Fakultät für Informatik
Facoltà di Scienze e Tecnologie informatiche
Faculty of Computer Science

COURSE DESCRIPTION – ACADEMIC YEAR 2022/2023

Course title	**Human-Computer Interaction**
Course code	73060
Scientific sector	INF/01
Degree	Master in Computational Data Science (LM-18)
Semester	2
Year	1
Credits	6
Modular	No

Total lecturing hours	40
Total lab hours	20
Attendance	Attendance is compulsory for students wanting to engage in the course work-based assessment. Non-attending students have to contact the lecturer at the start of the course to agree on the modalities of the independent study.
Prerequisites	
Course page	https://ole.unibz.it/

Specific educational objectives	The course belongs to the type "caratterizzanti – discipline informatiche" in the curriculum “Data Management”. The course is designed to give attending students first-hand experience of an interaction design project following the three basic steps of requirements elicitation, design and evaluation. Students will be provided with a general overview to research in Human-Computer Interaction, User-Centered Design and Social Innovation. In parallel, they will work on the design of a complementary digital currency for a scenario of their choice, systematically applying the lecture topics in group exercises and individual work. After successful attendance, the students are expected to acquire substantial professional skills and knowledge. Non attending students will cover the same scientific content and will be given a set of structured exercises to support the individual elaboration of professional skills.

Lecturer	Antonella De Angeli
Contact	POS 3.09, antonella.deangeli@unibz.it, +39 0471 016041
Scientific sector of lecturer	INF/01
Teaching language	English
Office hours	Upon e-mail appointment
Lecturing Assistant (if any)	--
Contact LA	--
Office hours LA	--
List of topics	● PACT framework: People Activities Context Technology ● Design principles ● Quality metrics: usability, user experience, engagement ● Cognitive processes: attention, perception and memory

	• Evaluation and empirical research • Data analysis and visualisation: statistical considerations
Teaching format	Service Learning with a mix of frontal lectures, hands-on activities, invited presentations, students' active engagement.

Learning outcomes	Knowledge and understanding: • D1.2 - Understanding of the skills, tools and techniques required for an effective use of data science • D1.9 - Knowledge of the challenges in the field of man-machine interface and of the methods and techniques for overcoming these challenges Applying knowledge and understanding: • D2.9 - Design, application and evaluation of technologies and tools for human-machine interaction, data exploration and data visualization Making judgments • D3.2 - Ability to autonomously select the documentation (in the form of books, web, magazines, etc.) needed to keep up to date in a given sector Communication skills • D4.1 - Ability to use English at an advanced level with particular reference to disciplinary terminology • D4.2 - Ability to present one's work in a clear and comprehensible way in front of an audience, including non-specialists • D4.3 - Ability to structure and draft scientific and technical documentation • D4.5 - Ability to interact and collaborate in the implementation of a project or research with peers and experts Learning skills • D5.1 - Ability to autonomously extend the knowledge acquired during the course of study

Assessment	The course is heavily project based and attendance is strongly recommended. Non-attending students will not be engaged in the practical project and alternative assessment method will be provided. Assessment for Attending students • **Group project work** • Low fidelity prototyping in the form of personas and scenarios due Beginning of November. The groups will present their own solution in the class and participate to a design critique (20%) • Written project report done in groups (Max 10 page) to be delivered two weeks before the students sit the oral exam (40%). • Individual oral examination with presentation of the final prototype to evaluate the results of the project, test knowledge acquisition, and verify individual contribution to the group work (40%).

	Assessment for Non attending students • **Individual examination** • Course-work: the students will be given a design topic and required to develop a user-centred methodology for it, engage in conceptual design, low to mid-fidelity prototyping (50%) • Oral exam with evaluation of the written exam files, to test knowledge acquisition, and verify individual contribution to the group work (50%).
Assessment language	English
Assessment Typology	Monocratic
Evaluation criteria and criteria for awarding marks	Final mark for attending students: Low fidelity prototype (20%) + Project report (40%) + Individual oral exam (40%). All parts must be sufficient to sit the oral exam Evaluation Criteria for attending students: • Low fidelity Prototype and Project report: ability to work in a team, creativity, skills in critical thinking, ability to summarize in own words, methodological rigor. • relevant for assessment 3: clarity of answers, mastery of language (also with respect to teaching language), ability to summarize, evaluate, and establish relationships between topics; Final mark for non-attending students: Written examination (50%)+ Oral examination (50%) Evaluation Criteria for non-attending students: • Written exam: methodological rigor, creativity, skills in critical thinking, ability to summarize in own words, clarity of answers, mastery of language (also with respect to teaching language), ability to summarize, evaluate, and establish relationships between topics; • Oral Exam: clarity of answers, mastery of language (also with respect to teaching language), ability to summarize, evaluate, and establish relationships between topics.

Required readings	Sharp, H., Rogers, Y., & Preece, J. (2019). Interaction Design: Beyond human-computer interaction. New York: John Wiley & Sons, Inc. . 5th Edition. Subject Librarian: David Gebhardi, David.Gebhardi@unibz.it
Supplementary readings	Selected papers will be suggested after each lecture.
Software used	--