

SYLLABUS COURSE DESCRIPTION

COURSE TITLE	Human-Centered GUI Design
COURSE CODE	76229
SCIENTIFIC SECTOR	INF/01
DEGREE	Bachelor's in Computer Science
SEMESTER	1st
YEAR	3rd
CREDITS	6
TOTAL LECTURING HOURS	40
TOTAL LAB HOURS	20
ATTENDANCE	<p>Attendance is not compulsory but warmly recommended for the successful fulfilment of the course.</p> <p>Students will have the possibility to attend the first 2/3 lessons before deciding where to attend or not the course.</p> <p>Attending students will have to attend both theory and lab lessons and to work in groups.</p>
PREREQUISITES	None
COURSE PAGE	https://ole.unibz.it/
SPECIFIC EDUCATIONAL OBJECTIVES	<p>Type of course: caratterizzanti</p> <p>Scientific area: discipline informatiche</p>
LECTURER	Eleonora Mencarini
SCIENTIFIC SECTOR OF THE LECTURER	INF/01
TEACHING LANGUAGE	English
OFFICE HOURS	Before or after the lesson. Please, set first an appointment by email. Office POS 1.04, first floor, Faculty of Computer Science, piazza Domenicani 3

TEACHING ASSISTANT	Linda Tonolli
OFFICE HOURS	Before or after the lab. Please, set first an appointment by email. office POS 1.04, first floor, Faculty of Computer Science, piazza Domenicani 3
LIST OF TOPICS COVERED	<ul style="list-style-type: none"> • Introduction to the history of Human Computer Interaction (HCI) • User-centered design (UCD) approach and Design Thinking • Design approaches and methods: formal, informal • Psychology of interaction: essentials, with a focus on attention, visual perception, and memory • GUIs design principles and patterns • Introduction to evaluation methods: ethical concerns, expert-based evaluation and user-based evaluation
TEACHING FORMAT	<p>Lectures and lab workshops.</p> <p>The course adopts a learning-by-doing approach with in-presence formative feedback both during theoretical lectures and lab hours.</p>

LEARNING OUTCOMES	<p>Knowledge and understanding:</p> <ul style="list-style-type: none"> • Gain a solid knowledge of the theoretical foundations of computer science • Develop a deep knowledge of key principles, techniques and methodology for software design, development, and maintenance <p>Applying knowledge and understanding:</p> <ul style="list-style-type: none"> • Ability to apply knowledge to the analysis, design, development and evaluation of hardware and software systems which satisfy set requirements • Ability to select and use innovative technologies and apply sound methodologies to the application context and problem <p>Making judgments:</p> <ul style="list-style-type: none"> • Ability to collect and interpret useful data for autonomous judgement of information systems and their usage • Ability to engage in reflection on ethical and socioeconomic issues connected to information system <p>Communication skills:</p> <ul style="list-style-type: none"> • Ability to structure and write technical documentation • Ability to work in group for designing computing systems <p>Learning skills:</p> <ul style="list-style-type: none"> • Acquiring abilities necessary for autonomous study • Acquiring abilities necessary to develop projects in companies, institutions or development communities, including distributed ones.
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ASSESSMENT	<p>The assessment will be done on the basis of 2 outputs:</p> <ul style="list-style-type: none"> • A project: students will be working on a project to address a design problem and offer a solution through the prototype of a graphical user interface. Besides the prototype, students will have to prepare a report in which they will describe each phase of the work and will
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	<p>explain the design choices they made. For attending students, the project will be a group work, whereas for not attending students will be an individual work.</p> <ul style="list-style-type: none"> • A written exam to assess the acquisition of knowledge <p>The project report must be min. 10 max. 15 pages long and must include the following sections:</p> <ul style="list-style-type: none"> • <u>Introduction</u>: description of the design problem considered and explanation of its criticalities • <u>PACT analysis</u> • <u>Data collection & analysis</u>: description of the data collection procedure, analysis, findings, and user requirements • <u>Design</u>: Personas, Concepts, Scenarios • <u>Low Fidelity Prototype</u>: justification of the main design choices and flowchart presentation • <u>First Evaluation</u>: procedure and results • <u>Medium Fidelity Prototype</u>: justification of main design choices in relation to the design principles addressed during the lessons and link to the interactive prototype • <u>Second Evaluation</u>: procedure and results • <u>Conclusion</u>: critical reflection on the project, including what the students have learned, what aspects they would have improved if the project could be redone from scratch, how the project could be carried on. <p>All documentation related to the project elaboration (e.g. interviews, questionnaires, previous versions of the prototype, etc.) must be stored in an online repository (OLE, Gdrive, Dropbox, etc.) that has to be accessible to the examiners.</p> <p>Assessment for attending students Attending students will receive an assessment based upon the group project and the written exam.</p> <p>Assessment for non-attending students Non-attending students will have to conduct the project individually. They will receive an assessment based upon the individual project and the written exam.</p>
<p>ASSESSMENT LANGUAGE</p>	<p>English</p>
<p>EVALUATION CRITERIA AND CRITERIA FOR AWARDING MARKS</p>	<p>The evaluation criteria for project report are:</p> <ul style="list-style-type: none"> • Conceptual quality of the content, including the level of the critical reflection in relation to the topics presented during the lessons • Clarity of the explanation of the design choices • Originality, creativity, and innovation of the proposed solution • Complexity and coherence of the interactive prototype in relation to the theoretical aspects presented during the lessons • Clarity of the text, in terms of content (appropriation of specific technical terms), layout (including figures, tables), ability to summarize in own words. <p>The evaluation criteria for written exam are:</p> <ul style="list-style-type: none"> • Conceptual quality of the content, including the level of the critical reflection in relation to the topics presented during the lessons

	<ul style="list-style-type: none"> • Clarity of the explanations, appropriation of specific technical terms, ability to summarize in own words. <p>The final mark is the average between the written exam mark and the project report mark.</p> <p>Students must take a sufficient mark in both the report and the written exam.</p> <p>Attending students who take a non-sufficient mark or refuse the mark, at the next examination round will have to rewrite the report individually, improving the previous version with the indications provided in the examiner's assessment.</p>
<p>REQUIRED READINGS</p>	<p>Benyon, D. (2019). Designing User Experience: a guide to HCI, UX and interaction design. Pearson UK.</p>
<p>SUPPLEMENTARY READINGS</p>	<p>Further recommended readings will be assigned weekly during classes.</p>
<p>SOFTWARE USED</p>	<p>Students will learn to master a mix of digital and non-digital tools to build their projects: pencil and paper (free :)), Scenes by SAP (free), your smartphone camera, Balsamiq (trial version), Figma (free for students)</p>