STUDENT AND ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Information			
Module Title	Webapp Development		
Module Code	UFCF8R-30-2	Level	Level 5
For implementation from	2019-20		
UWE Credit Rating	30	ECTS Credit Rating	15
Faculty	Faculty of Environment & Technology	Field	Computer Science and Creative Technologies
Department	FET Dept of Computer Sci & Creative Tech		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
Overview: Advancements in web platforms, portability, scalability and highly interactive web application experiences have resulted in Web Applications replacing many traditionally installed applications in business. In this module learners will explore the legislate, technical and security challenges facing developers in creating and publishing applications to meet a defined business need. cultivate independent technical judgement in the use of techniques and tools associated with web technologies. As well as being able to develop the ability to think conceptually and translate concepts into reality, learners will go beyond programming web applications, and develop skills in security, penetration testing and user experience.

Educational Aims: See Learning Outcomes

Outline Syllabus: On completion of this module learners will be able to:

Plan, develop and test a WebApp to meet a predefined business solution using suitable client and server side scripting languages. Languages could include:

Client-side; e.g. HTML5, CSS3, JavaScript, jQuery
Server-side; e.g. PHP, ASP, Ruby/Rails, Node, .net
Frameworks; e.g. jQuery, AngularJS, React, Laravel,
APIs; e.g. SOAP, REST, JSON

Built a secure, performance-optimised database solution to facilitate a WebApp using a suitable database
engine e.g. SQL/NoSQL.

Develop professional user interfaces for at least one user level

Build and publish/deploy the completed project to a suitable professional webserver or hosting platform
for public availability.

Explain common Webapp vulnerabilities and common security mitigation techniques e.g. SQL/code injection, data sanitisation, LFI/RFI, XSS, DDoS, brute force attacks. Complete functionality and security testing on a platform/WebApp and record findings and suggest how security could be enhanced where applicable.

Explain the importance of penetration testing is and how it contributes to information assurance.

Identify key legalisation impacting the publication of Web Accessible Applications, eg Data Governance
(IPO, GDPR, Data Protection), Privacy policies, use of data, terms of use/service.

Teaching and Learning Methods: Introductory lectures are supported by seminars, case studies, visits and practical workshops. In addition this module will be supported by interactive forums and learning tools. Students must have access to a suitable publicly accessible hosting platform and database server to be able to complete this module.

300 hours study time of which 108 hours will represent scheduled learning. Scheduled learning includes lectures, seminars, tutorials, demonstration, practical classes and workshops; external visits; supervised time in studio/workshop.

Part 3: Assessment

This module is assessed by a combination of techniques: an examination and a practical portfolio.

Exam (includes the following):

Fundamentals of WebApp development and technology (Eg Languages, scripting methodologies, frameworks)

Explain some of the common authentication and security considerations facing web application developers and hosts as per the prescribed syllabus content

An analysis of the computing and security needs in a given case study/scenario

Common penetration testing processes and how they can be applied to WebApp testing and application development cycle

Key legalisation impacting the publication of Web Accessible applications

Practical Portfolio (includes the following):

Evidence of planning and design of a WebApp to support a business scenario

Implementation of a WebApp to support a business scenario

Deploying and test a completed WebApp in a live/enterprise environment

Opportunities for formative assessment exist for the assessment strategy used. Verbal feedback is given and all students will engage with personalised tutorials setting SMART targets as part of the programme design.

First Sit Components	Final Assessment	Element weighting	Description
Portfolio - Component B	✓	70 %	Portfolio -design, build, publish and test a business WebApp
Examination - Component A		30 %	Examination (1.5 Hours)
Resit Components	Final Assessment	Element weighting	Description
Portfolio - Component B	✓	70 %	Portfolio -design, build, publish and test a business WebApp
Examination - Component A		30 %	Examination (1.5 Hours)

Part 4: Teaching and Learning Methods	
Learning Outcomes	On successful completion of this module students will achieve the following learning outcomes:

Module Learning Outcomes	Reference
Explain common security risks present when building and publishing public facing web applications and best practice security and authentication (e.g. SQL injection protection, code injection/data validation, protection from brute force attacks, encryption and hashing techniques).	MO1
Explain penetration testing and how it contributes to information and/or security assurance using examples or scenarios.	MO2
Identify key legalisation impacting the publication of Web Accessible Applications, eg Data Governance (IPO, GDPR, Data Protection), Privacy policies, use of data, terms of use/service	MO3
Plan, design, implement and test a WebApp to support a business scenario.	MO4
Implement a secure WebApp demonstrating best practice security and authentication (e.g. SQL injection protection, code injection/data validation, protection from brute force/dictionary attacks).	MO5
Build, manage and deploy the completed project into an enterprise hosting environment.	MO6
All data must be stored and retrieved from an appropriately structured database.	MO7

Contact Hours	Independent Study Hours:	
	Independent study/self-guided study	192
	Total Independent Study Hours:	192
	Scheduled Learning and Teaching Hours:	
	Face-to-face learning	108

	Total Scheduled Learning and Teaching Hours:	108	
		4	
	Hours to be allocated	300	
	Allocated Hours	300	
Reading List	*The reading list for this module can be accessed via the following link:* https://uwe.rl.talis.com/index.html		

Part 5: Contributes Towards
This module contributes towards the following programmes of study: