Session: 2022/23
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Title of Module: Dynamic Web Applications			
Code: COMP11005	**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 McRobbie		

Summary of Module

The module aims to equip students with the practical skills to be able to design and develop dynamic web applications for small businesses and organisations
This 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 grounding in the PHP programming language, covering the basics of syntax, arrays, functions, and object-oriented programming. Then, with PHP under your belt, you will move on to the MySQL database system, where you will learn everything from how MySQL databases are structured to how to generate complex queries.
After that, you will learn how you can combine PHP and MySQL to start creating your own dynamic web pages by integrating forms and other HTML features. You will then get down to the nitty-gritty practical aspects of PHP and MySQL development by learning a variety of useful functions and how to manage cookies and sessions, as well as how to maintain a high level of security.
Along the way, you'll find plenty of advice on good programming practices and tips that can help you find and solve hard-to-detect programming errors. There are also plenty of links to websites containing further details on the topics covered.

- 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
	X				

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 tools available for developing dynamic web applications. L2. Make informed judgements in selecting a range of technologies and tools for developing a dynamic web application, and to communicate the rationale for the judgements arrived at L3. Apply knowledge, skill and understanding in planning and developing a dynamic web application

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 server side coding and database connectivity.	
Practice: Applied Knowledge and Understanding	SCQF Level 11. Use a range of specialised techniques and tools in developing a dynamic web application to meet a given set of requirements.	
Generic Cognitive skills	SCQF Level 11. Critically analyse requirements and design issues in developing a dynamic web application and interpret test results in evaluating its fitness for purpose.	
Communication, ICT and Numeracy Skills	SCQF Level 11. Employ a range of software tools and development techniques in developing a dynamic web application. Communicate a design for a dynamic web application to a range of audiences.	
Autonomy, Accountability and Working with others	SCQF Level 11. Exercise autonomy and initiative to develop a dynamic web application	
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 and workshops which will enable you to develop the appropriate practical and analytical skills. In the lab, practical exercises will equip you with the core skills required to specify web solutions. All lecture, workshop and laboratory exercises 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	36
Asynchronous Class Activity	24
Independent Study	128
	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:
You must have access to a computer with Internet access

You must have access to an Integrated Development Environment

Recommended Reading
PHP 7 Solutions: Dynamic Web Design Made Easy by David Powers
Beginning PHP and MySQL: From Novice to Professional by Frank M. Kromann
Practical PHP, MySQL, and MariaDB Website Databases: A Simplified Approach to Developing Database-Driven Website by Adrian W. West & Steve Prettyman
Pro PHP and jQuery by Jason Lengstorf & Keith Wald
PHP and MySQL Recipes: A Problem-Solution Approach by Frank M. Kromann
Learn PHP: Object-Oriented Modular Programming using HTML5, CSS3, JavaScript, XML, JSON, and MySQL by Steve Prettyman
PHP 7 Quick Scripting Reference by Mikael Olsson

(**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

In line with the Academic Engagement Procedure, Students are defined as academically engaged if they are regularly engaged with timetabled teaching sessions, course-related learning resources including those in the Library and on the relevant learning platform, and complete

assessments and submit these on time. Please refer to the Academic Engagement Procedure at the following link: Academic engagement procedure

Supplemental Information

Programme Board	Computing
Assessment Results (Pass/Fail)	No
Subject Panel	Business and Applied Computing
Moderator	Mark Davison
External Examiner	Daniel Doolan
Accreditation Details	N/A
Version Number	1.13

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)