SUBJECT TEACHING GUIDE

306 - Design and assessment of interactive systems

Master's Degree in computing engineering

Academic year 2023-2024

1. IDENTIFYING DATA					
Degree	Master's Degree in computing engineering			Type and Year	Compulsory. Year 1
Faculty	Faculty of Sciences				
Discipline	SOFTWARE ENGINEERING				
Course unit title and code	306 - Design and assessment of interactive systems				
Number of ECTS credits allocated	6	Term		Semester based (2)	
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. MATEMATICAS, ESTADISTICA Y COMPUTACION
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Other lecturers	

3.1 LEARNING OUTCOMES
- Students should be able to develop and evaluate user interfaces following a methodological approach.
- Students should be able to design web interfaces according to the standards, following design patterns and criteria of accessibility, ergonomics, usability and quality.
- Know the specific features of the multimedia and hypermedia systems.
- Students should be able to design, develop and evaluate collaborative systems.
- Students should be able to design interactive systems accessible to people with special needs
- Students should be able to design systems in the field of mobile and ubiquitous computing

4. OBJECTIVES
Integrate the methodologies and techniques for design interactive systems in the software development process
Present the design process of interactive systems
Present methods for assessing the degree of usability of interactive systems
Describe the specific characteristics of the user interfaces of groupware systems
Describe the devices associated with information and multimedia systems.
Present guidelines for designing systems accessible to people with special needs

6. COURSE ORGANIZATION	
CONTENTS	
1	INTRODUCTION. The concept of interaction. Usability in the ISO 9241 standard. Human-Computer Interaction in Software Engineering.
2	DESIGN PROCESS OF INTERACTION Introduction Specifying the Context of Use Prototype and Design. Build. Case Study: Mobile computing and ubiquitous computing.
3	EVALUATION OF INTERACTIVE SYSTEMS. Evaluation. Evaluation methods. Inspection. Inquiry. Test. Cost of usability. Usability laboratory.
4	SOCIAL INTERACTION. Computer-Supported Collaborative Work (CSCW). Groupware. Analysis and Design of Collaborative Systems Architectures and Technologies for the Development of Collaborative Systems. Collaborative interfaces. Evaluation of Collaborative Systems.
5	REALITY AND VIRTUAL REALITY AUGMENTED. Foundations. Components. Augmented reality. Virtual reality. Application areas. Augmented reality vs. virtual reality.
6	INTERACTIVE SYSTEMS FOR PEOPLE WITH SPECIAL NEEDS. Introduction. The universal design. Accessibility: a general need. Web accessibility. Evaluation of the accessibility .

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Projects	Laboratory evaluation	No	Yes	50,00
Exercises	Activity evaluation with Virtual Media	No	Yes	50,00
TOTAL				100,00

Observations

If the maximum number of highest grades (“Matricula de Honor”) is reached in the ordinary evaluation period, students following the extraordinary evaluation will not be eligible to this grade.

Observations for part-time students

The evaluation method for part-time students will be the same used to evaluate the full-time students

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Debbie Stone, Caroline Jarrett. User Interface Design and Evaluation. The Morgan Kaufman Series. 2005.

Shneiderman, Ben. Designing the user interface : strategies for effective human-computer interaction. Addison-Wesley, 2010.

Rogers, Yvonne. Interaction design : beyond human-computer interaction. Wiley, 2012.