COURSE PRESENTATION FORM – ACADEMIC YEAR 2010/2011

COURSE NAME	**Seminar in Human-Machine Interaction**
COURSE CODE	72021 (MSc 270)
LECTURER	Antonella De Angeli
TEACHING ASSISTANTS	--
TEACHING LANGUAGE	English
CREDIT POINTS	4
LECTURE HOURS	24
EXERCISE HOURS	12
TIME SPAN	27.09.2010 - 21.01.2011
TIME TABLE	See Timetable Page
OFFICE HOURS LECTURER	During the lecture time, Friday 14:00-15:00, Faculty of CS, POS Building, piazza Domenicani 3, office 2.10
OFFICE HOURS TEACHING ASSISTANT	--
PREREQUISITES	None.
OBJECTIVES	This course aims to provide students with an understanding of concepts and techniques for designing usable and engaging interactive systems. The course will complement an in depth review of usability engineering with basic knowledge of cognitive processes necessary to operate interactive systems and of the social impact of technology. A major emphasis will be devoted to practical aspects of user-centred design, including requirements elicitation, prototyping and evaluation.

SYLLABUS	• User-centred design life-cycle
	  ○ Requirements analysis
	  ○ Formative evaluation
	  ○ Low, medium, and high fidelity prototypes
	  ○ Summative evaluation and quality assurance
	• User-centred design methods and techniques
	  ○ Requirements analysis techniques (scenarios, storyboards, brainstorming, prototyping, use cases)
	  ○ User modelling and task analysis (task support design, deriving functional and non functional requirements)

- Usability evaluation methods (usability evaluation, field study, analytical evaluation)
- User-centred design components
  - User interface, design process, dialogue specification, presentation & multimedia design.
  - Socio-technical system design (work load and job role design, system environment)
  - Help and user documentation (design for system support, operating procedures and training).
- Elements of cognitive psychology and the psychology of the user
  - Perception, memory, attention, decision making, problem solving and language, model human processor, distributed cognition)
  - Implications for design (mental models, metaphor, affordance, slip, mistake)

TEACHING FORMAT

Frontal lectures, labs, projects in teams.

ASSESSMENT

- Project [40 % of mark]

+

- Final exam (oral examination) [60 %]

The project is a group-based user-centred design-exercise.

The exam is a pass/fail.

READING LIST

Core text:

- Sharp, H., Rogers, & Y., Preece, J. Interaction Design: Beyond human-computer interaction. (2007), John Wiley & Sons, Inc

Supplementary texts

- Dix, A., Finlay, J., Abowd, G. D., & Beale, R. (2004). Human-Computer Interaction (third Edition): Pearson Prentice Hall.
- Benyon, D., Turner, P., & Turner, S. (2005). Designing Interactive Systems. Harlow England: Addison-Wesley.

Students are expected to study the required reading after the relevant teaching session.
In addition, students need to develop their own understanding of the course issues through reading of academic journal articles. The following journals are useful sources:

- Human-Computer Interaction
- International Journal of Human-Computer Studies
- ACM Transactions of Computer Human-Interaction

SOFTWARE USED

None.

LEARNING OUTCOME

On successful completion of this module, students should be able to demonstrate the following skills.

Academic Knowledge

- Understand principal methods and techniques of user-centred design to complement software engineering development.
- Apply methods and techniques for understanding and documenting users carachteristics and their needs, and for translating those needs into requirements and design specifications
- Evaluate the usability of user interfaces.

Intellectual Skills

- Demonstrate an understanding of user-centred design and its contribution to software success.

Subject Practical Skills

- Improve design skills.
- Observe and understand user behaviour

Transferable Skills

- Demonstrate report writing, presentation and communication skills.
- Improve deductive reasoning.
- Improve team-work.

COURSE PAGE

http://disi.unitn.it/~deangeli/homepage/doku.php?id=teaching:hmi