

Academic Year: (2023 / 2024)

Review date: 08-05-2023

Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: TAJADURA JIMENEZ, ANA

Type: Compulsory ECTS Credits : 6.0

Year : 5 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Programming Techniques
Information Architecture

OBJECTIVES

The objective of this course is for students to learn key programming and web design languages and techniques. At the end of the course students will be able to design and implement interactive digital publications for the Web.

DESCRIPTION OF CONTENTS: PROGRAMME

1. Introduction to Web Programming and Design
 - a. What is the Web? History and Evolution of the WWW
 - b. Content managers vs web programming
 - c. Introduction to design principles. Examples
2. HTML language
 - a. Environment for web development
 - b. Structure and navigation of a website
3. CSS manipulation
 - a. Link external CSS files with HTML documents
 - b. Control of design and text format using CSS
 - c. How to make a "Responsive" Web page?
4. Introduction to JavaScript and Document Object Model
 - a. How to create interactive web pages?
 - b. Syntax and bases of the Javascript language
 - c. Events in Javascript
 - d. Variables and functions in Javascript
 - e. Developer tools - the console
 - f. DOM Manipulation (Document Object Model)
 - g. Introduction to JQuery
 - h. Complex data structures. Storage and Data Management
5. Introduction to the Principles of Web Design, Heuristics and Patterns
 - a. Methodology of User-Centered Design
 - b. How to present the information on a website?
 - c. How to facilitate the navigation of a website?
 - d. Key elements in the design of a website
6. Advanced concepts: introduction to programming on the server

LEARNING ACTIVITIES AND METHODOLOGY**ACTIVIDADES FORMATIVAS:**

CLASES TEÓRICO-PRÁCTICAS. En ellas se presentarán los conocimientos que deben adquirir los alumnos. Estos recibirán las notas de clase y tendrán textos básicos de referencia para facilitar el seguimiento de las clases y el desarrollo del trabajo posterior. Se resolverán ejercicios, prácticas problemas por parte del alumno y se realizarán talleres para adquirir las capacidades necesarias. Se dedicarán 42 horas con un 100% de presencialidad.

TUTORÍAS. Asistencia individualizada (tutorías individuales) o en grupo (tutorías colectivas) a los

estudiantes por parte del profesor. Se dedicarán 28 horas con un 25% de presencialidad.

TRABAJO INDIVIDUAL O EN GRUPO DEL ESTUDIANTE. Se dedicarán 78 horas 0% presencialidad.

METODOLOGÍAS DOCENTES:

CLASE TEORÍA. Exposiciones en clase del profesor con soporte de medios informáticos y audiovisuales, en las que se desarrollan los conceptos principales de la materia y se proporcionan los materiales y la bibliografía para complementar el aprendizaje de los alumnos.

PRÁCTICAS. Resolución de casos prácticos, problemas, etc. planteados por el profesor de manera individual o en grupo.

TUTORÍAS. Asistencia individualizada (tutorías individuales) o en grupo (tutorías colectivas) a los estudiantes por parte del profesor.

ASSESSMENT SYSTEM

CONTINUOUS ASSESSMENT. It will assess the work, presentations, performance in debates, classroom presentations, exercises, practices and work in the workshops throughout the course. The percentage of assessment will be 80% of the final grade.

FINAL EXAM. In which the knowledge, skills and abilities acquired throughout the course will be assessed globally. The percentage of assessment will be 20% of the final grade.

It is mandatory to take the final exam and get a minimum grade of 5 out of 10 on the exam.

% end-of-term-examination:	20
% of continuous assessment (assignments, laboratory, practicals...):	80

BASIC BIBLIOGRAPHY

- Elizabeth Castro; Bruce Hyslop HTML5 and CSS3: Visual QuickStart Guide, Seventh Edition, PeachPit Press, 2011
- Flanagan, D JavaScript: The Definitive Guide, O'Really Media, 2006
- Lenny Burdette The JavaScript PocketGuide, PeachPit Press, 2010
- Nielsen, J Designing Web Usability, New Riders, 2000
- Van Duyne, D. K., Landay, J. A., & Hong, J. I The design of sites: Patterns for creating winning web sites. , Prentice Hall Professional, 2007

ADDITIONAL BIBLIOGRAPHY

- null Eloquent JavaScript, disponible en <http://eloquentjavascript.net> .
- Dix, A., Finlay, J., Abowd, G., Beale, R.. Human-Computer Interaction, Prentice Hall, 3rd Edition, 2004
- Jonathan Chaffer Learning jQuery, Pckt Publishing, 2011
- Preece, J. Interaction Design. Beyond human computer interaction, John Wiley & Sons, 2002
- Shneiderman, B Designing the User Interface, Addison-Wesley, 3rd Edition., 1999
- Steve Suehring JavaScript Step by Step, Microsoft Press, 2008

BASIC ELECTRONIC RESOURCES

- ¿HTML Tutorial?, Tutorial HTML de W3 Schools: <http://www.w3schools.com/html/>
- ¿CSS Tutorial?, Tutorial CSS de W3 Schools: <http://www.w3schools.com/css/>
- ¿JavaScript Tutorial?, Tutorial JavaScript de W3 Schools: <http://www.w3schools.com/js>
- ¿jQuery Tutorial?, Tutorial jQuery de W3 Schools: <http://www.w3schools.com/jquery/default.asp> "