



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Computer and Graphics for The Web

2526-3-E2004P028

Learning area

3: Techniques, tools, and technologies of communication.

Learning objectives

Knowledge and Understanding

- Students will learn methods for the design, prototyping, and usability evaluation of web interfaces. They will also acquire basic knowledge of HTML/CSS and practical skills with prototyping tools for web applications. They will develop a critical attitude toward the entire web application development process and understand the fundamental principles of User-Centered Design, which emphasizes the importance of understanding user needs and meeting usability and utility requirements.

Ability to Apply Knowledge and Understanding

- By the end of this course, students will be able to apply the knowledge, understanding, and practical skills acquired to systematically evaluate the usability of web interfaces and to design and prototype web applications that are useful, easy to use, and of high communicative quality.

Making judgements

- Through the project activities planned in the course and the interaction with the instructor during project tutoring, students will improve their ability to critically evaluate information, formulate well-founded opinions, and make independent decisions.

Communication Skills

- The course will enhance the ability to effectively communicate one's knowledge, evaluations, and design choices, both orally and in writing, through reporting activities related to the usability evaluation process and the interface design of the assigned system.

Learning Skills

- The project activities will stimulate the ability to continue learning independently and autonomously, updating one's knowledge and skills over time.

Contents

The course content includes both methodological topics related to web interface design and usability evaluation, as well as practical content related to the prototyping of web applications (also supported by Generative AI).

Detailed program

- Web usability: principles and evaluation methods (heuristic inspection and empirical user testing).
- Elicitation of the communicative requirements of data intensive web applications.
- User experience (UX/UI) design of data intensive web applications: methods and conceptual models.
- Technological tools for web interface design and prototyping (Figma).
- Basic elements of HTML/CSS programming (overview).
- Generative AI for multimedia content creation.

Prerequisites

Basic knowledge of file management (off line and on cloud).

Teaching methods

The teaching method is a mix of "ex-cathedra" Teaching (approximately 30%) and Interactive Teaching (approximately 70%).

Lectures will be concentrated in the first part of the course, focusing on usability methods, requirements analysis, and conceptual design.

The more technological content will be delivered in an interactive format, with hands-on activities involving the use of Figma and generative AI, as well as web design and evaluation projects carried out in group under the supervision of the instructor.

Approximately 20% of the teaching, both lectures and interactive sessions, will be conducted remotely.

All lectures will be delivered in English.

Assessment methods

The exam is designed to assess whether students have understood the methods and tools presented during the course and have learned how to apply them.

The evaluation is based on the outcome of two project activities and an oral exam.

- Activity 1: Usability analysis of an existing website assigned by the instructor. The evaluation will be based on the accuracy and completeness of the usability evaluation report. The report may be submitted during the course (optionally) or on any official exam date.

- Activity 2: User requirements modeling, conceptual design, and prototyping of a website on a topic assigned by the instructor. The evaluation criteria are the correctness and completeness of both the design report and the prototype. These two documents must be submitted on any official exam date.

It is recommended that project activities be carried out in groups (minimum 2 – maximum 4 people).

The oral exam is individual and takes place exclusively on official exam dates. It consists of the presentation and discussion of the projects, verification of the individual contribution to the project work, and assessment of the knowledge and skills actually acquired.

The language of the project reports and the oral exam can be either Italian or English.

Textbooks and Reading Materials

Course material (e.g., slides, HTML and CSS code) - available to all students enrolled in the course.

Any HTML & CSS reference guide or online resource. For example:

HTML: <http://www.w3schools.com/html/>

CSS: <http://www.w3schools.com/css/>; <https://www.codeschool.com/learn/html-css>

Additional readings:

- Jennifer Robbins (2018). *Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics*. 5th Edition, O'Reilly Ed.
- Beaird J. Walker A. George J. (2021). *Web design per creativi, grafici, sviluppatori*. Apogeo.
- Beaird J. Walker A. George J. (2020). *The Principles of Beautiful Web Design*. Sitepoint Ed.

Sustainable Development Goals

QUALITY EDUCATION | INDUSTRY, INNOVATION AND INFRASTRUCTURE
