Web Applications

Academic Year: (2019 / 2020) **Review date: 27-04-2020**

Department assigned to the subject: Telematic Engineering Department

Coordinating teacher: ARIAS FISTEUS, JESUS

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 (40%). 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 (40%). Assessment of the latter will be progressive through the semester as students reach the required milestones.

% end-of-term-examination:	60
% of continuous assessment (assigments, laboratory, practicals…):	40

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