



INTERNATIONAL  
CAMPUS OF  
EXCELLENCE

COORDINATION PROCESS OF  
LEARNING ACTIVITIES  
PR/CL/001



E.T.S. de Ingenieros  
Informáticos

# ANX-PR/CL/001-01

## LEARNING GUIDE

### SUBJECT

**103000707 - Accessible design of interactive systems**

### 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

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### 1.1. Subject details

<b>Name of the subject</b>	103000707 - Accessible design of interactive systems
<b>No of credits</b>	4.5 ECTS
<b>Type</b>	Compulsory
<b>Academic year of the programme</b>	First year
<b>Semester of tuition</b>	Semester 1
<b>Tuition period</b>	September-January
<b>Tuition languages</b>	English
<b>Degree programme</b>	10AQ - Eit digital master's programme in human computer interaction and design
<b>Centre</b>	10 - Escuela Tecnica Superior de Ingenieros Informaticos
<b>Academic year</b>	2018-19

## 2. Faculty

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### 2.1. Faculty members with subject teaching role

<b>Name and surname</b>	<b>Office/Room</b>	<b>Email</b>	<b>Tutoring hours *</b>
Jose Luis Fuertes Castro (Subject coordinator)	4307	joseluis.fuertes@upm.es	Tu - 16:30 - 19:00 W - 12:00 - 13:00 Th - 16:30 - 19:00
Loic Antonio Martinez Normand	3352	loic.mnormand@upm.es	Tu - 13:00 - 15:00 W - 13:00 - 15:00 F - 13:00 - 15:00 It is recommended email to 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 \*

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#### 3.1. Skills to be learned

CE01 - Capacidad para la integración de tecnologías, aplicaciones, servicios y sistemas propios de la Ingeniería Informática, con carácter generalista, y en contextos más amplios y multidisciplinares.

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

#### 3.2. Learning outcomes

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

RA3 - Evaluate the usability and accessibility of prototypes

RA33 - Understand the concept and types of assistive products

\* 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

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#### 4.1. Brief description of the subject

The focus of the course will be the application of accessibility guidelines and requirements to the design of interactive ICT products or services.

## 4.2. Syllabus

1. Disability and functional diversity
2. Assistive products
3. Principles of accessible design
4. Accessibility guidelines and standards for ICT products and services
5. Evaluation of accessibility
6. Accessible design process

## 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	<b>Course introduction</b> Duration: 02:00 Lecture			
2	<b>Disability and functional diversity</b> Duration: 01:30 Cooperative activities			<b>Individual presentation of personas</b> Individual presentation Continuous assessment Duration: 00:30
3	<b>Assistive technologies</b> Duration: 00:30 Lecture  <b>Assistive technologies</b> Duration: 01:00 Cooperative activities		<b>Visit to a Geriatric centre</b> Duration: 02:00 Additional activities	<b>Individual presentation of use of ICT by personas</b> Individual presentation Continuous assessment Duration: 00:30
4	<b>Principles of accessible design</b> Duration: 01:30 Cooperative activities			<b>Individual presentation of principles of DfA</b> Individual presentation Continuous assessment Duration: 00:30
5	<b>Accessibility guidelines and standards for ICT products and services (overview)</b> Duration: 01:00 Additional activities			<b>Standard overview (EN 301 549).</b> <b>Discussion</b> Other assessment Continuous assessment Duration: 01:00
6	<b>Accessibility guidelines and standards for ICT products and services (requirements)</b> Duration: 01:00 Additional activities		<b>Visit to CEAPAT</b> Duration: 02:00 Additional activities	<b>Individual presentation of a section of EN 301 549</b> Individual work Continuous assessment Duration: 01:00
7	<b>Accessibility guidelines and standards for ICT products and services (web)</b> Duration: 01:00 Additional activities			<b>Web Accessibility guidelines discussion</b> Individual presentation Continuous assessment Duration: 01:00
8	<b>Accessibility guidelines and standards for ICT products and services (other)</b> Duration: 00:30 Additional activities  <b>Accessibility evaluation</b> Duration: 01:00 Lecture			<b>Accessibility guidelines discussion</b> Individual presentation Continuous assessment Duration: 00:30
9	<b>Accessibility evaluation - 1</b> Duration: 02:00 Cooperative activities		<b>Visit to Lab Decoroso Crespo</b> Duration: 02:00 Additional activities	<b>Accessibility evaluation - 1</b> Individual work Continuous assessment Duration: 00:00

10	<b>Accessibility evaluation - 2</b> Duration: 02:00 Cooperative activities			<b>Accessibility evaluation - 2</b> Individual work Continuous assessment Duration: 00:00  <b>Evaluation of web accessibility</b> Individual work Final examination Duration: 00:00
11	<b>Accessible design process</b> Duration: 01:30 Lecture  <b>Practical exercise proposal</b> Duration: 00:30 Additional activities			
12	<b>Classroom tutoring</b> Duration: 02:00 Additional activities		<b>Visit for Acce Design</b> Duration: 02:00 Additional activities	
13	<b>Classroom tutoring</b> Duration: 02:00 Additional activities			
14	<b>Classroom tutoring</b> Duration: 02:00 Additional activities			<b>Development of an accessible web site</b> Individual work Continuous assessment and final examination Duration: 00:00
15	<b>Co-evaluation of web sites</b> Duration: 01:00 Cooperative activities			<b>Results of co-evaluation compared to professor's evaluation</b> Individual presentation Continuous assessment Duration: 01:00
16				<b>Visit summary</b> Individual work Continuous assessment Duration: 00:00  <b>Evaluation of own web accessibility</b> Individual work Final examination Duration: 00:00  <b>Exam</b> Written test Final examination Duration: 01:00

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 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	Individual presentation of personas	Individual presentation	Face-to-face	00:30	5%	0 / 10	CE14
3	Individual presentation of use of ICT by personas	Individual presentation	Face-to-face	00:30	5%	0 / 10	CE14
4	Individual presentation of principles of DfA	Individual presentation	Face-to-face	00:30	5%	0 / 10	CE14
5	Standard overview (EN 301 549). Discussion	Other assessment	Face-to-face	01:00	5%	0 / 10	CE14
6	Individual presentation of a section of EN 301 549	Individual work	Face-to-face	01:00	5%	0 / 10	CE14
7	Web Accessibility guidelines discussion	Individual presentation	Face-to-face	01:00	5%	0 / 10	CE14
8	Accessibility guidelines discussion	Individual presentation	Face-to-face	00:30	5%	0 / 10	CE14
9	Accessibility evaluation - 1	Individual work	No Presential	00:00	5%	0 / 10	CE14
10	Accessibility evaluation - 2	Individual work	No Presential	00:00	5%	0 / 10	CE14
14	Development of an accessible web site	Individual work	No Presential	00:00	30%	0 / 10	CE14 CE01
15	Results of co-evaluation compared to professor's evaluation	Individual presentation	Face-to-face	01:00	15%	0 / 10	CE14
16	Visit summary	Individual work	No Presential	00:00	10%	0 / 10	CE01

#### 6.1.2. Final examination

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
10	Evaluation of web accessibility	Individual work	No Presential	00:00	10%	0 / 10	CE14



14	Development of an accessible web site	Individual work	No Presential	00:00	30%	0 / 10	CE14 CE01
16	Evaluation of own web accessibility	Individual work	No Presential	00:00	15%	0 / 10	CE14
16	Exam	Written test	Face-to-face	01:00	45%	0 / 10	CE14 CE01

### 6.1.3. Referred (re-sit) examination

Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
Evaluation of web accessibility	Individual work	Face-to-face	00:00	10%	0 / 10	CE14
Development of an accessible web site	Individual work	Face-to-face	00:00	30%	0 / 10	CE14 CE01
Evaluation of own web accessibility	Individual work	Face-to-face	00:00	15%	0 / 10	CE14
Exam	Written test	Face-to-face	01:00	45%	0 / 10	CE14 CE01

## 6.2. Assessment criteria

It is strongly recommended to follow the continuous evaluation system, that grades the active participation of the student during the semester in different types of activities: cooperative learning, inverted classroom, individual presentations and individual exercises. This continuous evaluation system implies attending all the sessions.

## 7. Teaching resources

### 7.1. Teaching resources for the subject

Name	Type	Notes
Book	Bibliography	S. Horton, W. Quesenbery: "A Web for Everyone. Designing Accessible User Experiences". 2014.
Standard	Bibliography	European Standard EN 301 549: "Accessibility requirements suitable for public procurement of ICT products and services in Europe"

WCAG	Web resource	A. Kirkpatrick, J. O Connor, A. Campbell, M. Cooper: "Web Content Accessibility Guidelines (WCAG) 2.1". <a href="https://www.w3.org/TR/WCAG21/">https://www.w3.org/TR/WCAG21/</a>
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## 8. Other information

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### 8.1. Other information about the subject

Attendance to all the visits is mandatory. Visits can be rescheduled based on external factors.