الجامعة العربية المفتوحة
Arab Open University

Module specification

1. Factual information			
Module title	**TM287: Web Applications Development**	**Level**	**2**
Module tutor	TBA	**Credit value**	**10**
Module type	Taught	**Notional learning hours**	**3**

2. Rationale for the module and its links with other modules

This module provides key skills in using JavaScript/AJAX, PHP, and MySQL through demonstrating the vast possibilities they offer in developing robust code that complies with all modern web browsers. The module clarifies the roles of each of the client vs the server in web development and the importance of being able to have asynchronous calls and information exchange with focus on developing Web 2.0 applications.

3. Aims of the module

The module aims to:

1. Provide students with a full understanding the main components of web applications.
2. Introduce key technologies used for building dynamic web 2.0 applications (JavaScript/AJAX, PHP, and MySQL).
3. Emphasize the importance of using client-side technology (AJAX) to create asynchronous web applications.
4. Prepare the students for further academic study.

4. Pre-requisite modules or specified entry requirements

The module requires basic programming skills in any programming language and hence TM105 would be sufficient.

5. Intended learning outcomes	
A. Knowledge and understanding	**Learning and teaching strategy**
After studying this module, the student will be able to: **A1.** Provide a solid understanding of how JavaScript is written and the possibilities it offers. **A2.** Develop the understanding to use JavaScript to improve the user experience. **A3.** Appreciate the importance of data validation before processing it. **A4.** Demonstrate how to use AJAX to post data to servers and process the feedback of the server. **A5.** Construct interactive web applications that integrate client-side and server-side programming using AJAX and PHP. **A6.** Learn the basics of MySQL and how to create tables to store, update and retrieve data that can be presented to the user using web technologies. **A7.** Use PHP on the server side to communicate with MySQL and generate dynamic content for the web. **A8.** Assess basic issues related to web design and how to improve the style of the generated web content. **A9.** Be able to combine all the technologies presented (JavaScript/AJAX, PHP, MySQL) into a single project that integrates all the components into one fully functional interactive web application.	• 25% face-to-face tutorial sessions • TMA work • Module learning books and support material

B. Cognitive skills	**Learning and teaching strategy**
After studying this module, the student will be able to: **B1.** Evaluate websites based on the technologies they employ.	• 25% face-to-face tutorial sessions • TMA work

B. Cognitive skills	Learning and teaching strategy
B2. Analyse the performance of web applications. **B3.** Describe the importance of data validation specifically at the user-interface level of a computer system. **B4.** Describe the roles of each of the client and the server as used for web applications. **B5.** Design and build an appropriate system as a solution to data-centric problems.	• Module learning books and support material

C. Practical and professional skills	Learning and teaching strategy
After studying this module, the student will be able to: **C1.** Develop robust and compact code that runs reliably in all modern Web browsers. **C2.** Develop the major components required for building modern web applications. **C3.** Demonstrate proficiency in applying the acquired programming skills to develop complex systems. **C4.** Develop simple user interfaces that collect data from the user to be validated and processed by computer systems.	• 25% face-to-face tutorial sessions • TMA work • Module learning books and support material

D Key transferable skills	Learning and teaching strategy

D Key transferable skills	Learning and teaching strategy
After studying this module, the student will be able to: **D1.** Find, select and use information from a range of resources to support a specific task. **D2.** Develop and improve previously learnt programing skills to solve more complex tasks. **D3.** Plan and produce a modern system to satisfy the user needs whilst making sure to provide good stability and performance. **D4.** Plan and manage effort and progress whilst undertaking a substantial project.	• 25% face-to-face tutorial sessions • TMA work • Module learning books and support material

6. Indicative content.

The module will use two books, where the first one will focus the technologies behind web applications and the second one will demonstrate how to build a complete system from scratch using all of (AJAX, PHP, and MySQL).

Scriptin' with JavaScript and AJAX:
CH1: JavaScript comes of age.
CH2: JavaScript basics
CH3: Objects and the DOM
CH4: Events
CH5: AJAX
CH6: Frameworks
CH7: Two simple web applications

Building a Web Site with AJAX:
CH1: Access MySQL
CH2: Browsing employees
CH3: Browsing using AJAX
CH4: Adding records
CH5: Adding records via AJAX

6. Indicative content.
CH6: Creating a search Ch7: Enabling and AJAX search

7. Assessment strategy, assessment methods and their relative weightings
TMA Work: 20% MTA: 30% Exam: 50%

8. Mapping of assessment tasks to learning outcomes

Assessment tasks	Learning Outcomes																				
	A1	A2	A3	A4	A5	A6	A7	A8	A9	B1	B2	B3	B4	B5	C1	C2	C3	C4	D1	D2	D3	D4
TMA	✓			✓	✓	✓	✓			✓	✓			✓			✓		✓		✓	✓
MTA	✓	✓	✓	✓		✓	✓	✓				✓	✓		✓	✓		✓		✓		
Final Exam	✓		✓	✓				✓	✓			✓	✓				✓	✓		✓	✓	

9. Teaching staff associated with the module
Name and contact details
Marwan El Khatib – AOU Lebanon Branch. Email: mkhatib@aou.edu.lb

10. Key reading list

Author	Year	Title	Publisher	Location
Charles Wyke-Smith	**2010**	**Scriptin' with JavaScript and Ajax: A Designer's Guide**	**New Riders (Pearson Education)**	**www.newriders.com**
Larry Ullman	**2007**	**Building a Web Site with Ajax: Visual QuickProject Guide**	**Peachpit Press (Pearson Education)**	**www.peachpit.com**

11. Other indicative text (e.g. websites)
http://lms.arabou.edu.kw/