University of the West of Scotland
Module Descriptor

Title of Module: Web Application Development

Code: COMP11121	SCQF Level: 11 (Scottish Credit and Qualifications Framework)	Credit Points: 20	ECTS: 10 (European Credit Transfer Scheme)
School:	School of Computing, Engineering and Physical Sciences		
Module Co-ordinator:	Graeme A. McRobbie		

Summary of Module

This module aims to equip you with the practical skills to be able to design and develop dynamic web applications for small businesses and organisations.

The module begins by introducing all the core technologies it covers, and then walks you through the installation of a web development server. You will then be ready to work through the many examples and exercises given in this module.

You will gain a thorough grounding in JavaScript, from simple functions and event handling to accessing the Document Object Model, in-browser validation, and error handling.

You will also get a comprehensive primer on using the popular jQuery and React libraries.

With an understanding of these core technologies, you will learn how to make behind-the-scenes AJAX calls that turn websites into highly dynamic environments.

You will be learning all about using CSS to style and lay out your web pages.

You will then move on to the interactive features built into HTML5, including geolocation, audio, video, and the canvas.

Along the way, you will find plenty of advice on good programming practices and tips that will help you find and solve hard-to-detect programming errors.

This module will work to develop a number of the key 'I am UWS' Graduate Attributes to make those who complete this module.
Universal: critical thinker; ethically-minded; and research-minded
Work Ready: problem-solver; effective communicator; and ambitious
Successful: autonomous; resilient; and driven

Module Delivery Method

Face-To-Face	Blended	Fully Online	HybridC	HybridO	Work-based Learning
				✔	

Face-To-Face
Term used to describe the traditional classroom environment where the students and the lecturer meet synchronously in the same room for the whole provision.

Blended
A mode of delivery of a module or a programme that involves online and face-to-face delivery of learning, teaching and assessment activities, student support and feedback. A programme may be considered "blended" if it includes a combination of face-to-face, online and blended modules. If an online programme has any compulsory face-to-face and campus elements it must be described as blended with clearly articulated delivery information to manage student expectations

Fully Online
Instruction that is solely delivered by web-based or internet-based technologies. This term is used to describe the previously used terms distance learning and e learning.

HybridC
Online with mandatory face-to-face learning on Campus

HybridO
Online with optional face-to-face learning on Campus

Work-based Learning
Learning activities where the main location for the learning experience is in the workplace.

Campus(es) for Module Delivery

The module will **normally** be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit)

Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
✓				✓		

Term(s) for Module Delivery

(Provided viable student numbers permit).

Term 1	✓	Term 2	✓	Term 3	✓

Learning Outcomes: (maximum of 5 statements)

On successful completion of this module the student will be able to:

L1. Demonstrate a critical understanding of the technologies and frameworks used in contemporary web development

L2. Make informed judgments in selecting a range of technologies and frameworks for a web development project

L3. Apply knowledge, skill and understanding in planning and executing a web development project

Employability Skills and Personal Development Planning (PDP) Skills

SCQF Headings	During completion of this module, there will be an opportunity to achieve core skills in:
Knowledge and Understanding (K and U)	SCQF Level 11. Demonstrate a critical understanding of the capabilities and limitations HTML5, CSS3 and JavaScript
Practice: Applied Knowledge and Understanding	SCQF Level 11. Use the principal HTML5, CSS3 and JavaScript skills in unpredictable professional level contexts
Generic Cognitive skills	SCQF Level 11. Develop original and creative solutions to problems
Communication, ICT and Numeracy Skills	SCQF Level 11. Use and adjust features of a range of software tools and ICT applications to support the development of a web-based application
Autonomy, Accountability and Working with others	SCQF Level 11. Take responsibility for own work

Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	Module Code:	Module Title:
	Other:	
Co-requisites	Module Code:	Module Title:

* Indicates that module descriptor is not published.

Learning and Teaching

The module will be delivered through a combination of lectures, which will develop the theoretical underpinning for the module content, and lab exercises which will enable you to develop the appropriate practical and analytical skills. All module materials will be published on the module's VLE.

Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	Student Learning Hours (Normally totalling 200 hours): (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture/Core Content Delivery	12
Laboratory/Practical Demonstration/Workshop	24
Asynchronous Class Activity	12
Independent Study	152
	200 Hours Total

**Indicative Resources: (eg. Core text, journals, internet access)

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:

Beginning JavaScript: The Ultimate Guide to Modern JavaScript Development
Russ Ferguson*

Pro JavaScript Techniques
John Resig, Russ Ferguson & John Paxton*

CSS3 Quick Syntax Reference: A Pocket Guide to the Cascading Style Sheets Languages
Mikael Olsson*

Beginning CSS3: Expert's Voice in Web Development
David Powers*

Pro HTML5 with CSS, JavaScript, and Multimedia: Complete Website Development and Best Practices
Mark J. Collins*

HTML5 and JavaScript Projects: Build on your Basic Knowledge of HTML5 and JavaScript to Create Substantial HTML5 Applications
Jeanine Meyer*

Beginning jQuery: From the Basics of jQuery to Writing your Own Plug-ins
Jack Franklin & Russ Ferguson*

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(**N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Engagement Requirements

Supplemental Information

Programme Board	Computing
Assessment Results (Pass/Fail)	No
Subject Panel	Applied & Business Computing
Moderator	tbc
External Examiner	tbc
Accreditation Details	pending
Changes/Version Number	1

Assessment: (also refer to Assessment Outcomes Grids below)
A class test (practical) under strict examination conditions. The class test (practical) is intended to assess the student's understanding of the principles underpinning the technologies and frameworks studied in the module. The class test (practical) is worth 40% of the overall mark.
A portfolio of practical work demonstrating the practical application of web development technologies and frameworks in producing a web-based solution to a problem. The portfolio of practical work is worth 60% of the overall mark
(N.B. (i) **Assessment Outcomes Grids** for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed. (ii) An **indicative schedule** listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Handbook.)

Assessment Outcome Grids (Footnote A.)

Component 1

Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Class test (practical)	✓			40	2

Component 2

Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Portfolio of practical work		✓	✓	60	0
		Combined Total For All Components		100%	2 hours

Footnotes
A. Referred to within Assessment Section above
B. Identified in the Learning Outcome Section above

Note(s):
1. More than one assessment method can be used to assess individual learning outcomes.
2. Schools are responsible for determining student contact hours. Please refer to University Policy on contact hours (extract contained within section 10 of the Module Descriptor guidance note).
   This will normally be variable across Schools, dependent on Programmes &/or Professional requirements.

Equality and Diversity

UWS Equality and Diversity Policy

(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)