COURSE PRESENTATION FORM – ACADEMIC YEAR 2010/2011

COURSE NAME	**Requirements and Design of Software Systems**
COURSE CODE	72016 (MSc New – DM 270) / 70225 (MSc Old – DM 509)
LECTURER	Gabriella Dodero (first half of lectures), Andrea Janes (second half of lectures)
TEACHING ASSISTANT	Andrea Janes
TEACHING LANGUAGE	English
CREDIT POINTS	8
LECTURE HOURS	48
EXERCISE HOURS	24
TIME SPAN	27.09.2010 - 21.01.2011
TIME TABLE	See Timetable Page
OFFICE HOURS LECTURER	Gabriella Dodero: During the lecture time span, TBD, Faculty of CS, POS Building, piazza Domenicani 3, office 1.13 Andrea Janes: During the lecture time span, TBD, Faculty of CS, POS Building, piazza Domenicani 3, office 1.11
OFFICE HOURS TEACHING ASSISTANT	During the lecture time span, TBD, Faculty of CS, POS Building, piazza Domenicani 3, office 1.11
PREREQUISITES	A BSc in Computer Science, preferably with basic courses on Software Engineering.
OBJECTIVES	Students will acquire theoretical insights and practical experience from processes, tools and techniques that are used in requirements engineering in traditional, agile, open source, and also large-scale software development. Subsequently, they will understand how to design a software architecture that supports the collected requirements.
SYLLABUS	• Introduction to Requirements Engineering • Data and functional requirements • Quality requirements • Requirements Elicitation • Checking and validation of requirements • Architectural Structures and Views • Architecture and Quality Attributes • Architecture in the Life Cycle • Evaluating Architectures through ATAM

- Case studies:
  - Service oriented architectures
  - Architectures for Product Linses
  - The architectural process in agile environment

TEACHING FORMAT

Lectures, exercises in lab, project activity in pairs of students.

ASSESSMENT

- Project (weights 50% of the final mark)

plus

- Oral exam (50% of the final mark)

The project shall consist of two parts: the first part comprises requirements [25% of the marks], and the second part comprises design (for the same project topic!) [25% of the marks].

The part on requirements can be delivered as midterm, or together with the part on design. If delivered as midterm, and approved by teachers, it is valid until the exam is taken for the first time (at any of the three calls).

If the student fails the project, or the oral, the project is discarded and a new complete project (part on requirements + part on design) has to be resubmitted at a next call.

READING LIST

- S. Lauesen: Software Requirements, Styles and techniques
- L. Bass, P. Clements, R. Kazman: Software Architecture in Practice (2nd Edition)
- Slides, reading materials etc. (available from teacher´s website)

SOFTWARE USED

- Eclipse

LEARNING OUTCOME

The following generic skills are trained in the course:

- Planning and time management
- Critical thinking
- Information search
- Problem solving
- Analytical ability
- Team work

On completion of the course the student will be able to:

- understand the problems related to requirements engineering such as the ambiguity, quality or change of requirements understand security issues during requirement engineering
- use tools and techniques in order to elicit, specify and manage requirements according to the company-specific environment
- understand how to design software architectures based on the requirements coming from the stakeholders
- understand how to assess software architectures based on the trade-offs between architectural choices

COURSE PAGE https://www.teleacademy.it/