

Course : Web Application Development

Department of Computer Science

Semester: 04

Methodological Teaching Unit (UEM)

Credits: 4

Coefficient: 2

Teaching Objectives

The ultimate goal of this course is to teach students how to implement a Web application.

Recommended Prerequisites

Students should have fundamental concepts on algorithms and programming, along with basic knowledge about the Internet and Networks.

Content Overview

Chapter 1: Introduction to the World Wide Web

1. Definition and history
2. Client/Server Architecture
3. HTTP Protocol

Chapter 2: Programming Languages for the Web

Generalities

- Static page, dynamic page, and Web applications

Markup Languages

- Definition and history

HTML

1. What is HTML?
2. HTML Execution Context
3. Basic HTML
 - Structure of an HTML document (header, body, links, etc.)

- Tables, Frames, Forms
- HTML 5.0
- Style Sheets (CSS 3)
- JavaScript
- Controlling HTML forms in JavaScript

XML

1. Structure of an XML document
2. DTD (Document Type Definition)
3. XML Schema
4. XSLT

Chapter 3: Server-Side Programming Language (PHP)

1. Introduction
2. Basic Syntax
 - Transitioning from HTML to PHP
 - Instruction Separators
 - Comments
3. Types, Variables, and Operators
4. Control Structures
5. Classes and Objects
6. Features
 - Error Handling
 - File Upload Management
 - Remote File Usage
 - Connection Management
 - Persistent Database Connections
 - Session Management
 - 3-tier Web Applications in PHP

Chapter 4: Web Services: Basic Concepts

1. Introduction
2. Service-Oriented Architecture (SOA)
3. Web Services Features
 - Definition of Web Services
 - Architecture of Web Services

4. Standards for Web Services
 - SOAP
 - WSDL
 - UDDI
5. Web Services Development Platforms
 - (a) Development of Web Services (provider side)
 - (b) Development of Web Services (consumer side)
6. .NET and Java Platforms
 - JSP
 - ASP

Chapter 5: Case Study: Development of a Web Service (provider side then client side)

Evaluation Mode

Examination: 60%

Continuous Assessment: 40%

References

- Web Development Course. Available on: <https://openclassrooms.com/courses>
- Jean ENGELS. *"PHP 5 – Course and Exercises"*. Eyrolles Editions, 2005
- Mathieu Lacroix, *"Introduction to Web: Course"*. University Paris 13, 2013.
- Digimind Company. *"Web 2.0 for Monitoring and Information Research, Utilizing the Resources of the Social Web"*. Digimind, June 2007.