



COLLEGE OF INFORMATION TECHNOLOGY  
DEPARTMENT OF MULTIMEDIA SCIENCE

**COURSE SYLLABUS/SPECIFICATION**

**CODE & TITLE:** ITMS 421: Web Programming II  
**WEIGHT:** (2 - 2 - 3)  
**PREREQUISITE:** ITMS 335

**NQF Level Allocated:** 8

**NQF Notional Hours / Credits:** 120 notional hours/ 12 NQF credit

**DESCRIPTION:** This course provides an introduction to HTML5, CSS3, and JavaScript. This course helps students gain basic HTML5/CSS3/JavaScript programming skills. This course is an entry point into both the Web application and Windows Store apps training paths. The course focuses on using HTML5/CSS3/JavaScript to implement programming logic, define and use variables, perform looping and branching, develop user interfaces, capture and validate user input, store data, and create well-structured application.

**OBJECTIVES:**

1. Describe the new features of HTML5, and create and style HTML5 pages.
2. Create HTML5 forms by using different input types, and validate user input by using HTML5 attributes and JavaScript code
3. Send and receive data to and from a remote data source by using XMLHttpRequest objects and jQuery AJAX operations.
4. Use common HTML5 APIs in interactive and advanced Web applications.
5. Create advanced Web applications that support offline operations.
6. Create advanced HTML5 Web pages that can adapt to different devices and form factors

**SEMESTER:**

**ACADEMIC YEAR:**

**INSTRUCTOR:**

**OFFICE TEL:**

**EMAIL:**

**INTENDED LEARNING OUTCOMES (ILOs)**

Upon successful completion of the course, students should be able to:

<b>A. Knowledge and Understanding</b>		<b>NQF Descriptor/Level</b>
<b>A1</b>	<u>Concepts and Theories:</u> <i>Demonstrate critical knowledge and understanding of concepts, and specialized theories relating to NET Platform and dynamic websites using client object.</i>	Knowledge: theoretical understanding [Level 8]
<b>A2</b>	<u>Contemporary Trends, Problems and Research:</u> NA	
<b>A3</b>	<u>Professional Responsibility:</u> NA	

<b>B. Subject-Specific Skills</b>		<b>NQF Descriptor/Level</b>
<b>B1</b>	<u>Problem Solving:</u> <i>Deal with advanced and complex situations to solve real life problems</i>	Knowledge: Practical Application [Level 8]
<b>B2</b>	<u>Modeling and Design:</u> <i>Demonstrate creativity in designing the architecture of specialized Application with appropriate components and models that satisfy user specifications.</i>	Knowledge: Practical Application [Level 8]
<b>B3</b>	<u>Application of Methods and Tools:</u> <i>Apply specialist level of skills for creating dynamic web sites.</i>	Knowledge: Practical Application [Level 8]

<b>C. Thinking Skills</b>		<b>NQF Descriptor/Level</b>
<b>C1</b>	<u>Analytic:</u> <i>Critically analyze case studies and recommend suitable solutions Applications.</i>	Generic Problem Solving & Analytical skills [Level 8]
<b>C3</b>	<u>Creative:</u> <i>Demonstrate insights and creative thinking while applying the concepts effectively to new situations.</i>	Generic Problem Solving & Analytical skills [Level 8]

<b>D. General and Transferable Skills (Other Skills Relevant to Employability and Personal)</b>		<b>NQF Descriptor/Level</b>
<b>D1</b>	<u>Communication:</u> <i>Demonstrate special and advanced skills to communicate technical information in appropriate oral and written forms to a variety of audiences.</i>	Communication, ICT and Numeracy Skills [Level 8]
<b>D2</b>	<u>Teamwork and Leadership:</u> NA	
<b>D3</b>	<u>Organizational and Developmental Skills:</u> <i>Demonstrate ability to organize ideas and effectively allocate time in given assignment.</i>	Competence: Autonomy, Responsibility and Context [Level 8]
<b>D4</b>	<u>Ethical and Social Responsibility:</u> NA	

Course Structure (Outline)						
Week	Hours		ILOs	Topics	Teaching Method	Assessment Method
	Lec.	Lab				
1	4	-	A1	Overview of HTML and CSS & Creating and Styling HTML Pages	Lecture	-
2	2	2	A1, B1,B2, B3,C1,C3, D1	Introduction to the Document Object Model	Lecture/ Lab Demonstration/ Supervised Work	In-Lab Exercise
3	2	2	A1, B1,B2, B3,C1,C3, D1	Introduction to jQuery	Lecture/ Lab Demonstration/ Supervised Work	In-Lab Exercise
4	2	2	A1, B1,B2, B3,C1,C3, D1	Creating Forms to Collect and Validate User Input Using HTML5 Attributes and JavaScript	Lecture/ Lab Demonstration/ Supervised Work	In-Lab Exercise
5	2	2	A1, B1,B2, B3,C1,C3, D1	Communicating with a Remote Server Using the XMLHttpRequest Object	Lecture/ Lab Demonstration/ Supervised Work	In-Lab Exercise Quiz 1
6	2	2	A1, B1,B2, B3,C1,C3, D1	Sending and Receiving Data by Using the jQuery Library	Lab Demonstration/ Supervised Work	In-Lab Exercise
7	2	2	A1, B3, D1	Pseudo-classes and Pseudo-elements	Lecture/ Lab Demonstration/ Supervised Work	Oral Inquiry *
8	2	2	A1, B1,B2, B3,C1,C3, D1	Creating Objects and Methods by Using JavaScript	Lab Demonstration/ Supervised Work	In-Lab Exercise Quiz 2
9	2	2	A1, B1,B2, B3,C1,C3, D1	Creating Custom Objects	Lecture/ Lab Demonstration/ Supervised Work	In-Lab Exercise
10	2	2	A1,B1,B2,C1	Major Test	Lecture/ Lab Demonstration/ Supervised Work	Major Test
11	2	2	A1, B3, D1	Creating Interactive Pages by Using HTML5 APIs	Lecture/ Lab Demonstration/ Supervised Work	Oral Inquiry *

12	2	2	A1, B1,B2, B3,C1,C3, D1	Reacting to Browser Location and Content	Lecture/ Lab Demonstration/ Supervised Work	In-Lab Exercise
13	2	2	A1, B1,B2, B3,C1,C3, D1	Caching Offline Data by Using the Application Cache API	Lecture/ Lab Demonstration/ Supervised Work	In-Lab Exercise
14	2	2	A1, B1,B2, B3,C1,C3, D1	Programmatically Drawing Graphics by Using the Canvas API	Lecture/ Lab Demonstration/ Supervised Work	In-Lab Exercise
15	2	2	A1, B1,B2,B3,C1,C3, D1,D3	Understanding Web Workers	Lecture/ Presentation Of Projects By Students	Evaluation Of Project Presentations & Reports
16	2	2	A1, B1,B2, B3, C1,C3	All Topics		Final Exam

**TEACHING MATERIALS:**

<b>TEXTBOOK(S):</b>	<ul style="list-style-type: none"> <li>Course 20480: Programming in HTML5 with JavaScript and CSS3, Microsoft Press Training Guide, 2013, ISBN: 978-0735674387</li> </ul>
<b>HANDOUT(S):</b>	PowerPoint slides available on Moodle i.e. <a href="http://www.ahlia.edu.bh/moodle">http://www.ahlia.edu.bh/moodle</a>
<b>REFERENCE(S):</b>	<p>Dino Esposito, "Modern Web Development: Understanding domains, technologies, and user experience (Developer Reference)", Microsoft Press, 2016, ISBN: 978-1509300013</p> <p>Dino Esposito, "Programming Microsoft ASP.NET MVC (3rd Edition) (Developer Reference) 3rd Edition", Microsoft Press, 2014, ISBN: 978-0735680944</p>

**ASSESSMENTS:**

Type of Assessment	Description	ILOs <sup>3</sup>	Weighting
Oral Inquiry	Students will be questioned orally to demonstrate their understanding and knowledge of the topics covered during class lectures and lab sessions.	A1, D1	Formative
Quizzes	The quizzes consist of essay, problem-solving and research based theoretical questions regarding topics in Dot NET and client object. The purpose of the quizzes is to assess students individually where they have to demonstrate their extensive and detailed knowledge and critical understanding of key concepts of Dot NET, Html 5 and client object.	A1,B1,B2,B3, C1,C3	20%
Major Test	The test will be an in-class 90 minute exam that will consist of short-answer, essay, and create web or windows application and cover the topics studied in the first 9 weeks.	A1,B1,B2,C1	25%
In-Lab Exercises	Each practical exercise consists of a set of practical tasks to be implemented by students individually in lab as shown in the above weekly structure. Each of the exercises assesses the student's skills in the field of programming application. Students work will be observed and evaluated directly during the lab sessions.	B1,B2, B3,C1,C3, D1	5%
Project Report And Presentation	Starting from weak 6, each student will be asked to develop a small Application project.	B1,B2,B3,C1, C3, D1,D3	10%
Final Exam	The final exam is comprehensive and practical, and will be of 120 minute duration. It will consist of short-answer, essay and problem-solving questions to be done on computers.	A1, B1,B2, B3, C1,C3	40%
Overall			100%

<b>14. Admissions</b>	
Pre-requisites	ITMS 335

Minimum number of students	8
Maximum number of students	20

