflections are to see whether you can apply the concepts from the course in your own practice and is required. The examples of reflections are those presented at tutorials in the lectures. Questions which have been given as a guideline for preparing tutorials are examples of questions you can receive at the exam for reflections. Mini-project will serve as a base for these questions if you delivered it. If you have not delivered the mini-project, the questions for reflection will still be asked but freely to any project then. You will have to reflect and discuss on that project.

The questions are:

1. Project management
   Keywords: People, product and process management, agile values, and principles, agile teams, what needs to be managed, estimation techniques, productivity
   Chapter 3 from Pressman, perspectives on software engineering paper from Zelkowitz
2. SCRUM
   Keywords: comparing sequential approaches with SCRUM
   Chapter 7 from Larman pages 109 – 136
3. XP
   Keywords: comparing sequential approaches with XP
   Chapter 8 from Larman pages 137 – 171
4. UP
   Keywords: comparing sequential approaches with UP
   Chapter 9 from Larman pages 173 – 208

5. EVO
Keywords: comparing sequential approaches with EVO
Chapter 10 from Larman pages 211 – 245

6. Requirements
Keywords: traditional requirements vs. agile
Paper from Nuseibeh & Easterbrook

7. Design
Keywords: Principles, Analysis and Design, Design Techniques, Partitioning, Design Properties, model driven design
Chapter 13 from Pressman, paper from Butler, papers from Mellor, Fowler, Uhl, and Ambler

8. Patterns and Refactoring
Keywords: Principles in patterns and refactoring, modelling
Paper from William G. Griswold and David Notkin, paper from Survey of refactoring from TU Berlin, wikipedia entry for design patterns with references http://en.wikipedia.org/wiki/Design_pattern_(computer_science)

9. Testing
Keywords: Testing Principles, Unit Testing Environment, Agile Testing, Test Driven Development, Test driven development case, Automated Acceptance Testing
papers from Whittaker (2000) and Talby et al. (2006), and Jacques Philippe SAUVÉ on EasyAccept tool

10. Configuration Management
Keywords: configuration management planning, identification of item, versioning, change requests and management, release management
chapter 29 from Ian Sommerville: Software Engineering

11. Risk Management
Keywords: risk management, techniques, agile approaches
Papers from Boehm (1991), Boehm & Turner (2003)

12. Scheduling
Keywords: traditional vs. agile scheduling
measurements in SW projects: Martha M. Gray, tool web site from slides, chapter 11 pages 247 – 292

13. Software Process Modeling
Keywords: Software process as programming, standard based processes, principles, pros, cons
Papers from Osterweil (1987, 1997)

14. CMMI and Software Process Improvement
Keywords: Principles behind CMMI – process programming vs. agile, levels, two approaches to CMMI, agile modifications to software process improvement
CMMI Staged (2002), 1-77, 121-135

Chapters 1 – 6 pages 1 – 107 and chapter 11 pages 247 – 292 from Larman are applicable to all questions.

Peter Dolog, 23. April. 2008, updated 17. May 2008 with page numbers and literature for the questions