

**COURSE DATA****Data Subject**

<b>Code</b>	44827
<b>Name</b>	Client-Side Programming and Visualisation
<b>Cycle</b>	Master's degree
<b>ECTS Credits</b>	4.0
<b>Academic year</b>	2017 - 2018

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
2234 - M.D. in Web Technology, Cloud Computing and Mobile Apps	School of Engineering	1	First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
2234 - M.D. in Web Technology, Cloud Computing and Mobile Apps	3 - Client-Side Development and Graphics	Obligatory

**Coordination**

<b>Name</b>	<b>Department</b>
OLANDA RODRIGUEZ, RICARDO	240 - Computer Science

**SUMMARY**

The subject aims to give an overview of the development languages that are used for programming web applications on the client side. Markup languages and style sheets will be reviewed. In addition, we will deepen the development of web applications using low level scripting languages and high level programming libraries.

It is intended that the student will be able to handle client-side programming and to develop applications that include data storage and visualization.



## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

Programming knowledge is required

## OUTCOMES

### 2234 - M.D. in Web Technology, Cloud Computing and Mobile Apps

- Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.
- Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.
- Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.
- Students should demonstrate self-directed learning skills for continued academic growth.
- Students should possess and understand foundational knowledge that enables original thinking and research in the field.
- Ability to apply acquired knowledge and solve problems in new or little-known environments within broader and multidisciplinary contexts, being able to integrate this knowledge.
- To foster, in academic and professional contexts, technological, social or cultural advancement within a society based on In knowledge and respect for: a) fundamental rights and equal opportunities between men and women; b) principles of equal opportunities and universal accessibility of persons with disabilities; and, c) the values of a culture of peace and democratic values.
- Ability to understand and apply the operation and organization of component models, intermediary software and services.
- Ability to analyze the storage needs that arise in an environment and to carry out the implantation of a solution in the fields of Web technologies, cloud computing and mobile applications.
- Ability to design, develop and maintain Web applications using technologies and frameworks both in the client and in the server sides.



## LEARNING OUTCOMES

- Specify and complete computer tasks that are complex, incompletely defined or unfamiliar
- Describe and explain techniques and methods applicable to their particular area of study and identify their limitations
- Organize your own work independently, demonstrating initiative and exercising personal responsibility
- Perform bibliographic searches and reviews using databases and other sources of information
- Learning and improving personal performance as the basis for lifelong learning and professional development
- Communicate effectively both verbally and through other media to a variety of audiences and preferably in a second language
- Develop accessible applications to promote equal opportunities
- Know and use HTML5, CSS and JavaScript
- Know and use formats for the exchange of client-server information and its processing
- Select the JavaScript framework for development on the client side
- Design and develop applications that use JavaScript frameworks on the client side
- Development of the view layer accessible and adaptable to devices
- Design and develop applications with WebSockets on the client side
- Develop applications with client-side storage
- Develop applications using frameworks for data visualization

## DESCRIPTION OF CONTENTS

### 1. Review HTML5, CSS and JavaScript

### 2. JavaScript Frameworks

### 3. Asynchronous communication and WebSockets

### 4. Client-side storage

**5. Frameworks for data visualization****WORKLOAD**

ACTIVITY	Hours	% To be attended
Theoretical and practical classes	40,00	100
Development of group work	6,00	0
Study and independent work	35,00	0
Preparation of practical classes and problem	16,00	0
Resolution of online questionnaires	3,00	0
<b>TOTAL</b>	<b>100,00</b>	

**TEACHING METHODOLOGY**

- Theory class
- Problem resolution
- Project-oriented learning

**EVALUATION**

The assesment modalities used in this subject are:

SE1: Online assessment and/or degree of participation

SE2: Assessment of problems, works, reports and/or memories

SE4: Exam or face-to-face assessment

SE6: Assessment of laboratory

- First call:

10% Attendance and participation in class. (SE1).

30% Realization of works, problems, ... (SE2).

30% Completion of laboratory practices (SE6)



30% Face-to-face assessment (SE3): Face-to-face examination or defense of an individual project where a minimum grade of 5 must be obtained.

- In the second call, an exam must be carried out where a minimum grade of 5 must be obtained.

The percentages will be as follows:

10% Attendance and participation in class. (SE1).

25% Realization of work, problems, ... (SE2).

25% Completion of laboratory practices (SE6)

40% Face-to-face assessment (SE3): Face-to-face examination or defense of an individual project where a minimum grade of 5 must be obtained.

The grading system is specified at the following link:

<http://www.uv.es/uvweb/universidad/es/estudios-postgrado/informacion-administrativa-postgrado/permanencia-calificaciones/calificaciones-1285897761928.html>

The applicable regulations can be found at the following link:

<http://www.uv.es/uvweb/universidad/es/estudios-grado/informacion-academica-administrativa/normativas/normativas-universidad-valencia-1285850677111.html>

## REFERENCES

### Basic

- Pro HTML5 with CSS, JavaScript, and Multimedia, (Complete Website Development and Best Practices)  
Authors: Mark J. Collins  
ISBN: 978-1-4842-2462-5 (Print) 978-1-4842-2463-2 (Online)



- Pro Angular  
Authors: Adam Freeman  
ISBN: 978-1-4842-2306-2 (Print) 978-1-4842-2307-9 (Online)
- WebSocket Essentials Building Apps with HTML5 WebSockets  
Authors: Varun Chopra  
Web ISBN-13: 978-1-78439-500-1  
Print ISBN-13: 978-1-78439-675-6