

# Planning and Management of Software Projects 2013-14

Last Updated Friday, 20 February 2015

2013-14 Course Syllabus Alerts

29.6.2014 - The results of the Final Review and the final marks are now published.

17.6.2014 - The slides of Final Review Preview were updated adding requirement gathering techniques.

13.6.2014 - The slides of the class 19 and of the Final Review Preview are now published

11.6.2014 - The slides of the class 18 are now published

9.6.2014 - The Final Review will take place in room VS9.

5.6.2014 - The slides of the class 17 are now published  
3.6.2014 - The results of the Mid-term Review are now published.

3.6.2014 - The slides of class 16 are now published.

19.5.2014 - The slides of class 15 are now published.

6.5.2014 - Class 14 on "risk management" scheduled for 14.5.2014 is cancelled. The content will be presented during class 13 on 12.5.2014

6.5.2014 - The slides of class 12 are now published.  
21.4.2014 - The Mid-term Review will take place in room VS7.

16.4.2014 - The slides of class 11 and Mid Term Preview are now published.

12.4.2014 - The slides of class 10 are now published.

7.4.2014 - The slides of class 9 are now published.

6.4.2014 - The slides of class 8 are now published.

30.3.2014 - The slides of class 6 and class 7 are now published.

27.3.2014 - The case study annotated with classic mistakes is now published [pdf].  
23.3.2014 - The slides of class 4 and class 5 are now published.

15.3.2014 - The slides of class 2 and of class 3 are now published.

9.3.2014 - The slides of class 1 are now published.

5.3.2014 - The Web page of 2013-14 Course is NOW open. As in the past years, the Web page of 2012-13 Course will be no longer maintained and all information concerning 2013-14 Course will appear here.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 tests during the term: these students can choose any exam

session and they must submit homeworks one week before the exam. The exam consists in the midterm and final tests.  
Home works

Students are required to work in team (up to 3 people) and to prepare 3 homeworks during the course. To register your project please fill in this form. Please, also write an email to Dario Cerizza (darioocerizza - at - gmail.com) putting [PMSP2014] in the subject to report me that you have just submitted a new project. I 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.

Homework

Score

What

When 1

7 points

Project Charter for your project (template)

26.3.2014

2

7 points

Initial Work Breakdown Structure (WBS) for your project

9.4.2014

3

17 points

Develop a final project plan in MS Project (including durations, resources, links, successors & predecessors) for your project

23.6.2014

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 A3.4 Classes

Class

Topic

Optional Reading/Homework

Class 1

10.3.2014

Course Overview [pdf]

- Course Introduction
- Project Management (PM)
- Fundamentals
  - The PM field
  - People, Process, Product, Technology

- Assignment of a pico-project: make a good-looking paper airplane

Class 2

17.3.2014

Classic Mistakes [pdf]

- Class 1 review
- Student's presentation about the pico-project: make a good-looking paper airplane
- 36 Classic Mistakes [pdf]
- a case study [pdf]
- the case study annotated with classic mistakes [pdf]

Class 3

19.3.2014

Understanding Software Project Management [pdf]

- Class 2 review (and, if needed, completion)
- PMI fundamentals and processes
  - Project selection
  - Statement of Work (SOW)
  - Project charter
- homework 1 assignment (template)

Readings (prior to this session):

- McConnell: chapters 1-4

Class 4

24.3.2014

More on Software Project Management [pdf]

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

Class 5

26.3.2014

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

31.3.2013

- 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

2.4.2014

Work Breakdown Structures [pdf]

- Planning vs. Estimating vs. Scheduling
- What's a WBS?
- Types and Formats of WBS
- Techniques to develop a WBS
- Guidelines
- homework 2 assignement

Readings:

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

Class 8

7.4.2014

Estimation Techniques [pdf]

- Estimation
- Cone of Uncertainty
- Methodologies
- Guidelines

Readings:

- McConnell: 8 "Estimation"
- Schwalbe: 6, "Project Cost Management" (157-175)

Class 9

9.4.2014

Scheduling (theory) [pdf]

- Project network diagram fundamentals
- Gantt charts

- Critical chain scheduling

Readings:

- McConnell: 9, "Scheduling"
- Schwalbe: 5, "Project Time Management"

Homework 2 Due:

- Initial Work Breakdown Structure (WBS) for your project

Class 10

14.4.2014

room 3.4

Hands-on MS Project (part I)[pdf]

- Using MS Project
- additional material [zip]
- Homework 3 assignment

Readings:

- Schwalbe: Appendix A "Guide to Using Microsoft Project 2000" (447-477)

Class 11

16.4.2014

Scheduling (practice) [pdf]

- PERT techniques
- Exercises on scheduling and critical path
- Mid-Term test pre-view [pdf]

5.5.2014

room VS7

Mid-Term test [pdf]

Class 12

7.5.2014

More on requirement [pdf]

- Class 5 review
- Requirements Gathering Techniques
- Other Tips
- tools for requirement management

Class 13

12.5.2014

Change Management [pdf]

- Feature-set Control
- Change Control

- McConnell's example of Change Control Procedure [pdf]
- Project recovery

#### Readings:

- McConnell: 14 "Feature-Set Control"

#### Class 14

14.5.2014

The content of this class is presented together with class 13

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

#### Readings:

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

#### Class 15

19.5.2014

#### 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 16

4.6.2014

#### 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 17

9.6.2014

room 3.4

Hands-on MS Project (part II) [pdf]

- Resource Levelling
- additional material
- Schedule refined [mpp]
- Resource Levelled [mpp]

Class 18

11.6.2014

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 19

16.6.2014

Final Stages [pdf]

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

Readings:

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

23.6.2014

room VS9

## Final Test [pdf]

### Homework 3 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.