UAB
Universitat Autònoma de Barcelona

Human-Computer Interaction

Code: 45519
ECTS Credits: 6

2025/2026

Degree	Type	Year
Digital Humanities and Heritage	OP	1

Contact

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Teachers

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Teaching groups languages

You can view this information at the end of this document.

Prerequisites

No prior knowledge of computer science or programming is required, except for some familiarity with computer equipment at an advanced user level. Prior knowledge of mathematics corresponds to that of compulsory secondary education.

Some familiarity with humanities and/or cultural topics is recommended.

Knowledge of English that allows reading texts.

Objectives and Contextualisation

This course addresses the topic of human-computer interaction, placing emphasis on the design of interaction methods and the evaluation of their possibilities, rather than on the underlying technology. The differences

between user experience and user interface (UX vs UI) are explained, and the concept of Augmented and Extended Reality is introduced. Some experiences involving haptic and/or full-body immersion are studied. Finally, the course explores the potential of introducing intelligent guides, avatars, and chatbots to enhance the user experience in virtual environments. An introduction to educational videogames is also provided.

Learning Outcomes

1. CA18 (Competence) Examine the limits and drawbacks of specific designs related to human-computer interactive systems.
2. CA18 (Competence) Examine the limits and drawbacks of specific designs related to human-computer interactive systems.
3. CA19 (Competence) Investigate possible procedures for the design of interactive systems that do not discriminate against potential users on the basis of disability or differential access to technology.
4. CA19 (Competence) Investigate possible procedures for the design of interactive systems that do not discriminate against potential users on the basis of disability or differential access to technology.
5. CA20 (Competence) Explain the operation of interactive human-computer systems that provide concrete solutions to problems arising from public use and open access.
6. KA21 (Knowledge) Identify interactive technologies that can be applied in the design of digital projects in cultural and humanistic matters.
7. KA22 (Knowledge) Identify different modes of interactive access to cultural and humanistic information.
8. SA26 (Skill) Design user experience and interactivity mechanisms in digital projects.
9. SA27 (Skill) Design extended reality and augmented reality systems in the cultural and humanistic field.
10. SA28 (Skill) Use interactive whole-body systems to enhance communication and access to cultural goods.

Content

- Heritage Immersion and Human-Computer Interaction (HCI): Basic concepts and fundamental principles of HCI
- User experience design in a digital project
- User interface design in a digital project
- Best practices for designing interaction interfaces
- Advanced forms of human-computer interaction: Virtual Realities
- Practical implementation of Augmented Reality designs
- Gamification: Design of interactive games and applications for teaching history and culture
- Evaluation, verification, and validation of interactive system use

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Attendance to lectures given by the professor	18	0.72	CA18, CA19, CA20, KA21, KA22, SA26, SA27,

			CA18
Practical work with computer equipment lead by the professor	18	0.72	CA18, CA19, CA20, KA21, KA22, SA26, SA27, SA28, CA18
Type: Supervised			
Practical work at the lab and the classroom	34	1.36	CA18, CA19, CA20, KA21, KA22, SA26, SA27, SA28, CA18
Type: Autonomous			
Personal study. Text reading. Additional practical work	60	2.4	CA18, CA19, CA20, KA21, KA22, SA26, SA27, SA28, CA18

Attendance at theoretical classes led by the professor.

Attendance at seminar sessions and practical work with computers and specialized software led by the professor.

Classes are held in a special computer lab.

Comprehensive reading of texts.

The student must dedicate independent effort to consulting specialized bibliography. Part of the documentation is in English.

Class debates, moderated by the teaching staff, on the most important topics.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Assessment

Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Evaluation of practical work asked by the professor	40%	10	0.4	CA18, CA19, CA20, KA21, KA22, SA26, SA27, SA28
Presentation of a written essay about a subject using Generative Artificial Intelligence	30%	5	0.2	CA18, CA19, CA20, KA21, KA22, SA26, SA27, SA28
Presentation of written essais comenting suggested bibliography	30%	5	0.2	CA18, CA19, CA20, KA21, KA22, SA26, SA27, SA28

The evaluation methodology for this master's course is based on the active and reflective participation of students. Their analytical skills will be assessed through written comments on articles and bibliographic references proposed by the teaching staff. In addition, students will prepare critical summaries of class debates, in which they must express and argue their own viewpoints in relation to opposing opinions, demonstrating dialogue skills and critical thinking. Another key element of the evaluation will be the completion of a critical exercise involving the use of Generative Artificial Intelligence tools, applied to one of the topics

covered during the course. This work must include a reflection on the limitations and potential of such technologies within the field of Digital Humanities. Specific details regarding the format, criteria, and deadlines for this activity will be explained and discussed in class by the teaching staff.

Single assessment is permitted, upon request following the procedure approved by the Dean of the Faculty of Humanities.

At the time each assessment activity takes place, the teaching staff will inform students (via Moodle) of the procedure and the date for reviewing grades.

Resit procedure: only the final assignment (second case study) is eligible for resubmission. This decision will be made on a case-by-case basis after a personalized interview between the student and the instructor.

The resubmission deadline will also be set individually and by mutual agreement between the teaching staff and the student.

The student will receive a "Not assessed" grade if any of the required assignments are not submitted.

If the student commits any irregularity that could significantly affect the grade of an assessment activity, that activity will be graded with a 0, regardless of any disciplinary action that may be taken. If multiple irregularities occur in the evaluation activities of the same course, the final grade will be a 0.

The use of Artificial Intelligence (AI) technologies is encouraged in this course as an integral part of the assignment development, provided that the final result reflects a significant contribution from the student in terms of analysis and personal reflection. The student must:
(i) identify which parts were generated using AI;
(ii) specify the tools used; and
(iii) include a critical reflection on how these tools influenced the process and the final outcome of the activity.

Lack of transparency in the use of AI in this graded activity will be considered academic dishonesty and will result in the activity being graded with a 0 and not eligible for resubmission, or in more serious cases, may lead to further sanctions.

Bibliography

More references thorugh Campus Virtual-MOOC

General references:

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Hirsch, L., Paananen, S., Lengyel, D., Häkkilä, J., Toubekis, G., Talhouk, R., & Hespanhol, L. (2024). Human-Computer Interaction (HCI) Advances to Re-Contextualize Cultural Heritage toward Multiperspectivity, Inclusion, and Sensemaking. Applied Sciences, 14(17), 7652.

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LaValle, S. M. (2023). Virtual reality. Cambridge university press.

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Singh, K. N., Samui, A., Mukul, M., Misra, C., & Goswami, B. (2024, January). Usability Evaluation of E-Learning Platforms Using UX/UI Design and ML Technique. In 2024 International Conference on Advancements in Smart, Secure and Intelligent Computing (ASSIC) (pp. 1-6). IEEE.

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Zhang, Xiao, Deling Yang, Cheun Hoe Yow, Lihui Huang, Xiaoqun Wu, Xijun Huang, Jia Guo, Shujun Zhou, and Yiyu Cai. "Metaverse for cultural heritages." Electronics 11, no. 22 (2022): 3730.

Software

They will be referred at the Campus Virtual-MOOC

Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this link. To consult the language you will need to enter the CODE of the subject.

Name	Group	Language	Semester	Turn
(SEMm) Seminars (master)	1	Spanish	second semester	afternoon