



Universitat de Lleida

DEGREE CURRICULUM  
**DESIGN AND CREATIVITY IN  
INTERACTIVE ENVIRONMENTS**

Coordination: ALBERTOS MARCO, FÉLIX

Academic year 2018-19

## Subject's general information

<b>Subject name</b>	DESIGN AND CREATIVITY IN INTERACTIVE ENVIRONMENTS			
<b>Code</b>	102367			
<b>Semester</b>	1st Q(SEMESTER) CONTINUED EVALUATION			
<b>Typology</b>	<b>Degree</b>	<b>Course</b>	<b>Character</b>	<b>Modality</b>
	Bachelor's degree in Digital Interaction and Computing Techniques	1	COMMON	Attendance-based
<b>Course number of credits (ECTS)</b>	6			
<b>Type of activity, credits, and groups</b>	<b>Activity type</b>	PRAULA		TEORIA
	<b>Number of credits</b>	3		3
	<b>Number of groups</b>	2		1
<b>Coordination</b>	ALBERTOS MARCO, FÉLIX			
<b>Department</b>	COMPUTER SCIENCE AND INDUSTRIAL ENGINEERING			
<b>Teaching load distribution between lectures and independent student work</b>	40% lectures / 60% independent student work			
<b>Important information on data processing</b>	Consult <a href="#">this link</a> for more information.			
<b>Language</b>	Castellano			

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
ALBERTOS MARCO, FÉLIX	felix@diei.udl.cat	8	
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## Subject's extra information

Subject to be held during the first semester in the first course of the Degree in Digital Interaction and Computing Techniques.

It belongs to the Computer Science area, inside the "Basic Training" module.

## Learning objectives

- Understand that in any system, a high percentage of effects are caused by a low percentage of variables.
- Know that exists a tendency to perceive a set of individual elements as a single, recognizable pattern, rather than multiple, individual elements.
- Know the main design principles.
- Learn how to seek consistency among attitudes, thoughts, and beliefs.
- Understand that the utility of a system is improved when similar parts are expressed in similar ways.
- Explain the phenomenon of memory in which information that is analyzed deeply is better recalled than information that is analyzed superficially.
- Know that beauty in design results from purity of function.
- See that exists a tendency to interpret ambiguous images as simple and complete, versus complex and incomplete.

## Competences

Basic Competences:

B01. That students have demonstrated to possess and understand knowledge in an area of study that starts from the base of general secondary education, and is usually found at a level that, although supported by advanced textbooks, also includes some aspects that imply knowledge coming from the vanguard of his/her field of study.

Transversal Competences:

CT3. Acquire training in the use of new technologies and information and communication technologies.

CT5. Acquire essential notions of scientific thought.

### General Competences:

CG2. Design, develop, evaluate and guarantee the accessibility, ergonomics, usability and security of computer systems.

CG5. Know the basic subject areas and technologies needed to learn and develop new methods and technologies, and those that help to adapt to new situations.

CG7. Solve problems through initiative, determination, independence and creativity.

CG8. Capacity for abstraction and critical, logical and mathematical reasoning.

### Specific Competences:

CE16. Capacity to design and evaluate person-computer interfaces that guarantee the usability of systems, services and computer applications.

CE17. Capacity to apply knowledge on design to propose and defend a design concept for an interactive system and use proper creative technologies to develop each project.

CE24. Capacity to understand the human factors involved in any interactive process between humans and technology, as well as being able to adequately apply them in the design of interactive products and services, and their interfaces.

## Subject contents

### Block I. Design of Interactive Sistema: Foundations

#### T1. Designing the Interaction: Basic Concepts

##### 1.1 Interactive Systems

##### 1.2 Designing the Interaction

##### 1.3 Fundamental Principles

#### T2. Human Behaviour

##### 2.1 Action Processing

##### 2.2 Human Thinking

#### T3. Interaction Platforms

### Block II. Design Principles

#### PD1. Influence the way a design is perceived

#### PD2. Learn from the design

#### PD3. Enhance usability of a design

#### PD4. Make a design more appealing

#### PD5. Make better design decisions

## Methodology

The subject is organized as follows:

- There is a theory group (aula) and two practices groups (praula).
- Theoretical contents are organized in two blocks (I and II). Both are alternatively presented in the aula group.
- In the praula group there is a project (two students groups) following an incremental and iterative methodology. Presentations of the project will be made during the course.

## Development plan

Week	Aula	Praula	Homework
1	Introduction + T1.1	SP1	Study + Case study definition
2	T1.1 (cont.) + T1.2	SP2	Study + AC
3	T1.3 + PD1	SP3	Study + AC + DP + TCV
4	T1.3 (cont.) + PD1	SP4	Study + AC + DP + TCV
5	T1.3 (cont.) + PD2	SP5	Study + AC + DP + TCV
6	T2.1 + PD2	SP6	Study + AC + DP + TCV
7	T2.1 (cont.) + PD3	SP7	Study + AC + DP + TCV
8	T2.1 (cont.) + PD3	SP8	Study + DP
9	Partial eval.		
10	T2.2 + PD4	SP9	Study + AC + DP + TCV
11	T3.1 + PD4	SP10	Study + AC + DP + TCV
12	T3.1 (cont.) + PD5	SP11	Study + AC + DP + TCV
13	T3.1 (cont.) + PD5	SP12	Study + AC + DP + TCV
14	T3.1 (cont.)	SP13	Study + TCV
15	Preparación evaluación	SP14	Study

AC: Complementary activities

DP: Project development

TCV: Work on the virtual campus

Praula Sessions (Practices)

SP1 - Introduction, groups, work environment and project document.

SP2 - Case study

SP3 - Analysis of PD1

SP4 - Use of PD1

SP5 - Analysis of PD2

SP6 - Use of PD2

SP7 - Analysis of PD3

SP8 - Use of PD3

SP9 - Analysis of PD4

SP10 - Use of PD4

SP11 - Analysis of PD5

SP12 - Use of PD5

SP13 - Presentations

SP14 - Debate

## Evaluation

Acr.	Evaluation activities	Weighing	Min. cal.	Group	Mandatory	Recoverable
P1	Partial 1	15%	4	No	Yes	Yes
P2	Partial 2	15%	4	No	Yes	Yes
PRO	Project	50%	5	2	Yes	Yes (75%)
RES	Problem solving	10%	No	No	Yes	No
PAR	Participation	10%	No	No	Yes	No

$$\text{Final mark} = P1 * 0.15 + P2 * 0.15 + \text{PRO} * 0.50 + \text{RES} * 0.10 + \text{PAR} * 0.10$$

- Partial1: Exam about theoretical contents.

- Partial2: Exam about theoretical contents.

- Project: Project report. Will be assessed the structure of the document, understanding of the topics, presentation of the ideas, capacity for synthesis, originality, media quality and appropriateness.

- Problem solving: class activities. During the classes a set of problems or case studies will be proposed. Will be assessed the correctness.

- Involvement: Involvement during the classes and at home through the virtual campus. Will be assessed the quality and correctness of the interventions.

## Bibliography

Alan Dix, Janet Finlay, Gregory D. Abowd, Russell Beale. Human-Computer Interaction, Prentice Hall, ISBN-13: 978-0-13-046109-4 (2004)

- Don Norman. The Design of Everyday Things, Basic Books, ISBN 978-0-465-00394-5 (2013)

- Alan Cooper, Robert Reimann, David Cronin, Christopher Noessel, About Face: The Essentials of Interaction Design, Wiley, ISBN: 978-1-118-76657-6 (2014)

- David Benyon. Designing Interactive Systems, Pearson, ISBN: 978-0-321-43533-0 (2010)
- William Lidwell (Author), Kritina Holden (Author), Jill Butler (Author). Universal Principles of Design, Rockport, ISBN-13: 978-1592535873 (2010)