

## BASIC DETAILS:

|                                |  |                                     |                     |
|--------------------------------|--|-------------------------------------|---------------------|
| <b>Subject:</b>                | INTERACCION HOMBRE MAQUINA   |                                     |                     |
| <b>Id.:</b>                    | 30539  |                                     |                     |
| <b>Programme:</b>              | GRUADO EN INGENIERÍA INFORMÁTICA (SEMIPRESENCIAL). 2008 (BOE 15/12/2008) |                                     |                     |
| <b>Module:</b>                 | GESTIÓN DE LA INFORMACIÓN Y EL CONOCIMIENTO                              |                                     |                     |
| <b>Subject type:</b>           | OBLIGATORIA  |                                     |                     |
| <b>Year:</b>                   | 3  | <b>Teaching period:</b>             | Primer Cuatrimestre |
| <b>Credits:</b>                | 3  | <b>Total hours:</b>                 | 75                  |
| <b>Classroom activities:</b>   | 12   | <b>Individual study:</b>            | 63                  |
| <b>Main teaching language:</b> | Inglés   | <b>Secondary teaching language:</b> | Castellano          |
| <b>Lecturer:</b>               |  | <b>Email:</b>                       |                     |

## 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.

## PROFESSIONAL COMPETENCES ACQUIRED IN THE SUBJECT:

|                                       |     |  |
|---------------------------------------|-----|--|
| <b>General programme competences</b>  | 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.   |
| <b>Specific programme competences</b> | 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. |
|                                       | 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.   |
| <b>Learning outcomes</b>              | 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.  |
|                                       | R01 | Analyse the man-machine interaction of a computing system.   |
|                                       | R02 | Assess the man-machine interaction of a computing system, noting the strong and weak points and proposing possible improvements.   |
|                                       | R03 | Assess the man-machine interaction of a computing system, noting the strong and weak points and proposing possible improvements.   |
|                                       | R04 | 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:

|                                 |
|---------------------------------|
| <b>1 - Introduction</b>         |
| <b>2 - HCI foundations</b>      |
| 2.1 - The human                 |
| 2.2 - The computer              |
| 2.3 - The interaction           |
| <b>3 - Interaction design</b>   |
| 3.1 - Interaction design basics |
| 3.2 - Design rules              |
| 3.3 - Evaluation techniques     |
| <b>4 - Universal design</b>     |

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:

During this course a variety of teaching methods will be used including lectures, class discussions, case studies, and group work. One of the main requirements of this course is to complete a group work project and to present it to the class. Another important requirement is to participate actively in class and to contribute to discussion about the topics being analyzed.

#### Student work load:

| Teaching mode               | Teaching methods                  | Estimated hours |
|-----------------------------|-----------------------------------|-----------------|
| <b>Classroom activities</b> | Master classes                    | 6               |
|                             | Practical exercises               | 3               |
|                             | Debates                           | 0,5             |
|                             | Coursework presentations          | 0,5             |
|                             | Assessment activities             | 2               |
| <b>Individual study</b>     | Tutorials                         | 6               |
|                             | Individual study                  | 22              |
|                             | Individual coursework preparation | 16              |
|                             | Group coursework preparation      | 9               |
|                             | Research work                     | 5               |
|                             | Compulsory reading                | 5               |
| <b>Total hours:</b>         |                                   | <b>75</b>       |

### ASSESSMENT SCHEME:

#### Calculation of final mark:

|                                      |              |
|--------------------------------------|--------------|
| Written tests:                       | 40 %         |
| Individual coursework:               | 20 %         |
| Group coursework:                    | 10 %         |
| Final exam:                          | 20 %         |
| Attendance and active participation: | 10 %         |
| <b>TOTAL</b>                         | <b>100 %</b> |

\*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.

**Recommended bibliography:**

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

**Recommended websites:**

|                            |   |
|----------------------------|---|
| Human Computer Interaction | <a href="http://www.zainbooks.com/books/computer-sciences/human-computer-interaction.html">http://www.zainbooks.com/books/computer-sciences/human-computer-interaction.html</a> |
| HCI bibliography           | <a href="http://hcibib.org/">http://hcibib.org/</a>   |
| Human Computer Interaction | <a href="http://www.hcibook.com/e3/">http://www.hcibook.com/e3/</a>   |

\* Guía Docente sujeta a modificaciones