



Course guide

205216 - WA - Web Applications

Last modified: 02/04/2024

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 723 - CS - Department of Computer Science.

Degree: BACHELOR'S DEGREE IN AUDIOVISUAL SYSTEMS ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN CHEMICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN ELECTRICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN INDUSTRIAL ELECTRONICS AND AUTOMATIC CONTROL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN MECHANICAL ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN TEXTILE TECHNOLOGY AND DESIGN ENGINEERING (Syllabus 2009). (Optional subject).
BACHELOR'S DEGREE IN AEROSPACE TECHNOLOGY ENGINEERING (Syllabus 2010). (Optional subject).
BACHELOR'S DEGREE IN AEROSPACE VEHICLE ENGINEERING (Syllabus 2010). (Optional subject).
BACHELOR'S DEGREE IN INDUSTRIAL DESIGN AND PRODUCT DEVELOPMENT ENGINEERING (Syllabus 2010). (Optional subject).
BACHELOR'S DEGREE IN INDUSTRIAL TECHNOLOGY ENGINEERING (Syllabus 2010). (Optional subject).

Academic year: 2024 **ECTS Credits:** 3.0 **Languages:** English

LECTURER

Coordinating lecturer: Pau Fernández

Others:

PRIOR SKILLS

It is very important that students know a programming language like C++ or Java well.

TEACHING METHODOLOGY

The material will be taught through practical classes, alternating a presentation with slides with practical demonstrations in the form of tutorials. It is recommended that students bring their own laptops.

LEARNING OBJECTIVES OF THE SUBJECT

The aim of the course is to introduce the student to the technologies behind web applications and make him able to develop small-scale web apps. The course touches all required concepts in a simplified way to enable students to understand the technology. It teaches HTML, CSS, NodeJS and SQLite at a basic level so that a complete project can be built.

STUDY LOAD

Type	Hours	Percentage
Self study	45,0	60.00
Hours small group	30,0	40.00

Total learning time: 75 h

CONTENTS

Module 1: Introduction to Web Apps

Description:

Components of a Web App.
The HTML Protocol.

Full-or-part-time: 4h

Laboratory classes: 2h
Self study : 2h

Module 2: The Frontend

Description:

Creating pages with HTML, the Hyper-Text Markup Language.
Styling pages with CSS (Cascading Style-Sheets).
in the browser.

Related activities:

Quiz

Full-or-part-time: 20h

Laboratory classes: 10h
Self study : 10h

Module 3: The Backend 1: NodeJS

Description:

Entering commands on the command line and accessing remote computers.
Installing NodeJS and ExpressJS.
Express: programming handlers for web URLs.
Generation of pages through templates.

Related activities:

Quiz

Full-or-part-time: 16h

Laboratory classes: 8h
Self study : 8h

Module 4: The Backend 2: SQLite

Description:

The Relational data model.
Creating a database with SQLite.
Inserting, Updating and Deleting records.
Using an SQLite database from .

Related activities:

Project Design

Full-or-part-time: 8h

Laboratory classes: 4h
Self study : 4h



Module 5: Complete Web Apps

Description:

Mini-Wordpress, a simple blog web application.

Related activities:

Web App Project

Full-or-part-time: 27h

Laboratory classes: 6h

Self study : 21h

GRADING SYSTEM

25% - Tasks (exercises during the course)

10% - Quizzes

15% - Project Design (a document describing the planning for a web app project)

50% - Web App Project (a working web app project)

BIBLIOGRAPHY

Complementary:

- Flanagan, David. JavaScript: the definitive guide. 6th ed. Sebastopol: O'Reilly, 2011. ISBN 9780596805524.
- McFarland, David S. CSS: the missing manual. Sebastopol: O'Reilly, 2015. ISBN 9781491918050.
- Syed, Basarat Ali. Beginning node.js. Berkeley, CA: Apress, 2014. ISBN 9781484201886.
- Kreibich, Jay A. Using SQLite. Sebastopol: O'Reilly Media, 2010. ISBN 9780596521189.