BASIC DETAILS:

Subject:	INTERACCIÓN HOMBRE MÁQUINA
Id.:	30062
Programme:	GRADUADO EN INGENIERÍA INFORMÁTICA. PLAN 2008 (BOE 15/12/2008)
Module:	GESTION DE LA INFORMACION Y EL CONOCIMIENTO
Subject type:	OBLIGATORIA

Year:	3	**Teaching period:**	Primer Cuatrimestre
Credits:	3	**Total hours:**	75
Classroom activities:	35	**Individual study:**	40
Main teaching language:	Inglés	**Secondary teaching language:**	Castellano
Lecturer:		**Email:**	

PRESENTATION:

Human-Computer Interaction (HCI) is the study of the principles and methods with which one builds effective interfaces for users. This course will introduce computer science students to the theory and practice of developing user interfaces. Practical concerns will be balanced by discussion of relevant theory from the literature of computer science, cognitive psychology, and industrial design. Students will also participate in group projects to design, implement, and evaluate user interfaces. In addition, the common principles from HCI will directly applied to videoagmes, to evaluate and design properly games and guarantee accesibility to everyone.

PROFESSIONAL COMPETENCES ACQUIRED IN THE SUBJECT:

General programme competences	G02	Innovative capacity to propose and find new and efficient ways to undertake any task and/ or function within the professional environment - highly motivated by quality.
	G03	Capacity to work in multidisciplinary teams to achieve common objectives, placing group interests before personal ones.
	G10	Critical and analytical capacity when assessing information, data and courses of action.
	G12	Capacity to undertake professional activities with integrity, respecting social, organisational and ethical norms.
Specific programme competences	E01	Capacity to understand the engineering profession and commitment to serve society under the corresponding professional code of conduct.
	E03	Capacity to recognise the technical principles and apply the appropriate practical methods satisfactorily to analyse and solve engineering problems.
	E08	Capacity to communicate productively with clients, users and colleagues both orally and in writing, so as to pass on ideas, solve conflicts and achieve agreements.
	E10	Capacity to understand and assess the impact of technology on individuals, organisations, society and the environment, including ethical, legal and political factors, recognising and applying the pertinent standards and regulations.s éticos, legales y políticos, reconociendo y aplicando los estándares y regulaciones oportunos
	E12	Capacity to manage complexity through abstraction, modelling, 'best practices', patterns, standards and the use of the appropriate tools.
	E13	Capacity to identify, assess and use current and emerging technologies, considering how they apply in terms of individual or organisational needs.
	E17	Capacity to identify and analyse user needs with the intention of designing effective, usable IT solutions which can be incorporated into the user's operating environment.
Learning outcomes	R1	Analyse the man-machine interaction of a computing system.
	R2	Assess the man-machine interaction of a computing system, noting the strong and weak points and proposing possible improvements.
	R3	Understand the new input interfaces and how to use them optimally.
	R4	Integrate computing processes and systems into day-to-day situations.

PRE-REQUISITES:

This course will be delivered in English. Academic reading and writing skills are expected from students.

SUBJECT PROGRAMME:

Subject contents:

1 - Introduction
2 - HCI Foundations
2.1 - The Human
2.2 - The Computer
2.3 - The Interaction
3 - Interaction Design
3.1 - Interaction Design Basics
3.2 - Design Rules
3.3 - Evaluation Techniques
4 - Universal Design

Subject planning could be modified due unforeseen circumstances (group performance, availability of resources, changes to academic calendar etc.) and should not, therefore, be considered to be definitive.

TEACHING AND LEARNING METHODOLOGIES AND ACTIVITIES:

Teaching and learning methodologies and activities applied:

Theoretical-practical sessions:

First, the lecturer will present the theoretical contents of the subject as a master class, supported by the necessary resources (blackboard, slides ...) to exemplify and illustrate the contents properly. The participation of students asking questions, theoretical situations or promoting group discussion on the topics discussed will be encouraged. Then, the theoretical sessions will be supported by the approach and resolution of practical exercises.

These exercises will be solved by the students, individually or collectively, depending on the type of problem to solve. As part of this practical session, students will present their proposed solutions.

The participation of students during these sessions will be valued positively.

Individual assignments:

Part of the learning and the grade acquired through the course comes from the resolution of the individual assignments proposed along the course. In particular, for each of the lectures a short assignment will be requested. Those assignments must be delivered through the PDU within the deadline.

In order to resolve the exercises, student will receive some technical guidance. In addition, a communication mechanism will be provided (PDU) to discuss and comment on the different problems that arise during the resolution of the assignments.

The resolution of these individual assignments prepares the student to acquire the professional competences of this course.

Group assignments:

In addition to the individual assignments, students will develop a group assignment that will put in practice all the topics covered by the course. This assignment will be followed by the teacher before the final presentation, to ensure the quality and guide the students when needed.

As with the individual assignments, there will be technical guidance and a communication mechanism to discuss about the assignments.

Presentation of the assignments:

An important part of the learning process for the student is the presentation of their assignments to the rest of the students. During these presentations, students will have the opportunity to highlight the most positive aspects of their work, present the solutions to address the issues and even discuss other ways of solving the problems explored by the student.

Mentoring and participation in the PDU:

Students will attend tutorials to ask the teacher questions and problems that arise during the course and that have not been properly addressed during the sessions. Also during these tutorials, the teacher will provide supervision and guidance to help students acquire the skills raised by the course.

As during tutorials with the teacher, students can use the media available on the PDU to raise concerns or judgments about the course at any time, to receive help and feedback from other students and from the teacher.

The tutorials will be on demand, arranged through e-mail at convenient times for students and the teacher.

Service Learning:

Service-learning is an educational approach that balances formal instruction and direction with the opportunity to serve in the community in order to provide a pragmatic, progressive learning experience. Service-Learning must properly connect the traditional classroom experience with the real life lessons that come through service.

Service-learning offers students immediate opportunities to apply classroom learning to support or enhance the work of local agencies that often exist to effect positive change in the community. The National Youth Leadership Council defines service learning as "a philosophy, pedagogy, and model for community development that is used as an instructional strategy to meet learning goals and/ or content standards."

"Service-learning is a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities for reflection designed to achieve desired learning outcomes."

Student work load:

Teaching mode	Teaching methods	Estimated hours
Classroom activities	Master classes	9
	Other theory activities	1
	Practical exercises	8
	Practical work, exercises, problem-solving etc.	5
	Debates	2
	Coursework presentations	5
	Other practical activities	1
	Assessment activities	4
Individual study	Tutorials	3
	Individual study	10
	Individual coursework preparation	10
	Group cousework preparation	6
	Research work	6
	Compulsory reading	2
	Recommended reading	3
	Total hours:	75

ASSESSMENT SCHEME:

Calculation of final mark:

Written tests:	30	%
Individual coursework:	30	%
Group coursework:	30	%
Attendance and active participation::	10	%
TOTAL	100	%

*Las observaciones específicas sobre el sistema de evaluación serán comunicadas por escrito a los alumnos al inicio de la materia.

BIBLIOGRAPHY AND DOCUMENTATION:

Basic bibliography:

A. Dix, J. Finlay, G. Abowd and R. Beale. Human Computer Interaction, Third edition, Prentice Hall, 2003.
Jesse Schell, The Art of Game Design Second Edition, Morgan Kaufmann, 2014

Recommended bibliography:

J. Preece, Y. Rogers, H. Sharp, D. Benion, S. Holand, T. Carey, Human Computer Interaction, Addinson Wesley, 1994.
Sharp H., Rogers Y., Preece J., Interaction design: beyond human-computer interaction, Wiley, 2007

Recommended websites:

HCI bibliography	http://hcibib.org/
Human Computer Interaction	http://www.zainbooks.com/books/computer-sciences/human-computer-interaction.html
Human Computer Interaction	http://www.hcibook.com/e3/

* Guía Docente sujeta a modificaciones