H6WAD: Web Application Development

Module Code:	H6WAD
Long Title	Web Application Development DRAFT
Title	Web Application Development
Module Level:	LEVEL 6
EQF Level:	5
EHEA Level:	Short Cycle
Credits:	10
Module Coordinator:	Sam Cogan
Module Author:	Sam Cogan
Departments:	School of Computing
Specifications of the qualifications and experience required of staff	Master's degree in computing or cognate discipline. Proposed lecturer: Mr Sam Cogan

Learning Outcomes	
On successful completion of this module the learner will be able to:	
#	**Learning Outcome Description**
LO1	Manipulate and Define Data Structures using a mark-up language
LO2	Implement server side scripting, and develop advanced server side functionality using databases
LO3	Critique frameworks, tools, languages, and controls available for developing a rich Internet application
LO4	Extend the functionality of Web pages using client side scripting languages
LO5	Build mobile ready web apps or hybrid mobile apps

Dependencies		
Module Recommendations		
67479	H6WD	Web Design and Development
Co-requisite Modules		
No Co-requisite modules listed		
Entry requirements		See section 4.2 Entry procedures and criteria for the programme including procedures recognition of prior learning.

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Module Content & Assessment

Indicative Content

Use of and Manipulation of Mark Up Languages
• Structure of mark-up languages. • Definition of data structures using mark-up language e.g. XML. • Navigation and selection of data within a file e.g. using Xpath navigation. • Validation of mark-up languages e.g. using a schema.

Server Side Scripting and Frameworks
• Understand the basics of server side scripting. • Work with server side scripting libraries and databases Implement and deploy server side scripting applications. • Explore server side scripting web frameworks and develop applications with a server side scripting language. • Use of frameworks e.g. MVC (Model View Controller). • MVVM (Model View View Model). • Use of server side frameworks e.g. Cake PHP, Lithium.

Document Object Model
• DOM Structure Navigating a DOM Document to manipulate page content

Client Side Scripting and Frameworks
• An introduction to development frameworks that can enhance and speed up development of client side interaction. • Use of MVC and MVVM models for application development Use of data interchange tools for example JSON. • Use of PHP frameworks.

Architectures around RIA applications
• Review of UI controls for RIA Restful API JSON over Http JQuery and JQuery Mobile.

Security
• Evaluate strategies for testing for security (e.g. URL manipulation, injections). • Critically review and assess standard solutions for transporting data securely (e.g. HTML5 Security).

Advanced Topics
• Emerging trends/standards in web application development

Assessment Breakdown	%
Coursework	100.00%

Assessments

Full Time

Coursework

Assessment Type:	Continuous Assessment	**% of total:**	25
Assessment Date:	Week 9	**Outcome addressed:**	1,2,3,4,5
Non-Marked:	No		

Assessment Description:
Sample Assessment: You are required to assess and advise a business on the use of tools and languages into the use of the development of a Rich Internet Application strategy for the company. You will be expected to provide prototype samples to demonstrate your understanding of the course material.

Assessment Type:	Test	**% of total:**	25
Assessment Date:	Week 5	**Outcome addressed:**	1,2,3,4,5
Non-Marked:	No		

Assessment Description:
Sample Assessment: Moodle based quiz to assess the understanding of the related course material. This will include analysing and writing stubs of code to answer a series of questions.

Assessment Type:	Project	**% of total:**	50
Assessment Date:	Sem 1 End	**Outcome addressed:**	1,2,3,4,5
Non-Marked:	No		

Assessment Description:
Sample Assessment: A project submission covering the areas of the use of mark-up language and it's manipulation covering the use of client side scripting and server side scripting in depth. This project will incorporate the concept of data persistence and the use of Create, Read, Update and Delete (CRUD) functionality on the data.

No End of Module Assessment

No Workplace Assessment

Reassessment Requirement

Coursework Only
This module is reassessed solely on the basis of re-submitted coursework. There is no repeat written examination.

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Module Workload				
Module Target Workload Hours 0 Hours				
Workload: Full Time				
Workload Type	*Workload Description*	*Hours*	*Frequency*	*Average Weekly Learner Workload*
Lecture	No Description	48	Per Semester	4.00
Tutorial	No Description	24	Per Semester	2.00
Independent Learning	No Description	178	Per Semester	14.83
			Total Weekly Contact Hours	6.00

Module Resources

Recommended Book Resources

Michael B. White. (2019), Mastering JavaScript, Newstone, [ISBN: 978-1093799507].

Supplementary Book Resources

Kyle Simpson. (2015), You Don't Know JS: Async and Performance, Oreilly & Associates Incorporated, p.296, [ISBN: 9781491904220].

Josh Lockhart. (2015), Modern PHP, O'Reilly Media, p.268, [ISBN: 978-1491905012].

Lindsay Bassett. Introduction to JavaScript Object Notation, [ISBN: 978-1491929483].

This module does not have any article/paper resources

This module does not have any other resources

Discussion Note: