

340005 - ACAP-07P40 - Accessibility Applied

Coordinating unit:	340 - EPSEVG - Vilanova i la Geltrú School of Engineering
Teaching unit:	744 - ENTEL - Department of Network Engineering
Academic year:	2018
Degree:	BACHELOR'S DEGREE IN ELECTRONIC SYSTEMS ENGINEERING (Syllabus 2010). (Teaching unit Optional) BACHELOR'S DEGREE IN INFORMATICS ENGINEERING (Syllabus 2010). (Teaching unit Optional) BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Teaching unit Optional) BACHELOR'S DEGREE IN INDUSTRIAL DESIGN AND PRODUCT DEVELOPMENT ENGINEERING (Syllabus 2009). (Teaching unit Optional)
ECTS credits:	6
Teaching languages:	Catalan, Spanish

Teaching staff

Coordinator: Morillas Varón, Rafael (ENTEL)

Others: Morillas Varón, Rafael

Opening hours

Timetable: Tuesday: 10'30 to 14'30 h.
Wednesday: 12'30 to 14'30 h

Prior skills

The students must show the previous skills adquired along the Degree.

Requirements

Degree competences to which the subject contributes

Generical:

- . Accessibility: Know and apply criteria of universal design in different products, environment and services.

Transversal:

- 04 COE N3. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.
- 06 URI N3. EFFECTIVE USE OF INFORMATION RESOURCES - Level 3. Planning and using the information necessary for an academic assignment (a final thesis, for example) based on a critical appraisal of the information resources used.
- 05 TEQ N3. TEAMWORK - Level 3. Managing and making work groups effective. Resolving possible conflicts, valuing working with others, assessing the effectiveness of a team and presenting the final results.
- 07 AAT N3. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.

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Teaching methodology

The aim is for students to consolidate skills obtained in the subjects of the degree by applying what he learned in (real, simulated) scenarios. Theoretical concepts will in order to put in context the framework and was the starting point for the analysis and design to realize. The projects will be defined so that they can become a Final Project. It will enhance the performance of work in multidisciplinary teams using project-based learning model and role playing.

Learning objectives of the subject

The aim is for students to consolidate skills obtained in the subjects of the degree by applying what he learned in real scenarios.

Study load

Total learning time: 150h	Hours large group:	30h	20.00%
	Hours medium group:	0h	0.00%
	Hours small group:	15h	10.00%
	Guided activities:	0h	0.00%
	Self study:	105h	70.00%

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Content

<p>1. Advanced Accessibility</p>	<p>Learning time: 10h Theory classes: 10h</p>
<p>Description:</p> <ul style="list-style-type: none"> 1.1 Link between accessibility, ICT and Engineering 1.2 Teamwork 1.3 Example: Accessibility in Public Building 1.4 Phases of a human-centred design process 1.5 Accessible documentation <p>Related activities:</p> <p>The lecture reinforces aspects of documentation and development phases of a project useful to the practical part of the course.</p> <p>Specific objectives:</p> <p>Consolidate basic knowledge.</p>	
<p>2. Project</p>	<p>Learning time: 34h Theory classes: 34h</p>
<p>Description:</p> <ul style="list-style-type: none"> 2.1 Teamrol and preselected project- 2.2 Requirements Analysis 2.3 Conceptual Design 2.4 Prototyping 2.5 User Experience 2.6 Project management <p>Related activities:</p> <p>.Some laboratory sessions are designed that serve to support the project. The tools to be used in AL-116 are: Google forms, Google SketchUp, Justinmind Prototyper among others.</p> <p>Specific objectives:</p> <p>Specify, design and evaluate a project</p>	

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3. Study Case: Technology for the quality of the living day	Learning time: 2h Theory classes: 2h
<p>Description:</p> <ul style="list-style-type: none"> 3.1 Home healthcare services 3.2 Assistive technology 3.3 Interaction with home automation systems 3.6 Interface design 3.7 Electronic devices 3.8 Programming <p>Related activities:</p> <p>This case study is what will define the project list and offered the basis to issue the second project.</p> <p>Specific objectives:</p> <p>Create accessible scenarios at home using engineering solutions based on ICT</p>	

Planning of activities

Applied Accessibility Project	Hours: 41h Laboratory classes: 15h Theory classes: 26h
<p>Description:</p> <p>The course is structured around (real, simulated) projects for organizations in the region or units of the university. The projects will be defined so that they can become a Final Project. It will enhance the performance of work in multidisciplinary groups.</p> <p>Support materials:</p> <p>Based on project requirements and resources available in the laboratory.</p> <p>Descriptions of the assignments due and their relation to the assessment:</p> <p>It defines three key deliverables: the report of a draft specification of the user in the evaluation period partial (15%), a technical report two weeks before the end of the course (40%) and presentation of work the last week of the course (20%).</p> <p>In addition to the deliverables, group work and class exercises (25%) are evaluated.</p> <p>Specific objectives:</p> <p>Know how to apply and develop skills related to accessibility applied to group work and oral communication.</p>	

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Qualification system

The evaluation of the course consists in the accomplishment of exams (50%), a partial exam and a final exam in which the achievement of the contents developed in the subject will be valued. The exam grades are obtained as $\text{Note_Teoria} = \max(0.4 * \text{Ex_Parcial} + 0.6 * \text{Ex_Final}; \text{Ex_Final})$, and the evaluation of the practices (50%) based on the criteria: the difficulty of the effort and field work of, the quality of the proposal presented in a technical report and the public presentation of the work done in class.

Preliminary Report (15%)
Technical report (40%)
Presentation of the work (20%).
Teamwork and class exercises (25%).

For the re-evaluation of the subject, a Final Exam of the theoretical module will be carried out.

Regulations for carrying out activities

The works must be original, technically feasible and reaching the goals set by users.

Bibliography

Basic:

Guia de contingut digital accessible [on line]. Lleida: Edicions de la Universitat de Lleida, 2011 [Consultation: 29/02/2016]. Available on: <<http://hdl.handle.net/2445/29018>>. ISBN 9788484093701.

Moreno, Lourdes; Martínez, Paloma; González, Yolanda. Guía para elaborar documentación digital accesible [Recurs electrònic] : recomendaciones para Word, Power Point y Excel de Microsoft OFFICE 2010 [on line]. Madrid: CENTAC, 2014 [Consultation: 29/02/2016]. Available on: <<http://www.centac.es/sites/default/files/vol-5-accesible-07-03-02.pdf>>. ISBN 978-8461685752.

Brusilovsky Filer, Berta Liliana. Modelo para diseñar espacios accesibles. Espectro cognitivo [Recurs electrònic] [on line]. Granada: La Ciudad Accesible, 2014 [Consultation: 29/02/2016]. Available on: <<https://drive.google.com/file/d/0B3iK0itdBx97ZFRuOGJqVOJhQnc/view?pref=2&pli=1>>.

Arjona Jiménez, Gonzalo. La Accesibilidad y el diseño universal entendido por todos ; de cómo Stephen Hawking viajó por el espacio [on line]. 1a ed. Granada: La Ciudad Accesible, 2015 [Consultation: 24/10/2018]. Available on: <<https://drive.google.com/file/d/0B3iK0itdBx97WGJ4UEZrTE14SVE/view>>.

Others resources:

Hyperlink

CEAPAT. Tecnologías y personas mayores

http://www.ceapat.es/InterPresent1/groups/imsero/documents/binario/reto_8.pdf

Computer material

Modelo de Proceso de la Ingeniería de la usabilidad y de la accesibilidad

Nom recurPatrick W. Roe. Towards an inclusive future, COST 219. 2007

http://www.johngilltech.com/cost219ter/inclusive_future/inclusive_future_book.pdf