

# Planning and Management of Software Projects 2011-12

Last Updated Sunday, 23 March 2014

## 2011-12 Course Syllabus Alerts

9.3.2011 - The Web page of 2012-13 Course is NOW open. This Web page is now closed. The NEW Web page of the 2012-13 Course is available here. [Description](#)

The course provides an overview of the roles, responsibilities, and management methods of the technology project manager. The course assumes no prior knowledge in management techniques and is intended to teach students how to develop approaches and styles of management for software projects. The course assumes a basic understanding of analysis techniques.

- To provide students with a clear understanding of the unique risks, issues, and critical success factors associated with technology projects
- To introduce students to the role and function of project management
- To explain the stages and process of the project life cycle
- To understand the various techniques for planning and managing a technology project
- To examine basic methodologies for software design, development, testing and implementation
- To examine various techniques for managing a software development team
- To understand the need and techniques for managing users and user expectations
- To learn project planning techniques through the use of Microsoft Project Grading
- 35% Midterm test
- 35% Final test
- 30% Homeworks

NOTE for students that cannot take midterm and final exam during the term: these students are expected to take both the tests in any exam session and to submit homeworks one week before the chosen exam session. Home works

Students are required to work in team (up to 4 people) and to prepare 4 homeworks during the course. To register your project please fill in this form. Please, also write an email to Dario Cerizza (dariocerizza -at- gmail.com) putting [PMSP] in the subject to report him that you have just submitted a new project. Dario Cerizza will create and share with you a dropbox (<https://www.dropbox.com/>) folder where you will upload the homework assignments. You will receive an email from dropbox as soon as the folder will be available. You should upload your homework assignments in that shared folder. HomeworkScore

What When 1

7 points Statement of Work for your project [doc template] class 5 26.3.2012 7 points

Initial Work Breakdown Structure (WBS) for your project

class 9 16.4.2012 34 points Software Factory set-up for your project CANCELLED

class 20 18.6.2012 415 points Develop a final project plan in MS Project (including durations, resources, links, successors & predecessors) for your project Final review 20.6.2012

Textbooks

- Rapid Development, McConnell, Steve, Microsoft Press, 1996, ISBN 1-55615-900-5.
- Information Technology Project Management, Schwalbe, Kathy, 2nd ed., Course Technology, 2002, ISBN 0-619-03528-5 (this text includes a 120 day evaluation copy of MS-Project 2000).

Notes

- For those students that follow the classes, the slides published on the class web site may be sufficient.
- During the term readings from online resources will be also assigned. Students will be given the appropriate URLs during class and these will be listed on the class web site. Software
- MS Project <http://office.microsoft.com/project> available in A3.3 Classes

Class

Topic

Optional Reading/Homework

Class 1

12/3/2012

Course Overview [PDF]

- Course Introduction
- Project Management (PM) Fundamentals

- The PM field and job market
- People, Process, Product, Technology

## Class 2

14/3/2012

### Classic Mistakes [PDF]

- 36 Classic Mistakes [LINK]
- a case study [LINK/PDF] annotated with classic mistakes [PDF]

## Class 3

19/3/2012

### 3 hours! Understanding Software Project Management [PDF]

- PMI fundamentals and processes
- Project selection
- Statement of Work (SOW)
- Project charter (Homework-1 Template) Readings (prior to this session):
- McConnell: chapters 1-4

## Class 4

21/3/2012 More on Software Project Management [PDF]

- Project and Organizations
- Project Portfolio Management
- Procurement Management Readings (prior to this session):
- Schwalbe: chapters 1-2, 11 "Project Procurement Management" (336-345)

## Class 5

26/3/2012

### 3 hours! Planning Phase (part I) [PDF]

- Project Phases
- Development lifecycle models Readings:
- McConnell: 7 "Lifecycle Planning"
- Schwalbe: 3 "Project Integration Management" (62-67), 4, "Project Scope Management" Homework 1 Due:
- Project Charter for your project
- please use this template [doc]

## Class 6

28/3/2012 Planning Phase (part II) [PDF]

- Matching lifecycles to projects
- Project plans

### Readings:

- How to Fail with the Rational Unified Process: Seven Steps to Pain and Suffering

## Class 7

2/4/2012

### 3 hours! Work Breakdown Structures [PDF]

- Planning vs. Estimating vs. Scheduling
- What's a WBS?
- Types and Formats of WBS
- Techniques to develop a WBS
- Guidelines

## Readings:

- Fairley 183-194 "Work Breakdown Structures";
- Seven steps to better brainstorming

## Class 8

4/4/2012

## Estimation Techniques [PDF]

- Estimation
- Cone of Uncertainty
- Methodologies
- Guidelines

## Readings:

- McConnell: 8 "Estimation"
- Schwalbe: 6, "Project Cost Management" (157-175) Class 916/4/2012 3 hours!

## Scheduling [PDF]

- Project network diagram fundamentals
- PERT techniques
- Gantt charts
- Critical chain scheduling
- Mid-term Exam Preview [pdf] Readings:
- McConnell: 9, "Scheduling"
- Schwalbe: 5, "Project Time Management" Homework 2 Due:
- Initial Work Breakdown Structure (WBS) for your project 2/5/2012 Mid-Term Exam

## Class 10

7/5/2012

3 hours!

## Room 3.2 Hands-on MS Project (part I) [PDF]

- Using MS Project
- additional material [mpp]

## Readings:

- Appendix A "Guide to Using Microsoft Project 2000" (447-477) Class 1114/5/2012 Risk Management [PDF]

- Definitions
- Types of risks and unknowns

- Risk assessment
- Risk control
- List of Schedule Risks by McConnell [PDF]
- Examples of Risk Management Plans
- My Service Finder Project [PDF]

- McConnell's [PDF]
- Sample Top 10 Risks List by McConnell [PDF]

## Readings:

- McConnell: 5 "Risk Management"
- Schwalbe: 10, "Project Risk Management"

## Class 1216/5/2012

## People Dimension [PDF]

- Project Roles
- Staffing profile

- Hiring
- Team models and successful projects
- The mythical Man-Month
- Optimal team size
- Tools: RAM and Skill Matrix

Readings:

- McConnell: 11 "Motivation", 13 "Team Structure"
- Schwalbe, 8, "Project Human Resource Management"

Class 13

21/5/2012

More on requirements [PDF]

- Class 5 review
- Requirements Gathering Techniques
- Other Tips

Class 14

24/5/2012 Change Management [PDF]

- Feature-set Control
- Change Control
- McConnell's example of Change Control Procedure [PDF]

Readings:

- McConnell: 14 "Feature-Set Control"

Class 15

28/5/2012

3 hours!

Room 3.2 Hands-on MS Project (part II) [PDF]

- Resource Levelling
- additional material
- Schedule refined [mpp]
- Resource Levelled [mpp] Class 1630/5/2012
- Project Quality Management [PDF]
- Test specifications
- Black box and white box testing
- Test scripts
- Unit and integration testing
- Acceptance test specifications
- Test tools Readings:
- Schwalbe: 7 "Project Quality Management" Class 174/6/2012 3 hours!

Project Control [PDF]

- Progress Monitoring
- Status reporting
- Earned value analysis
- example 1 [XLS]
- example 2 [XLS] Reading:
- McConnell: 17-19
- Schwalbe, 6 "Project Cost Management" (175-184), 9 "Project Communication Management", 15 "Controlling" Class 18 6/6/2012

Final Stages [PDF]

- Final Steps

- Example of deployment check list [PDF]
- Maintenance
- Project Recovery
- Post Project Reviews
- A template [PDF ]
- Success
- statistics [link]
- Tips
- Capability Maturity Model (CMM)
- Final exam pre-view [PDF]

#### Readings:

- McConnell: 16 "Project Recovery"
- Schwalbe: 16 "Closing"

#### Class 19

11/6/2012 3 hours! Room 3.2

#### Software Factory (part I)

- Introduction and homework 3 preliminary description [PDF]
- Instrumenting code: Logging [PDF]
- Testing code: Junit [PDF]
- Code shown during the lesson [ZIP]      Class 20 18/6/2012 3 hours! Room 3.2

#### Software Factory (part II) [PDF]

- building code: maven [PDF]
- Track configurations: SVN [PDF]
- homework 3 assignement [PDF] CANCELLED

#### Homework 3 Due:

- See slides presented in the first lab about software factory and the assignment presented in the second lab  
CANCELLED

#### Class 21

20/6/2012

#### Room Vs.8

#### Final Exam

- Final exam pre-view [PDF]
- Homework 4 Due:
  - Develop and submit a copy of the final project plan (include durations, resources, links, successors & predecessors) for your project      Class Projects and Policies
  - Homework Policy: Unless otherwise noted, homework is due in the class following the assignment. Homework should be printed and legible.
  - Team Project Policy: maximum 3 people per team Acknowledgements
  - This course is largely based on Prof. John Musser class notes on "Principles of Software Project Management"
  - Original information is available at <http://www.projectreference.com/>
  - Reuse and republish permission was granted.