

Academic Year: ( 2019 / 2020 )

Review date: 19-09-2017

Department assigned to the subject: Department of Computer Science and Engineering

Coordinating teacher: AEDO CUEVAS, IGNACIO

Type: Electives ECTS Credits : 3.0

Year : 1 Semester : 2

**COMPETENCES AND SKILLS THAT WILL BE ACQUIRED AND LEARNING RESULTS.**

The aim of the course is to give the student an overview of different design techniques for interactive systems, with an special focus on multimedia system. More specifically the course will cover an introduction to HCI basic concepts, usability engineering, avanced interaction paradigms (ubiquitous computing, tangible bits, mediated realities), methods and techniques for software requirement analysis , design and evaluation. Special attention will be paid to the application of HCI in the area of videogames, education, emergency management and accesibility.

The course will also try to encourage the students to develop an analytical and critical judgment, to help them assess the quality, applicability and limitations of the different proposals related to the course content.

During the course students will acquire the necessary knowledge to:

- Understand the scientific basis of HCI
- Understand and analyse the interaction problems that might arise during the design and development of a multimedia system.
- Analyse the interaction requirements of the applications oriented to the information society.
- Understand and use methods and techniques to evaluate the usability of an interactive system.
- Understand the different types of accesibility problems of interactive systems.
- Analyse and design practical interaction mechanisms
- Identify new research areas in the context of HCI and understand their impact in the information society

**DESCRIPTION OF CONTENTS: PROGRAMME**

- Human Computer Interaction
- Interaction paradigmes
- Users and people
- Participative design
- Evaluation of multimedia interactive system
- Interaction in ubiquitous systems
- Interaction in mediated reality systems

**LEARNING ACTIVITIES AND METHODOLOGY**

- Lectures, during with the teachers will present the theoretic concepts. It is expected that students participate actively in the lectures.
- Presentation and discussion of articles and works related to the subject of the course.
- The student proposes a project according to the teachers guidance to go deeply into some aspect of the course, followed by public presentation.

**ASSESSMENT SYSTEM**

The evaluation will take into account the quality, originality and completeness of the works carried out by the students during the course, as well as the quantity and quality of their contribuciones during the lectures, discussions and work presentations. The same evaluation procedure will be aplied in both the ordinary and extraordinary evaluation modalities.

<b>% end-of-term-examination:</b>	0
<b>% of continuous assessment (assignments, laboratory, practicals...):</b>	100

## BASIC BIBLIOGRAPHY

- Chapman, N. y Chapman, J. Digital Multimedia, Wiley, 2004. Segunda Edición
- Aedo, I, Díaz, P., Sicilia, M.A., Colmenar, A., Losada, P., Mur, F., Castro, M. y Peire, J. Sistemas multimedia: análisis, diseño y evaluación, Editorial UNED, 2004
- Dix, A., Finlay, J., Abowd, G.D., Beale, R. Human Computer Interaction, Prentice Hall. , 2003. Tercera edición
- Elsom-Cook, M. Principles of Interactive Multimedia, McGraw-Hill, 2001
- Graham, I. A pattern language for Web Usability, Pearson Education, 2003
- Mayhew, D. The usability engineering lifecycle: a practitioner's handbook for user interface design, Morgan Kaufmann, 1999
- Preece, J. Interaction Design: beyond human computer interaction, John Wiley & Sons, 2002
- Preece, J., Rogers, Y., Sharp, H., Benyon, D., Holland, S., Carey, T. Human-Computer Interaction, Addison-Wesley, 1994
- Rubin, J. Handbook of usability testing, how to plan, design and conduct effective tests, John Wiley & Sons , 1994
- Shneiderman, B. Designing the user interface: Strategies for Effective Human-Computer Interaction, Addison-Wesley, 1998. Cuarta edición
- Shneiderman, B. Leonardo's Laptop: Human Needs and the New Computing Technologies, MIT Press, 2003