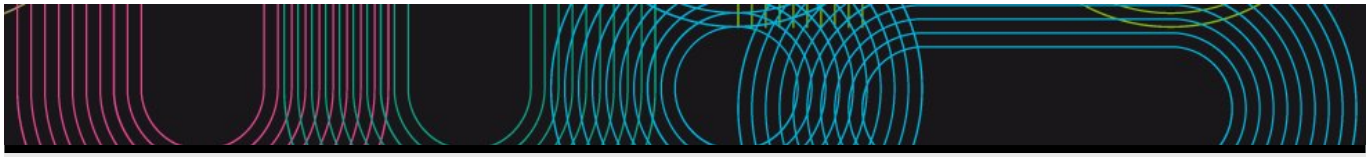

IDENTIFYING DATA				
Web Development Technologies				
Subject	Web Development Technologies			
Code	V05M145V01309			
Study programme	Telecommunication Engineering			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	5	Optional	2nd	1st
Teaching language	Spanish			
Department				
Coordinator	López Nores, Martín			
Lecturers	López Nores, Martín			
E-mail	mlnores@det.uvigo.es			
Web	http://faitic.uvigo.es			
General description	Description of the most current techniques applications for the development of Web applications. The course will tech the students to develop multiplatform applications based on the HTML5 foundation.			

Competencies	
Code	
A1	CB1 Knowledge and understanding needed to provide a basis or opportunity for being original in developing and/or applying ideas, often within a research context.
A5	CB5 Students must have learning skills to allow themselves to continue studying in largely self-directed or autonomous way
B12	CG12 Skills for lifelong, self-directed and autonomous learning.
C35	CE50/OP20 Ability to deploy and manage server software application logic of a web service managers, to design and manage non-relational data bases , and understand the functional division of an existing Web application between the client and the server itself

Learning outcomes	
Expected results from this subject	Training and Learning Results
New	
The students will be able to design, develop and manage the whole infrastructure of a web application. Besides, they will be able to develop the application logic and to create responsive user interfaces using web technologies.	A1 A5 B12 C35

Contents	
Topic	
The current ecosystem of web development	Introduction to HTML5, CSS3 and Javascript. Architectures of web and mobile applications. Concepts and frameworks of multi-platform development.
Markup with HTML5 and Angular	Structural elements of an application. Semantic markup. Forms. Programming interfaces. Data binding and structural directives.

Presentation with CSS3 and SaaS	The box model. Adaptable design. Selectors. Extensions of the SaaS metalanguage.
Application logic with Javascript and TypeScript	Evolution of scripting languages for the web. CRUD applications and REST interfaces. Objects and arrays in Javascript. Processing of JSON and XML content.

Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	9	18	27
Problem solving	5	14	19
Project based learning	11	66	77
Essay questions exam	2	0	2

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

	Description
Lecturing	Presentation of the main concepts and technologies, predominantly through practical examples of use. It will work mainly the competency CE35.
Problem solving	Practices of the concepts presented in the lectures. It will work the CB5 and CE35 competencies.
Project based learning	Development in group of a practical project, consisting in a functional version of a web service that incorporates the main mechanisms presented in the course. It will work the CB5 and CE35 competencies.

Personalized assistance

Methodologies	Description
Lecturing	During the tutoring hours, the professors will deliver personalised attention, to guide the student in the understanding of the theoretical concepts explained in the lecturing sessions or in the practical ones. In these hours, the professors will also follow up on the work linked to the practical project. In the group tutoring hours, the professors will conduct the debate on the solutions proposed by the members of the working groups, and also check the uniform participation of the members in the final development.
Problem solving	During the tutoring hours, the professors will deliver personalised attention, to guide the student in the understanding of the theoretical concepts explained in the lecturing sessions or in the practical ones. In these hours, the professors will also follow up on the work linked to the practical project. In the group tutoring hours, the professors will conduct the debate on the solutions proposed by the members of the working groups, and also check the uniform participation of the members in the final development.

Assessment

	Description	Qualification	Training and Learning Results		
Project based learning	Practical project.	70	A1 A5		C35
Essay questions exam	Final exam.	30	A5	B12	C35

Other comments on the Evaluation

Continuous Assessment:

To opt to continuous assessment, it is necessary to attend 80% of the practical lab sessions and make the corresponding deliveries, and also to make the partial deliveries requested for the group development project.

Each one of the deliveries will evaluated separately. The final practical mark will be the result of averaging the mark obtained in the last delivery of the development project (70%) and the arithmetical average of the previous deliveries (30%). All the marks associated to the work done in group will be shared by all of its members.

The final mark will be the obtained by averaging the practical mark (70%) and the mark obtained in the exam (30%).

One-step Assessment:

The student who prefers one-step assessment must tell the professor before the date of the first partial delivery of the development project. In this case, his/her partial deliveries will not be taken into account for his/her mark, but they will for the marks of the other group members who opt to continuous assessment. The final mark will be calculated by averaging the mark obtained in the final delivery of the project (70%) and that of the final examination (30%).

Second Opportunity:

In the second opportunity, the students have to deliver (individually) a set of modifications to the project developed during the course. In the case of the students of one-step assessment, this delivery will account for 70% of the final mark, and the remaining 30% will correspond to the final exam.

For the students who chose continuous assessment, the practical note will be the maximum between (i) the weighted average of the marks of new delivery (70%) and the marks of the partial deliveries (30%) and (ii) the mark corresponding only to the new delivery.

Sources of information

Basic Bibliography

Mark Pilgrim, **HTML5: Up and Running**, 1ª, O'Reilly, 2010

Wesley Hales, **HTML5 and JavaScript Web Apps**, 1ª, O'Reilly, 2012

Chris Griffith, **Mobile App Development with Ionic, Revised Edition**, 1ª, revisada, O'Reilly, 2017

https://developer.mozilla.org/en/docs/Web, **Web technology for developers**,

Complementary Bibliography

Peter Gasston, **The book of CSS3**, 2ª, No Starch Press, 2014

Recommendations

Contingency plan

Description

=== EXCEPTIONAL MEASURES SCHEDULED ===
Given the uncertain and unpredictable evolution of the health alert caused by COVID-19, the University of Vigo establishes an extraordinary planning that will be activated when the administrations and the institution itself determine it, considering safety, health and responsibility criteria both in distance and blended learning. These already planned measures guarantee, at the required time, the development of teaching in a more agile and effective way, as it is known in advance (or well in advance) by the students and teachers through the standardized tool.

=== ADAPTATION OF METHODOLOGIES ===
All the teaching methodologies will be kept, although they will be implemented through telematic tools, without modifications of the course contents. The tutoring hours will also take place by videoconference.

=== ADAPTATION OF THE EVALUATION ===
No modifications; all the demonstrations, proofs and code reviews will take place through videoconference.