



Universitat de Lleida

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

Coordination: ALBERTOS MARCO, FÉLIX

Academic year 2021-22

Subject's general information

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

Teaching staff	E-mail addresses	Credits taught by teacher	Office and hour of attention
ALBERTOS MARCO, FÉLIX	felix.albertos@udl.cat	3	
PROFESSOR PENDENT ASSIGNAR		3	

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 - Interactive Systems Design: Fundamentals

T1 Interaction Design: Basic Concepts

1.1 Introduction

1.2 Interaction Paradigms

1.3 The Design Process

1.4 Fundamental Principles

1.5 Essential Aspects

T2. Human behavior

2.1 Processing of the Actions

2.2 Human Thought

T3 Interaction Platforms

3.1 Desktop Applications Design

3.2 Mobile Applications Design

3.3 Web Applications Design

Block II - Principles of Design

PD1. Influence perceived design

PD2. Help learn from design

PD3. Improve the usability of a design

PD4. Make design more attractive

PD5. Improve decision making in design

Methodology

The subject is developed as follows:

- A theory group (aula) and one group for practices (praula) are established.
- The theoretical contents are divided into two blocks (I and II) that are presented in the classroom interspersed (see programming). During the classroom sessions activities are presented.
- In the praula group a project is carried out (in groups of two students) following an iterative and incremental methodology. Presentations will be made in different phases of the project.

Development plan

Week	Aula	Praula	Homework
1	Reception Day		
2	T1.1 + PD1 (1/3)	Presentation + Preparation + Definition	Study + Case study definition
3	PD1 (3/3)	PD1 (2/3) PD1-S1	Study + AC + DP + TCV
4	PD2	PD1-S2	Study + AC + DP + TCV
5	T1.2 (1/2) + PD3 (1/2)	PD2-S1 + EPD1	Study + AC + DP + TCV
6	T1.2 (2/2) + PD3 (2/2)	PD2-S2	Study + AC + DP + TCV
7	T1.3 + PD4 (1/2)	PD3-S1 + EPD2	Study + AC + DP + TCV
8	T1.4 + PD4 (2/2)	PD3-S2	Study + DP
9	Partial eval.		
10	T2.1 + PD5 (1/2)	Web Tutorial	Study + AC + DP + TCV
11	T2.2 + PD5 (2/2)	PD4-S1 + EPD3	Study + AC + DP + TCV
12	T3.1 + T3.2	PD4-S2	Study + AC + DP + TCV
13	T3.3 + Presentation Tutorial	PD5-S1 + EPD4	Study + AC + DP + TCV
14	Review	PD5-S2	Study + TCV
15	EPD5-Presentation	EPD5- Presentation	Study
16	Partial eval.		

AC: Complementary activities

DP: Project development

TCV: Work on the virtual campus

Praula Sessions (Practices)

Preparation: Description of the practices and definition of groups, work environment and memory document.

Definition: Selection of the interactive applications that make up the case study.

PDX-S1: PDX Analysis

PDX-S2: PDX application

EPDX: PDX Evaluation

EPD5-Document: Final evaluation of memory

EPD5-Presentation: Presentation of projects and general debate on practices

Evaluation

Modality	Weighing	Acr.	Evaluation activities	Weighing	Min. cal.	Mandatory	Recoverable
Individual	30%	P1	Partial 1	50%	5	Yes	Yes
		P2	Partial 2	50%			
	20%	ACT-T1	Activities T1		No	No	No
		ACT-T2	Activities T2		No	No	No
		ACT-T3	Activities T3		No	No	No
	Group	50%	PRO	Project		5	Yes

$$\text{ActMark} = (\text{ACT-T1} + \text{ACT-T2} + \text{ACT-T3}) / 3$$

$$\text{EvaluationMark} = P1 * 0.15 + P2 * 0.15 + \text{NotaActs} * 0.20 + \text{PRO} * 0.50$$

Final mark (if minimums are met) = EvaluationMark

Final mark (if minimums are not met) = EvaluationMark (if EvaluationMark is less than 5) or 4.5 (if EvaluationMark is greater than or equal to 5).

- Partial1: Examination on the subject presented in theory classes.
- Partial2: Examination on the subject presented in theory classes.
- Activities: Activities related to the topics of Block I. The activities proposed during the school timetable will be evaluated. Performance and correction will be assessed.
- Project: Realization of the memory of the project. Memory, comprehension, exposition of ideas, capacity for

synthesis, originality, quality of means in the exhibition and adequacy will be valued.

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)