London South Bank University | School of Engineering

Module Guide

Web Technologies

CSI_5_WET

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Division of Informatics and Computer Science

Level 5

1. MODULE DETAILS

Module Title:	Web Technologies
Module Level:	5
Module Reference Number:	CSI_5_WET
Credit Value:	20
Student Study Hours:	200
Contact Hours:	52
Private Study Hours:	110
Pre-requisite Learning (If applicable):	none
Co-requisite Modules (If applicable):	none
Course(s):	BSc Information Technology
Year and Semester	Year 2 Semester1
Module Coordinator:	Maria Lemac
MC Contact Details (Tel, Email, Room)	020-7815-7473, lemacm@lsbu.ac.uk , FW-201
Teaching Team & Contact Details (If applicable):	Samuel Akinrinwa, akinrins@lsbu.ac.uk, FW-210
Subject Area:	Web Technologies
Summary of Assessment Method:	100% Coursework
External Examiner appointed for module:	[TBA: the name, position and institution of the subject area external examiner appointed for the module]

2. SHORT DESCRIPTION

In this module you will learn about the technologies used to build the distributed applications by which digital business is conducted. You will learn how dynamic client interfaces to applications held on remote servers are built and how dynamic processes on servers use databases and other files to both provide and interact with those client interfaces. As well as experimenting with the fundamental mechanisms involved you will explore how these are used in a range of complex real world business applications.

3. AIMS OF THE MODULE

This module aims to achieve a clear understanding of how web applications are built and how the various components that they consist of interact. This represents the fundamental architecture underlying virtually all websites, mobile apps, and their ultimate synthesis in the cloud computing paradigm. In addition, the module aims to provide understanding of how these essential building blocks can be combined into powerful and complex applications such as content management systems or mobile and web applications for email, maps or cloud storage.

4. LEARNING OUTCOMES

4.1 Knowledge and understanding.

On completion of the module you will be able to:

- Demonstrate an ability to build well-structured dynamic websites using a variety of tools and techniques that comply with the web standards and taking into account constraints that the web puts on developers.

4.2 Intellectual skills.

On completion of the module you will be able to:

- Compare and contrast web programming with general purpose programming
- Discuss work with your lecturers in a reflective and rationale manner
- Analyse and synthesise information from a number of sources to aid rational decision-making.

4.3 Practical skills.

On completion of the module you will be able to:

- Design and implement simple web applications.

4.4 Transferable skills.

On completion of the module you will be able to:

- Write formal reports that critically evaluate the appropriateness of available tools and techniques; Work effectively in teams.

5. ASSESSMENT OF THE MODULE

100% coursework

The module will be assessed by an individual assignment, a teamwork assessment and an in class test. In addition to the coursework assessments there will be in-class formative staged tests to monitor student progress and help prepare them for the examinations they will face in later modules. Skills for the summative assessment will be embedded throughout formative opportunities in Lectures and Workshops. Formative assessment will take different forms, such as interactive revision quizzes, verbal feedback on tutorial activities, observation and questioning to provide instant feedback as the student takes part in learning activities.

6. FEEDBACK

Students will receive ongoing feedback on their coursework during the lab sessions, and will normally receive written feedback on coursework submissions within 15 days.

7. INTRODUCTION TO STUDYING THE MODULE

7.1 Overview of the Main Content

This module will cover the client/server paradigm, the technologies used to build web clients with HTML, CSS and JavaScript and server application software such as PHP and MySQL. The use of these technologies to build interactive web sites, internal business systems and the back end support for mobile apps and web services will be investigated.

7.2 Overview of Types of Classes

There will be weekly lectures to introduce new concepts and lab sessions to support these with hands-on experience. Practical exercises in the lab sessions will involve exploring the various technologies in use by assembling and customising code examples to build working models of the applications discussed in the lectures.

7.3 Importance of Student Self-Managed Learning Time

Although much laboratory time will be dedicated to practical exercises, students will need to spend more time in independent study on this. In addition, the theoretical material delivered in lectures will require independent reading and study in order to grasp it fully and prepare for the examination.

7.4 Employability

A good understanding of how digital business systems operate is important for any role involved in developing such systems, whether at a technical level or when specifying requirements to developers. Effective assessment of existing software solutions and services in terms of suitability for a specific business need is a valuable skill which employers may require in many circumstances and is made possible only by understanding what such systems are and how they work.

8. THE PROGRAMME OF TEACHING, LEARNING AND ASSESSMENT

The following outline is only indicative, the order and exact content of the lectures may vary according to unavoidable factors.

Week	Content	Labs
1	Introduction – Web Technologies, web applications, http	Overview HTML & CSS
2	HTML and CSS	HTML & CSS
3	Responsive Design	HTML & CSS
4	Web Applications – Introduction to JavaScript	JavaScript
5	Consolidation	***In class test (30%)*** *Issue Assignment 1*
6	Client-side programming with JavaScript	JavaScript & JQuery
7	Server-side programming, introduction to PHP	PHP
8	Further PHP *Issue Assignment 2*	***Assignment 1 (20%) Submission***
9	The importance of the database	PHP & MySQL
10	The Document Object Model	DOM
11	AJAX & JSON	AJAX & JSON
12	Review of techniques, technologies and applications	Assignment2 – workshop&feedback
13	Workshop&feedback	***Assignment 2 submission (50%)***

9. STUDENT EVALUATION

The module is running for the first time this year.

10. LEARNING RESOURCES

10.1 Core Materials

No single textbook has been found that is suitable as the core text for this module, however the syllabus can be covered by a combination of textbooks such as:

Nixon, Robin (2012) Learning PHP, MySQL, JavaScript, and CSS 2nd ed. Sebastopol, CA: O'Reilly.

Powers, David (2010) PHP solutions: dynamic Web design made easy. New York: Friends of ED.

Ellie Quigley (2011) JavaScript by Example, 2nd edition, Pearson Education, Boston.

In addition to textbooks, students will be expected to refer to web-based information sources as required..

10.2 Optional Materials

Jeremy Keith (2005) DOM Scripting, Web Design with JavaScript and the Document Object Model, Springer-Verlag, New York.

NOTES

none