

Course Syllabi

1. TICS-00048 HUMAN-COMPUTER INTERACTION

2. 96 credits hours.

3. Bibliography

- The Design of Everyday Things/<https://dl.icdst.org/pdfs/files4/4bb8d08a9b309df7d86e62ec4056ceef.pdf>, Don Norman, 2013
- Interaction Design: beyond human-computer interaction/, Sharp, H., Preece, J., Rogers, Y., 2019
- "Human-Computer Interaction. Fundamentals and Practice/, Jounghyun Kim, G, 2015

4. Specific Course Information

a. Human-Machine Interaction (HMI: Human-Machine Interaction) studies how to design effective, efficient, easy-to-use interactive systems where the (human) user feels comfortable to display and exploit the benefits of computing devices. HCI is multidisciplinary, but has an intrinsic relationship as a subfield of Computer Sciences. Most interactive computer systems are for human purposes and interact with humans in human contexts. This is why fundamental restrictions on successful design cannot be ignored. Inadequate attention to users and the context of the task not only ends with inadequate user interfaces but also puts the whole system at risk. HCI is complex in some ways due to the wide variety of different users and applications, cognitive and social constraints, and the emphasis on interaction. However, there is a set of conclusions about how HMI should be studied in order to (1) user understanding, task and machine; (2) understanding the purpose and context of the system; (3) capacity for analysis and implementation; and (4) methodologies. In this course each of the numbered conclusions will be systematically studied. For this, the main aspects of cognitive science theory, design, socio-technical systems, etc. will be taken into account. It will be learned how to understand and build interactive systems by studying the main reference text, but also making presentations and discussions on current issues based on the analysis of scientific articles and cases of use of real systems.

b. Prerequisites:

- TICS-00045 SOFTWARE ENGINEERING
- TICS-00044 EMPIRICAL SOFTWARE ENGINEERING

5. Learning Objectives of the Course

- a. To train the student in the design and evaluation of a system with elements of human-machine interaction both traditional and non-traditional.
- Understanding basic theories, tools and techniques in Human-Machine Interaction
 - Understanding the fundamental components of an interactive system
 - Understanding the key paradigms of interaction that have been significant in the development of interactive systems.
 - Understanding how design practice is a critical feature of an interactive system.
 - Know and implement a range of models that can be used during the interface design process.
- b. Learning Outcomes
- Knows the fundamentals related to the interaction between humans and machines
 - Learn how to consider the design of extra interfaces oriented to collaboration, internet, etc.

- He knows the processes, techniques, models and theories for the design of the interaction between the human and the machine.
- Knows the fundamentals related to the interaction between humans and machines
- Apply the concepts of human-machine interaction studied in class.
- Knows the fundamentals related to the interaction between humans and machines
- Learn how to consider the design of extra interfaces oriented to collaboration, internet, etc.

6. Course Topics

- Home of course
- Chapter 1: introduction to human-machine interaction
- Chapter 2: task-centered system design
- Chapter 3: user-centered system design
- Chapter 4: principles of design and heuristics of usability
- Chapter 5: methods for evaluating user interfaces