



POLITÉCNICA

INTERNATIONAL
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COORDINATION PROCESS OF
LEARNING ACTIVITIES
PR/CL/001



E.T.S. de Ingenieros
Informáticos

ANX-PR/CL/001-01

LEARNING GUIDE

SUBJECT

103000690 - Introduction to human-computer interaction

DEGREE PROGRAMME

10AQ - Eit Digital Master's Programme In Human Computer Interaction And Design

ACADEMIC YEAR & SEMESTER

2018/19 - Semester 1

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1. Description

1.1. Subject details

Name of the subject	103000690 - Introduction to human-computer interaction
No of credits	3 ECTS
Type	Compulsory
Academic year of the programme	First year
Semester of tuition	Semester 1
Tuition period	September-January
Tuition languages	English
Degree programme	10AQ - Eit digital master's programme in human computer interaction and design
Centre	10 - Escuela Tecnica Superior de Ingenieros Informaticos
Academic year	2018-19

2. Faculty

2.1. Faculty members with subject teaching role

Name and surname	Office/Room	Email	Tutoring hours *
Elena Villalba Mora (Subject coordinator)	5110	elena.villalba@upm.es	M - 12:00 - 15:00 F - 12:00 - 15:00 Please, ask for an appointment by email.
Cristian Moral Martos	5110	cristian.moral@upm.es	M - 12:00 - 15:00 F - 12:00 - 15:00 Please, ask for an appointment by email.

* The tutoring schedule is indicative and subject to possible changes. Please check tutoring times with the faculty member in charge.

3. Skills and learning outcomes *

3.1. Skills to be learned

CE14 - Capacidad para conceptualizar, diseñar, desarrollar y evaluar la interacción personaordenador de productos, sistemas, aplicaciones y servicios informáticos

CE16 - Habilidad para hacer conexiones entre los deseos y necesidades del consumidor o cliente y lo que la tecnología puede ofrecer

CG05 - Aplicación de los métodos de resolución de problemas más recientes o innovadores y que puedan implicar el uso de otras disciplinas

CG08 - Comprensión amplia de las técnicas y métodos aplicables en una especialización concreta, así como de sus límites

CG23 - Capacidad para comprender y aplicar la responsabilidad ética, la legislación y la deontología profesional de la actividad de la profesión de Ingeniero en Informática

3.2. Learning outcomes

RA9 - Understand the main heuristics that have to be considered to design a usable interactive system.

RA12 - Understand methods to communicate the design intent

RA13 - RA5 - Understand how to process information and what are the limitations and diversity of human beings in their interaction with computer systems

RA6 - Understand how to design an interactive system using a user-centred approach.

RA10 - Understand the concept of 'user experience?', and learn how to design interactive system that generate a good user experience

* The Learning Guides should reflect the Skills and Learning Outcomes in the same way as indicated in the Degree Verification Memory. For this reason, they have not been translated into English and appear in Spanish.

4. Brief description of the subject and syllabus

4.1. Brief description of the subject

An overview and introduction to the field of human-computer interaction. This course presents methods to elicit user requirements and structure the design process to be user-centred. Above all, the course will emphasize the importance of paying attention to user needs and cognitive functioning in order to design usable systems.

4.2. Syllabus

1. Introduction and conceptualization
 - 1.1. Introduction of Human Computer Interaction
 - 1.2. Understanding the concepts: User Interaction, Visual Design, User Experience
2. Usability
3. Human factors
4. Accessibility
5. Interaction devices
6. Specific interaction paradigms
7. Introduction to design methods for HCI
 - 7.1. Design methods for HCI
 - 7.2. User-centred design

5. Schedule

5.1. Subject schedule*

Week	Face-to-face classroom activities	Face-to-face laboratory activities	Other face-to-face activities	Assessment activities
1	<p>1.1 Introduction to HCI Duration: 02:00 Lecture</p> <p>1.2 Understanding the concepts Duration: 01:00 Lecture</p>			
2	<p>2.1 Definition of usability. 2.2 Attributes of usability Duration: 02:00 Lecture</p>			<p>Assessment of usability attributes Group work Continuous assessment Duration: 02:00</p>
3	<p>3.1 Human factors Duration: 02:00 Lecture</p> <p>3.2 Understanding human factors Duration: 02:00 Additional activities</p>			<p>Assessment of human factors Individual work Continuous assessment Duration: 08:00</p>
4	<p>4.1 Accessibility Duration: 01:00 Lecture</p> <p>4.1 Understanding accessibility Duration: 02:00 Additional activities</p>			<p>Assessment of accessibility Individual work Continuous assessment Duration: 10:00</p>
5	<p>5.1 Interaction devices Duration: 02:00 Lecture</p> <p>5.3. Specific interaction paradigm: virtual reality Duration: 01:00 Lecture</p>			
6	<p>5.2 Analysing an interaction device Duration: 01:00 Additional activities</p>			<p>Analyse an interaction device Group presentation Continuous assessment Duration: 02:00</p>
7	<p>7.1 Introduction to Design methods for HCI Duration: 02:00 Lecture</p> <p>7.2. User Centred Design Duration: 01:00 Lecture</p> <p>Course closure Duration: 01:00 Additional activities</p>			

8				
9				
10				
11				
12				
13				
14				
15				
16				<p>Written final assignment Written test Final examination Duration: 03:00</p> <p>Final Written Exam Written test Continuous assessment Duration: 03:00</p>
17				

The independent study hours are training activities during which students should spend time on individual study or individual assignments.

Depending on the programme study plan, total values will be calculated according to the ECTS credit unit as 26/27 hours of student face-to-face contact and independent study time.

* The subject schedule is based on a previous theoretical planning of the subject plan and might go to through experience some unexpected changes along throughout the academic year.

6. Activities and assessment criteria

6.1. Assessment activities

6.1.1. Continuous assessment

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
2	Assessment of usability attributes	Group work	Face-to-face	02:00	20%	/ 10	CG05 CG08 CE16
3	Assessment of human factors	Individual work	No Presential	08:00	20%	/ 10	CE16 CG05 CG08 CG23
4	Assessment of accessibility	Individual work	No Presential	10:00	20%	/ 10	CG23 CG05 CG08
6	Analyse an interaction device	Group presentation	Face-to-face	02:00	20%	/ 10	CE16
16	Final Written Exam	Written test	Face-to-face	03:00	20%	/ 10	CE16 CG05 CG08 CE14 CG23

6.1.2. Final examination

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
16	Written final assignment	Written test	Face-to-face	03:00	100%	5 / 10	CE16 CG05 CG08 CE14 CG23

6.1.3. Referred (re-sit) examination

Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
Written final assignment	Written test	Face-to-face	03:00	100%	5 / 10	CE16 CG05 CG08 CE14 CG23

6.2. Assessment criteria

Quality of the oral communication skills.

Ability to debate.

Ability to understand concepts.

7. Teaching resources

7.1. Teaching resources for the subject

Name	Type	Notes
Moodle	Web resource	https://moodle.upm.es/titulaciones/oficiales
Interaction Design: Beyond Human-Computer Interaction.	Bibliography	Helen Sharp, Yvonne Rogers, Jenny Preece. 3ª Edición. John Wiley & Sons, 2011.
Software for Use: A Practical Guide to the Models and Methods of Usage-Centered Design	Bibliography	Larry L. Constantine, Lucy A. D. Lockwood. Addison-Wesley, 1999.
Usability Engineering	Bibliography	Jakob Nielsen. AP Professional, 1993.
A Web for Everyone. Designing accessible user experiences	Bibliography	Horton, S.; Quesenbery, W. Rosenfeld. 2014.
EN 301 549 Accessibility requirements suitable for public procurement of ICT products and services in Europe	Bibliography	CEN, CENELEC, ETSI. 2014. Disponible en: http://www.etsi.org/deliver/etsi_en/301500_301599/301549/01.01.01_60/en_301549v010101p.pdf

8. Other information

8.1. Other information about the subject

Note: please bear in mind tutoring hours may change along the course. Please, ask for an appointment in advance.