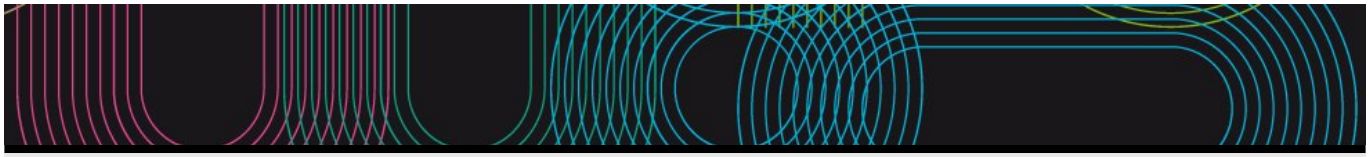

IDENTIFYING DATA				
User Interfaces				
Subject	User Interfaces			
Code	O06G151V01304			
Study programme	Grado en Ingeniería Informática			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Mandatory	3rd	1st
Teaching language	Spanish Galician			
Department				
Coordinator	Rodeiro Iglesias, Javier			
Lecturers	Rodeiro Iglesias, Javier			
E-mail	jrodeiro@uvigo.es			
Web	http://moovi.uvigo.gal			
General description	This subject is compulsory in the first semester of the third course. In this subject pretend enter the necessary concepts for the design, building and evaluation of interfaces of user. It has to serve like base to the subjects of programming and engineering of software for the correct interaction with the user.In this subject include essential basic competitions for the future professional exercise of the Engineer/to Technician/to in Computing, and also competitions that are instrumental for the acquisition of other professional competitions, especially the related with the work order level. English Friendly subject: International students may request from the teachers: a) materials and bibliographic references in English, b) tutoring sessions in English, c) exams and assessments in English.			

Training and Learning Results	
Code	
A2	Students will be able to apply their knowledge and skills in their professional practice or vocation and they will show they have the required expertise through the construction and discussion of arguments and the resolution of problems within the relevant area of study.
A4	Students will be able to present information, ideas, problems and solutions both to specialist and non-specialist audiences.
B3	Ability to design, develop, assess and ensure accessibility, ergonomics, usability and safety of computing systems, services and applications, as well as the information managed by them.
B8	Knowledge of the essential subjects and technologies that will allow students to learn and develop new methods and technologies, as well as those that will endow them with versatility to adapt to new situations.
B9	Ability to solve problems by taking the initiative, making decisions and acting independently and creatively. Ability to communicate the knowledge contents, skills and abilities of the Computer Science Engineer profession.
C4	Essential knowledge of use and programming of computers, operating systems, data bases and computer programs with application in engineering.
C23	Ability to design and assess human-computer interfaces to guarantee accessibility and usability of computer systems, services and applications.
C25	Ability to develop, maintain and assess software systems and services that satisfy all the demands of users and work reliably and efficiently, are easy to develop and maintain, and meet the quality standards, applying the theories, principles, methods and practices of Software Engineering.
C26	Ability to assess clients needs and determine the software requirements to satisfy these needs, reconciling conflicting goals through attempts to reach acceptable compromises within the limits imposed by costs, available times, existing developed systems and organizations themselves.
C28	Ability to identify and analyze problems and design, develop, implement, verify and document software solutions on the basis of sound knowledge of the theories, models and techniques available nowadays.
C33	Ability to employ user- and organization-oriented methodologies for the development, assessment and management of applications and systems based on information technologies to guarantee accessibility, ergonomics and usability of systems.
D4	Analysis, synthesis and evaluation capacity
D5	Organizational and planning skills

D6	Ability to abstract: ability to create and use models that reflect real situations
D8	Ability to work in situations of lack of information and / or under pressure
D9	Ability to quickly integrate and work efficiently in unidisciplinary teams and to collaborate in a multidisciplinary environment
D10	Interpersonal relationship skills.
D11	Critical thinking
D12	Leadership

Expected results from this subject

Expected results from this subject	Training and Learning Results			
RA1. User interface evaluation using user observation techniques and heuristic evaluation	A2	B3	C23 C33	D8 D10 D11
RA2. Design and manage formal tests to evaluate usability hypotesis.		B3	C23 C26	D4 D5 D6
RA3. Apply the principles of the advances communication technologies and the human computer interactions (HCI) to the design and implementation of solutions based in Information Technologies, integrating these solutions in the user context.			C4 C25	D9
RA4. Define, describe and specify user interfaces and relate them with the specific characteristics of the processes and the computer systems	A4	B8 B9	C4	D12
RA5. Comprise, specify and apply the mental processes of the users to the definition of human computer interfaces		B3	C23	D11
RA6. Recognize, identify and define physical and cognitive characteristics of the users of software systems.			C28	D5 D10

Contents

Topic	
Motivation of the interaction man-machine Psicology and cognitive science	Motivations. Cognitive human process.
Psicologic and perceptual factors of the interaction	Paradoxs The perceptual channels
Conceptual models and metaphors	Conceptualization of the interface. Identification of metaphors.
Analysis of tasks	Hierarchical model. Representative model.
Design centered in the user	Characterization of the users. Interaction and technology.
Internationalization and architectures of interface	multilingual and cultural support Independence of the interface and process.
Subjective evaluation techniques	Paper prototyping States diagram Transitions diagram

Planning

	Class hours	Hours outside the classroom	Total hours
Mentored work	14	0	14
Laboratory practical	10.5	0	10.5
Autonomous problem solving	17.5	0	17.5
Seminars	10	0	10
Report of practices, practicum and external practices	0	18	18
Problem and/or exercise solving	0	80	80
*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.			

Methodologies

	Description
Mentored work	Resolution of exercises proposed by the teacher. It uses as a complement of the lecturing and of the works of classroom.
Laboratory practical	Work on practical concepts in laboratory
Autonomous problem solving	Exhibition by part of the professor of the contents on the matter object of study, theoretical bases and/or guidelines of a work, exercise or project to develop by the student.
Seminars	(*)Explicación de contidos necesarios para a realización de traballos e informes

Personalized assistance	
Methodologies	**Description**
Laboratory practical	The sessions of personalized assistance will be able to make by telematic means (email, videoconference) with appointment.
Mentored work	The sessions of personalized assistance will be able to make by telematic means (email, videoconference) with appointment.
Autonomous problem solving	The sessions of personalized assistance will be able to make by telematic means (email, videoconference) with appointment.

Assessment						
	Description	Qualification	Training and Learning Results			
Report of practices, practicum and external practices	Progress and technical reports RA2 RA4 RA6	20	A4	B3 B8 B9	C23 C26 C28	D4 D5 D6 D10 D12
Problem and/or exercise solving	One or more works proposed by the subject teacher. All jobs are required. The percentage of the work grade will be directly proportional to the number of work hours. RA1 RA2 RA3 RA4 RA5 RA6	80	A2	B3 B8 B9	C4 C23 C25 C26 C33	D4 D5 D6 D8 D9 D11 D12

Other comments on the Evaluation

EVALUATION CRITERIA FOR ATTENDANTS 1ª EDITION OF MINUTES

The methodologies and tests specified in the table above will be used. Students must get a grade of 5 out of 10 to pass.

EVALUATION CRITERIA FOR NON-ATTENDANTS

Methodology 1: Report of practices, practicum and external practies

Description: Reports / reports proposed by the teacher to the students, both for their realization individually and in groups.

Qualification: 20%. To pass this part of the subject the student must obtain a grade equal to or higher than 5 points (out of 10).

Competences evaluated: CB4, CG8, CE28, CT1, CT3, CT4, CT10

Assessment of learning results: RA1, RA4, RA6

Methodology 2: Problem and/or exercise solving

Description: Works proposed by the teacher to the students, both for their realization individually and in groups.

Rating: 80%. To pass this part of the subject the student must obtain a grade equal to or higher than 5 points (out of 10).

Competences evaluated: CB2, CG3, CG8, CG9, CE4, CE23, CE25, CE26, CE33, CT4, CT5, CT6, CT8, CT9, CT11, CT12

Evaluated learning outcomes: RA1, RA2, RA3, RA4, RA5, RA6

EVALUATION CRITERIA FOR 2ª EDITION OF MINUTES AND END OF CAREER

The same assessment system applied to non-attendees will be used.

MINUTES QUALIFICATION PROCESS

In the case of not passing any of the proposed tests, the mark will correspond to the weighted average of the works according to their hourly dedication, unless that average mark exceeds 5, which will then correspond to a 4.

EVALUATION DATES

The deadlines will be the following:

ET1: 2/10/2022

ET2: 13/11/2022

ET3: 27/1/2023

The calendar of assessment tests, officially approved by the Xunta de Centro of the ESEI, is published on the website http://www.esei.uvigo.es.

USE OF MOBILE DEVICES

All students are reminded of the prohibition of the use of mobile devices in exercises and practices, in compliance with article 13.2.d) of the University Student Statute, regarding the duties of university students, which establishes the duty to "Refrain from using or cooperation in fraudulent procedures in assessment tests, in the work carried out or in official documents of the university. "

Sources of information

Basic Bibliography

Dan R. Olsen Jr, **Developing user interfaces (Interactive Technologies)**, 9781558604186, 1, Morgan Kaufmann, 1998

Saul Greenberg et al., **Readings in Human-Computer Interaction: Toward the Year 2000 (Interactive Technologies)**, 1558602461, 2nd Revised edition, Morgan Kaufmann, 1995

Hugh Beyer and Karen Holtzblatt, **Contextual Design, Defining Customer-Centered Systems**, 1558604111, Morgan kaufmann, 1997

Donald A. Norman, **Design of Everyday Things**, 9780465050659, 2nd revised and expanded, Zone Books, 2013

Jakob Nielsen, **Usability Engineering**, 0125184069, Academic Press, 1994

William Albert and Thomas Tullis, **Measuring the User Experience: Collecting, Analyzing, and Presenting Usability Metrics (Interactive Technologies)**, 0124157815, 2, Morgan Jauffmann, 2013

Complementary Bibliography

Recommendations

Subjects that it is recommended to have taken before

Databases 1/O06G151V01209
Software engineering 1/O06G151V01204
Software engineering 2/O06G151V01208