**Specialist Module with Workshop: Ergonomics and User Experience**

## Prof. Maurizio Mauri

***COURSE AIMS AND INTENDED LEARNING OUTCOMES***

The aim of the course is to provide students with the necessary theoretical, technical and operational skills for planning and managing assessments of *environments* (digital, virtual and physical), *interfaces* and/or *technologies*, whether included in work processes and/or in daily use.

***COURSE CONTENT***

The course includes a *theoretical part,* a *methodological* part and a *practical part.*

The *theoretical* part deals, from a historical perspective, with the different disciplines that share an interest in technology evaluation. The theoretical topics covered will be: *Ergonomics*, the *Human Factor*, *Usability principles* according to Don Norman and Peter Morville, the *User Experience*, Jakob Nielsen's *Heuristics*, *Design for All,* *User Centred Design,* *Emotional Design* in terms of “*Hedonomics”*, the *User Centred Culture*; the theoretical topics are presented in terms of their main assumptions and objectives, in order to provide an integrated view of the important elements when assessing environments, interfaces and technologies.

The *methodological* part focuses on the functions and usage modalities of certain key instruments drawn from the above-mentioned disciplines. In particular, the course explores the following:

1. The *evaluation of usability* according to the principles of Norman and Morville
2. The *Usability Inspection* and *Cognitive Walkthrough*
3. The *heuristic analysis* according to J. Nielsen;
4. The *User Experience test*, *the Think Aloud and the retrospective Think Aloud*;
5. The use of types of *Targeting*, definition of *Personas* and *Empathy Maps*;
6. The analysis of *Information Architectures* according to a *Multicultural Approach*;
7. *Methods* based on *Eye-Tracking,* automatic facial expression measurement and neuro- and psycho-physiological measurements;

The *practical* part consists of tutorials, individual and/or in small groups, focused on experiential learning of some methods listed above, reworked in the form of summaries (in Word, Excel and/or PowerPoint) to be emailed to the lecturer. All papers will be assessed on the work done by the student, aimed at improving the application of the theoretical principles and methods applied in the practical activities.

***READING LIST***

S. Triberti-E. Brivio, *User Experience: Psicologia degli Oggetti,* degli Utenti e dei Contesti d’Uso, Maggioli, Milan, 2017.

F. Di Nocera, *Ergonomia Cognitiva,* Carocci, Rome, 2011.

D. Benyon, *Progettare l’interazone. Metodi e Tecniche per il design di media interattivi,* edited by G. Riva, Pearson, London, 2011.

***TEACHING METHOD***

Frontal lectures in the classroom and guided practical work.

***ASSESSMENT METHOD AND CRITERIA***

The assessment is based on individual and/or group papers submitted by the students, who agree a website, technological service, technology-mediated activity or specific case-history analysis with the lecturer as the subject for their assessment; in their papers, students apply one or more of the techniques learned in the course. Each attending student receives an assessment on their individual and/or group paper, with the assessment shared by the lecturer with the student individually, so giving them a chance to integrate the changes required in order for their paper to be considered a successfully passed interim test. Attending students who obtain a positive assessment for all the interim tests represented by the papers (a minimum of 4 or 5) need not take the oral exam, since their assessment is based on the successful completion of all the interim tests. For non-attending students, the assessment is based on an individual interview with the lecturer, focused in particular on the ability to explain the techniques presented in the course and their theoretical relevance. The interview also includes questions on the topics addressed in class and the contents of the compulsory reference text ("*User Experience: Psychology of Objects, Users and Contexts of Use*", see Reading List).

***NOTES AND PREREQUISITES***

Further information can be found on the lecturer's webpage at http://docenti.unicatt.it/web/searchByName.do?language=ENG or on the Faculty notice board.