UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

# COURSE SYLLABUS

# Human Computer Interaction

**2526-3-E3101Q120**

## Aims

At the end of the course, students will have acquired the ability to design and critically evaluate the user interface and the interaction modes offered by an interactive computer system, to design and prototype high quality interfaces, and to evaluate their usability through user-centered testing techniques and metholdologies. So, at the Dublin descriptors level, DdD 1 (Knowledge and understanding), students will learn the major evaluation techniques and the most popular evaluation tools; regarding DdD 2 (ability to apply knowledge and understanding) students will learn how to conduct a usability evaluation at a professional level.

## Contents

The human-machine interaction and the human-human interaction mediated by machines, the user experience, the usability and the engagement are presented as new dimensions of the engineering of interactive computer systems, and taken as reference to become precise high-level objectives for the learning and application of design, development, evaluation and evolution techniques of such interactive systems. The course presents the "user-centered" and "socio-technical" approach to the project, design and development of interactive systems that are then adapted in human and social contexts (community of people), with particular emphasis on the collection and analysis of requisites, prototyping and impact assessment.

## Detailed program

1 Introduction and historical framing of the discipline.

2 The human user.

3 The machine and the Interaction modes.

4 Usability and Accessibility.

5 Usability engineering. Evaluation of interactive systems.

6 User-centered design. Requirement elicitation and analysis.

7 Design and development of the project work

## Prerequisites

None

## Teaching form

Frontal instruction lessons, held in Italian, hands-on labs (also on rapid prototyping tools such as POP, Marvel, and Figma), in-depth seminars, project review meetings.

The lecturer lectures in which he starts with an initial part in which concepts are laid out (erogative mode) and then opens up an interaction with students that defines the next part of the lecture (interactive mode).

Lessons will be held in presence, unless further pandemic-related restrictions are imposed.

In case of pandemic-related emergency, the frontal and laboratory lessons will be mainly synchronous via Google Meet or equivalent platform as indicated in the course Web site.

## Textbook and teaching resource

Slideware by the teacher (mostly in Italian, occasionally in English, not necessarilty on the whole course).
Collective collaborative notes.

## Semester

First Semester

## Assessment method

No mid-term assessment. The final grade is the average of two assessments: one for a written examination, to be held online, at the lab (or remotely if imposed by emergency measures), which mainly encompasses closed-ended

questions and a couple of open-ended question (mostly on the material presented in class, but some could also require some logic inference); the second one regards a project work to make in team (with clear responsibilities for each section) in which the students are supposed to apply the methods and techniques shown in class to compare two or more systems' usability. A final oral examination, which is a group discussion of the project with questions addressed to individual members of the group, will close the assessment. Extra activities are assigned to students, who voluntarily want to get additional points that increase the grade of the writing examination (before actually performing it). It is necessary to read a book among those proposed by the teacher (available extra points).

## Office hours

By appointment, and at the end of each lecture.

## Sustainable Development Goals

RESPONSIBLE CONSUMPTION AND PRODUCTION