Universida_{de}Vigo

Subject Guide 2023 / 2024

IDENTIFYIN	G DATA				
Web service	es and technologies				
Subject	Web services and				
	technologies				
Code	O06G151V01414				
Study	Grado en				
programme	Ingeniería				
	Informática				
Descriptors	ECTS Credits	Choose	Year	Quadmester	
	6	Optional	4th	1st	
Teaching	#EnglishFriendly				
language	Spanish				
	Galician				
Department					
Coordinator	González Peña, Daniel				
Lecturers	González Peña, Daniel				
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General	This subject has character of introduction and deeper	ing in the utilisatio	n of the necessary	technologies to	
description	develop systems that afterwards have to be used insi	de the Web. This su	ubject will deal with	i techniques,	
·	environments, platforms and programming tools necessary to implement high-guality information systems in				
	the field of the Web, in order to the student be able to	o develop distribute	d applications thro	ugh the Web.	
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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.
A5	Students will acquire the learning skills that are required to pursue further studies with a high degree of independence.
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.
C5	Knowledge of the structure, organization, functioning and interconnection of computing systems, the foundations of
	their programming, and their application to the resolution of specific problems in engineering.
C14	Ability to analyze, design, build and maintain applications in a robust, safe and efficient way, choosing the most
	appropriate paradigm and programming languages.
C19	Knowledge and application of the necessary tools for storing, processing and accessing information Systems, including
	web-based ones.
C23	Ability to design and assess human-computer interfaces to guarantee accessibility and usability of computer systems,
	services and applications.
C36	Ability to design systems, applications and services based on network technologies, including the Internet, web, e-
	commerce, multimedia, interactive services and mobile computing.
C37	Ability to understand, apply and manage the security and safety of computing systems.
D4	Analysis, synthesis and evaluation capacity
D6	Ability to abstract: ability to create and use models that reflect real situations
D7	Ability to search, relate and structure information from various sources and to integrate ideas and knowledge.
D9	Ability to quickly integrate and work efficiently in unidisciplinary teams and to collaborate in a multidisciplinary
	environment

Expected results from this subject						
Expected results from this subject			Training and Learning Results			
New	A2 A5		C5 C14 C19 C36	D4 D11		
LO2: To design and implement web pages by employing usability and accessibility criteria and based on an efficient resource use	A2 A5	B8 B9	C4 C5 C14 C19 C23 C36	D4 D6 D7 D9 D10 D11		
LO3: To create efficient Web systems enabling content management	A2 A5	B9	C4 C5 C14 C19 C36	D4 D6 D7 D9 D10 D11		
LO4: To manage database communication and its connection in web environments efficiently	A2 A5	B9	C4 C5 C19 C36	D9 D10 D11		
LO5: To configure secure environments for Web systems development	A2 A5		C14 C37	D4 D11		
LO6: To correctly apply advanced Web concepts during Web systems development	A2 A4 A5	B9	C4 C5 C14 C19 C36 C37	D4 D6 D7 D11		

Contents	
Торіс	
Introduction to web applications development	Concepts, architecture, usability, accessibility, languages, development tools
Development environments configuration	Web servers, DB configuration.
Web design and client-side programming	Tools, user interface graphic design, languages and standards
Server-side programming and data access	Server-side programming languages, DB connection and querying
Web security	Secure connections, authentication and authorization
Advanced technologies	Frameworks, languages and recent libraries

Planning			
	Class hours	Hours outside the classroom	Total hours
Lecturing	13	34	47
Laboratory practical	24	36	60
Seminars	10	0	10
Presentation	0.5	9.5	10
Objective questions exam	3	0	3
Project	2	18	20
*The information in the planning table is	for guidance only and does no	ot take into account the hete	erogeneity of the students.

Methodologies	
	Description
Lecturing	Theoretical contents presentation. With the aim to facilitate the understanding and increasing the student attention, diverse examples and exercises requiring his/her active participation will be included

Laboratory practical	Realisation of problems of practical character that include the programming of software related with the contents of the matter.				
	CONTINUOUS ASSESSMENT Character: Compulsory Attendance: Compulsory				
	GLOBAL ASSESSMENT Character: Compulsory Attendance: Not Compulsory				
Seminars	Answering of general student questions and sharing of specific theoretical and/or practical problems related to the subject				
Presentation	Topic elaboration and presentation in small groups, including oral presentation and proposal of practical applications				

Personalized assistance

Tests Description

Project Teacher will assist the student at the laboratory during assesable project development, by answering individual questions

Assessment							
	Description		nTra	Training and Learning Results			
Laboratory practical	Working in the project at the laboratory, which includes a coutinuous assessment of the student's progress through the course. EXPECTED RESULTS IN THE SUBJECT BEING EVALUATED: LO1, LO2,	15	A4 A5		C4 C5 C37	D9 D10	
Presentation	LO3, LO4, LO5, LO6 Preparation and presentation in small groups of a topic, his oral presentation and practical examples. Clarity, quality and time adjustment of the presentation will be taken into account. EXPECTED RECURSES IN THE SUBJECT REINCE EVALUATED: LO6	10	A4	В9	C4 C5 C14 C19	D4 D6 D7 D9	
Objective questions exam	Several multiple-choice tests during the course that include theoretical and practical contents of the subject. EXPECTED RESULTS IN THE SUBJECT BEING EVALUATED: LO1, LO2,	30	_A2	C36 C37 C5 C14 C19	D10 D11 D6		
Project	LO3, LO4, LO5, LO6 Project development integrating subject contents. EXPECTED RESULTS IN THE SUBJECT BEING EVALUATED: LO1, LO2, LO3, LO4, LO5, LO6	45	A2 A5	B8 B9	C4 C5 C14 C19 C23 C36 C37	D4 D6 D7 D9 D10 D11	

Other comments on the Evaluation

CONTINUOUS ASSESSMENT SYSTEM

Continuous evaluation of laboratory practices

Description: monitoring of the student in the development of the project during laboratory practices throughout the course.

Applied methodology: laboratory practice.

% Qualification: 15%.

% Minimum: There is no required minimum.

Evaluated training and learning results: A4, A5, C4, C5, D9, D10.

Expected results in the subject being evaluated: LO1, LO2, LO3, LO4, LO5, LO6.

Oral presentation

Description: preparation and presentation in small groups of a topic, its oral exposition and application approach. The clarity of the exposure, the quality of the presentation and the adjustment to the maximum pre-established time will be taken into account.

Applied methodology: presentation.

% Qualification: 10%.

Minimum %: a grade equal to or greater than 3.5 points must be obtained.

Evaluated training and learning results: A4, B9, C4, C5, C14, C19, C36, D4, D6, D7, D9, D10, D11.

Expected results in the subject being evaluated: LO6.

Written exam 1

Description: individual multiple choice written test on the first part of the theoretical content.

Applied methodology: examination of objective questions.

% Qualification: 15%.

Minimum %: a grade equal to or greater than 3.5 points must be obtained.

Evaluated training and learning results: A5, C5, C14, C19, D6.

Expected results in the subject being evaluated: LO1, LO2, LO3, LO4, LO5, LO6.

Written exam 2

Description: individual multiple choice written test on the first part of the theoretical content.

Applied methodology: examination of objective questions.

% Qualification: 15%.

Minimum %: a grade equal to or greater than 3.5 points must be obtained.

Evaluated training and learning results: A5, C5, C14, C19, D6.

Expected results in the subject being evaluated: LO1, LO2, LO3, LO4, LO5, LO6.

Web project delivery 1

Description: first delivery of a web project that integrates the contents seen in the matter.

Applied methodology: project.

% Qualification: 22.5%.

Minimum %: a grade equal to or greater than 3.5 points must be obtained.

Evaluated training and learning results: A2, A5, B8, B9, C4, C5, C14, C19, C23, C36, D4, D6, D7, D9, D10, D11.

Expected results in the subject being evaluated: LO1, LO2, LO3, LO4, LO5, LO6.

Web project delivery 2

Description: second delivery of a web project that integrates the contents seen in the matter.

Applied methodology: project.

% Qualification: 22.5%.

Minimum %: a grade equal to or greater than 3.5 points must be obtained.

Evaluated training and learning results: A2, A5, B8, B9, C4, C5, C14, C19, C23, C36, D4, D6, D7, D9, D10, D11.

Expected results in the subject being evaluated: LO1, LO2, LO3, LO4, LO5, LO6.

If a student does not take any of the tests, a grade of 0 will be assigned to it.

GLOBAL EVALUATION SYSTEM

Procedure for choosing the global evaluation modality: once the period of one month from the beginning of the semester has passed, a period of 10 working days will be enabled for the enrolled students to formally express their intention to take advantage of the evaluation system global.

Written exam

Description: written individual multiple choice test on the theoretical contents.

Applied methodology: examination of objective questions.

% Qualification: 40%.

Minimum %: a grade equal to or greater than 3.5 points must be obtained.

Evaluated training and learning results: A5, C5, C14, C19, D6.

Expected results in the subject being evaluated: LO1, LO2, LO3, LO4, LO5, LO6.

Global delivery web project

Description: delivery of a web project that integrates the contents seen in the matter and all the requirements included in the continuous evaluation modality.

Applied methodology: project.

% Qualification: 60%.

Minimum %: a grade equal to or greater than 3.5 points must be obtained.

Evaluated training and learning results: A2, A5, B8, B9, C4, C5, C14, C19, C23, C36, D4, D6, D7, D9, D10, D11.

Expected results in the subject being evaluated: LO1, LO2, LO3, LO4, LO5, LO6.

EVALUATION CRITERIA FOR EXTRAORDINARY CALL AND END OF CAREER

Continuous evaluation system: the same continuous evaluation system will be used as the one previously exposed for the ordinary call, with the exception that the "Laboratory practical" will be a face-to-face practical test on the delivered web project.

Global evaluation system: the same as the one previously exposed for the ordinary call.

RECORD QUALIFICATION PROCESS

Regardless of the evaluation system and the call, the minimum average mark to pass the subject is 5. On the other hand, if the minimum is not exceeded in any part of the evaluation, but the overall score is greater than 4 (out of 10), the grade in minutes will be 4.

EVALUATION DATES

The dates of the tests corresponding to the continuous assessment system will be published in the calendar of activities, available on the ESEI website https://esei.uvigo.es/docencia/horarios/.

The official exam dates of the different calls, officially approved by the Xunta de Centro of the ESEI, are published on the ESEI website https://esei.uvigo.es/docencia/horarios/.

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 cooperating in fraudulent procedures in the assessment activities, in the delivered assignments or in official documents of the university."

TUTORING SCHEDULE AND PERSONAL TUTORING REQUEST

The tutoring schedule, and the way to request a personal tutoring, is published in the personal page of the teaching staff, accessible through https://esei.uvigo.es/docencia/profesorado/.

Sources of information

Basic Bibliography

Leon Shklar and Rich Rosen, Web application architecture. Principles, Protocols and Practices, 978-0470518601, 2, Wiley, 2009

David Gourley, Brian Totty, Marjorie Sayer, Anshu Aggarwal, Sailu Reddy, et al, **HTTP: The Definitive Guide**, 978-1565925090, 1, O'Reilly, 2002

Complementary Bibliography

Steven M. Schafer, HTML, XHTML, and CSS Bible, 978-0470523964, 5, Wiley, 2010

Recommendations

Subjects that are recommended to be taken simultaneously Applications developing for the Internet/006G151V01417