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

2022/23 - 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	2022-23

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.

Angelica De Antonio Jimenez	5108	angelica.deantonio@upm.es	W - 10:30 - 14:00 Th - 09:30 - 12:00 Please, ask for an appointment.
Jose Maria Barambones Ramirez	5106	j.barambones@upm.es	M - 10:00 - 12:00 Tu - 10:00 - 12:00 W - 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. Usability
3. Human factors. Information Processing.
4. Interaction styles and devices
5. Introduction to Interaction Design. Heuristics
6. Adoption and acceptance models
7. Regulatory and ethical aspects
8. Specific interaction paradigms

5. Schedule

5.1. Subject schedule*

Week	Classroom activities	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	**2.1 Definition of usability. 2.2 Attributes of usability** Duration: 02:00			
3	**2.3 Understanding Usability** Duration: 02:00			
4				**Assessment of usability attributes [non-recoverable]** Continuous assessment Presential Duration: 02:00
5	**3.1 Human factors. 3.2 Information processing** Duration: 02:00			
6	**4.1 Interaction styles and devices** Duration: 02:00			**Analyse an interaction device** Continuous assessment and final examination Not Presential Duration: 02:00
7	**5.1 Introduction to Interaction Design. Heuristics** Duration: 02:00			
8	**5.2 Understanding Heuristics** Duration: 02:00			
9				**Assessment of heuristics [non-recoverable]** Continuous assessment Presential Duration: 02:00

10	**6. Adoption and acceptance** Duration: 02:00			
11	**7. Regulatory and ethical aspects** Duration: 02:00			
12	**8. Specific interaction paradigm: virtual reality** Duration: 02:00			
13	**8. Specific interaction paradigm: Game Design and Gamification** Duration: 02:00			**Assessment of games and gamification** Continuous assessment and final examination Not Presential Duration: 02:00
14				
15				
16				
17				**Final Exam [non-recoverable]** Continuous assessment Presential Duration: 03:00

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. Assessment

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
4	Assessment of usability attributes [non-recoverable]		Face-to-face	02:00	20%	/ 10	CE-DIPO03 CG03
6	Analyse an interaction device		No Presential	02:00	20%	5 / 10	CE-DIPO03 CG03
9	Assessment of heuristics [non-recoverable]		Face-to-face	02:00	20%	/ 10	CE-DIPO03 CG03
13	Assessment of games and gamification		No Presential	02:00	20%	5 / 10	CE-DIPO03 CG03
17	Final Exam [non-recoverable]		Face-to-face	03:00	20%	/ 10	CE-DIPO03 CG03

6.1.2. Global examination

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
6	Analyse an interaction device		No Presential	02:00	20%	5 / 10	CE-DIPO03 CG03
13	Assessment of games and gamification		No Presential	02:00	20%	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

Grading criteria

The projects will be evaluated during their iterative development during the course. Grading of students will be based on:

1) Quality of the oral communication skills.

2) Ability to debate

3) Ability to understand concepts.

Progressive evaluation system

The evaluation is progressive along the semester, concrete dates for the presentations and submissions of the assignments are fixed at the beginning of the semester.

40% of the grade is based on group-work during the semester which includes a presentation in the classroom, therefore it can not be re-submitted in case a student fails the assignments (i.e. Usability and Heuristics assignments), but there are not minimal grades per assignment.

There is also a written exam the final week that accounts for 20% of the grade.

The other 2 assignments (i.e. analysing and interaction device and gamification) can be resubmitted in case a student fails it.

The evaluation activities and their concrete weight in the grading are described in "Continuous evaluation" ("Evaluación continua") above.

Global evaluation process

Those assignments that are presented in the classroom during the course are not part of the global evaluation process and they account for the 40% of the final grade, as well as the final written exam.

The assignments submitted via Moodle may be re-submitted at the end of the semester in case a student fails them.

The evaluation activities and their concrete weight in the grading are described in "Continuous evaluation" ("Evaluación solo prueba final") above.

Extraordinary evaluation

The extraordinary evaluation exists for students unable to pass the course during the semester. For that extraordinary evaluation students either must finish a concrete milestone they haven't passed (upon agreement with the professor), or a final exam that replace 100% of the grade.

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: please note that cocrete dates for the assignments will be informed at the begining of the course.