

Academic Year: ( 2022 / 2023 )

Review date: 09-05-2022

Department assigned to the subject: Telematic Engineering Department

Coordinating teacher: MUÑOZ MERINO, PEDRO JOSE

Type: Electives ECTS Credits : 3.0

Year : Semester :

**REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)**

- Systems Programming

**OBJECTIVES**

- Understanding the basic structure of a web application.
- Using the HTTP protocol to communicate client and server.
- Programming the presentation layer of a web application with HTML, CSS and JavaScript.
- Programming the business logic layer of a web application using a web application development framework.
- Programming the data layer of a web application with an object-relational mapping system.

**DESCRIPTION OF CONTENTS: PROGRAMME**

- 1.- Introduction to the web:
  - Basic structure of a web application.
  - The HTTP protocol.
- 2.- Presentation layer:
  - The HTML language.
  - The CSS language.
  - The JavaScript language and the JQuery library.
- 3.- Business logic layer: programming the server-side business logic.
- 4.- Data access layer: object-relational mapping.

**LEARNING ACTIVITIES AND METHODOLOGY**

The following kinds of activities will take place during the course:

- Lectures: theoretical introduction to the main concepts of the course, at its beginning.
- Practical classes: the explanation of theoretical concepts is interleaved with practical exercises to be solved by students on a computer.
- Laboratory classes: students develop a full web application guided by the instructor.

**ASSESSMENT SYSTEM**

Assesment comprises:

- An end-of-term exam with theoretical and practical exercises regarding the contents of this course (30%). No minimum score is required in this exam.
- Continuous assessment: one mid-term exam (20%) and a web application to be developed in the lab (50%). Assessment of the latter will be progressive through the semester as students reach the required milestones.

|  |    |
|--|----|
| <b>% end-of-term-examination:</b>  | 30 |
| <b>% of continuous assessment (assigments, laboratory, practicals...):</b> | 70 |

**BASIC BIBLIOGRAPHY**

- David Flanagan JavaScript: The Definitive Guide, 6th Edition, O'Reilly Media Inc., 2011
- David Guijarro, Adrien de Peretti, Patrick Housley, Greg Magolan, Jay Bell Nest.js: A Progressive Node.

js Framework, Bleeding Edge Press, 2018

- Jennifer Kyrnin, Julie C. Meloni Sams Teach Yourself HTML, CSS, and JavaScript All in One, Third Edition, Pearson, 2019