ANX-PR/CL/001-01

LEARNING GUIDE

SUBJECT

103000869 - Introduction To Human-computer Interaction

DEGREE PROGRAMME

10AZ - Master Universitario En Innovación Digital

ACADEMIC YEAR & SEMESTER

2021/22 - Semester 1

Index

Learning guide

1. Description

1.1. Subject details

Name of the subject	103000869 - Introduction To Human-Computer Interaction
No of credits	3 ECTS
Type	Optional
Academic year ot the programme	First year
Semester of tuition	Semester 1
Tuition period	September-January
Tuition languages	English
Degree programme	10AZ - Master Universitario en Innovación Digital
Centre	10 - Escuela Tecnica Superior De Ingenieros Informaticos
Academic year	2021-22

2. Faculty

2.1. Faculty members with subject teaching role

Name and surname	Office/Room	Email	Tutoring hours *
Cristian Moral Martos	5110	cristian.moral@upm.es	M - 10:00 - 14:00 F - 10:00 - 12:00 Please, ask for an appointment.
Elena Villalba Mora (Subject coordinator)	5110	elena.villalba@upm.es	M - 10:00 - 12:00 W - 10:00 - 12:00 F - 10:00 - 12:00 Please, ask for an appointment.

* 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

CE-DIPO03 - Habilidad para hacer conexiones entre los deseos y necesidades del consumidor o cliente y lo que la tecnología puede ofrecer

CG03 - La capacidad de usar la lengua inglesa de manera competente, es decir, con capacitación para tareas complejas de trabajo y estudio.

3.2. Learning outcomes

RA10 - Understand the main heuristics that have to be considered to design a usable interactive system

RA37 - Understand the term usability and its attributes

RA39 - Understand the user-centred approach

RA38 - Understand how to process information and what are the limitations and diversity of human beings in their interaction with computer systems

* 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

This course presents: first, an overview and introduction to the field of human-computer interaction and usability; second, an introduction to the methods to elicit user requirements and structure the design process to be user-centred; and third, the course will emphasize the importance of paying attention to user needs and cognitive functioning in order to design usable systems. The course will also introduce visual design, heuristics, interaction methods and devices and specific interaction paradigms.

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. Introduction to design methods for HCI
   2.1. Design methods for HCI
   2.2. User-centred design
3. Usability
4. Human factors
5. Interaction styles and devices
6. Introduction to Interaction Design. Heuristics
7. Regulatory and ethical aspects
8. Specific interaction paradigms

5. Schedule

5.1. Subject schedule*

Week	Face-to-face classroom activities	Face-to-face laboratory activities	Distant / On-line	Assessment activities
1	**1.1 Introduction to HCI** Duration: 01:00 **1.2 Understanding the concepts** Duration: 01:00 **2. Introduction to Design Methods. User Centred Design** Duration: 02:00		**1.1 Introduction to HCI** Duration: 01:00 **1.2 Understanding the concepts** Duration: 01:00 **2. Introduction to Design Methods. User Centred Design** Duration: 02:00	
2	**3.1 Definition of usability. 3.2 Attributes of usability** Duration: 02:00		**3.1 Definition of usability. 3.2 Attributes of usability** Duration: 02:00	
3	**3.3 Understanding Usability** Duration: 02:00		**3.3 Understanding Usability** Duration: 02:00	
4				**Assessment of usability attributes** Continuous assessment Presential Duration: 02:00
5	**4.1 Human factors** Duration: 02:00		**4.1 Human factors** Duration: 02:00	
6	**5.1 Interaction styles and devices** Duration: 02:00		**5.1 Interaction styles and devices** Duration: 02:00	**Analyse an interaction device** Continuous assessment Not Presential Duration: 02:00
7	**6.1 Introduction to Interaction Design. Heuristics** Duration: 02:00		**6.1 Introduction to Interaction Design. Heuristics** Duration: 02:00	
8	**6.2 Understanding Heuristics** Duration: 02:00		**6.2 Understanding Heuristics** Duration: 02:00	
9				**Assessment of heuristics** Continuous assessment Presential Duration: 02:00

10	**7. Regulatory and ethical aspects** Duration: 02:00		**7. Regulatory and ethical aspects** Duration: 02:00	
11	**8. Specific interaction paradigm: virtual reality** Duration: 02:00		**7.1 Specific interaction paradigm: virtual reality** Duration: 02:00	
12				
13				
14				
15				
16				**Final Exam** Continuous assessment Presential Duration: 03:00 **Final Exam** Final examination Presential Duration: 03:00
17				

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 schedule is based on an a priori planning of the subject; it might be modified during the academic year, especially considering the COVID19 evolution.

6. Activities and assessment criteria

6.1. Assessment activities

6.1.1. Continuous assessment

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
4	Assessment of usability attributes		Face-to-face	02:00	25%	/ 10	CE-DIPO03 CG03
6	Analyse an interaction device		No Presential	02:00	20%	/ 10	CE-DIPO03 CG03
9	Assessment of heuristics		Face-to-face	02:00	30%	/ 10	CE-DIPO03 CG03
16	Final Exam		Face-to-face	03:00	25%	/ 10	CE-DIPO03 CG03

6.1.2. Final examination

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
16	Final Exam		Face-to-face	03:00	100%	5 / 10	CE-DIPO03 CG03

6.1.3. Referred (re-sit) examination

Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
Written final assignment		Face-to-face	03:00	100%	5 / 10	CE-DIPO03 CG03

6.2. Assessment criteria

In the evaluation activities, the following criteria is taken into account: 1) Quality of the oral communication skills; 2) Ability to debate; and 3) Ability to understand concepts.

In this first semester of the academic year 2020-21, and due to the COVID-19 situation, academic activities are scheduled to be online, unless the pandemic conditions improve substantially. That means that "face to face" evaluation activities will be performed online though videoconferences.

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.

8. Other information

8.1. Other information about the subject

This course contributes to the objectives 4 and 10 of the UN Sustainable Development Goals.

Note 1: please, always ask for an appointment before visiting a professor.

Note 2: The current COVID-19 pandemic situation restricts the capacity of the classrooms in the School. Depending on the number of enrolled students it might be necessary to split the class in two groups that will come

to the School in alternate days. The School classrooms have teleconference equipment that enables remote participation in the class. In this situation some students will be in the classroom (column "Distant / On-line" in the schedule) and other students will connect remotely (column "face-to-face" in the schedule). If the pandemic situation improves and the University is allowed to use the classrooms at their full capacity, then all students will be able to attend the face to face sessions together. If the situation get worse, all classes would be online.