University of the West of Scotland
Module Descriptor

Session: 2024/25

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Title of Module: Dynamic Web Technologies

Code: COMP10013	SCQF Level: 10 (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:	Pablo Salva-Garcia		

Summary of Module

The features, roles, and use of a range of frameworks to develop web/mobile applications are considered.

The practical work will be implemented using selected technologies (eg JavaScript/TypeScript Web/Mobile Framework, Hybrid App Development and HTML5/JavaScript/TypeScript APIs). This selection will be guided by developments in the subject area and market trends.

The benefits of applying web frameworks to web development projects are considered and the tools and techniques that can be used for such projects are evaluated. These are applied within an assignment to develop a dynamic web site in fulfilment of a specific remit.

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

•   Research-minded

Work Ready

•   Problem-Solver

•   Effective Communicator

•   Ambitious

Successful

•   Autonomous

•   Resilient

•   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 deep and thorough understanding of the use of client-side frameworks and HTML5/Native APIs for the development of dynamic web sites and mobile apps.

L2. Apply client-side frameworks and HTML5 in real web and mobile app applications.

L3. Evaluate the advantages and disadvantages of using web and mobile app frameworks

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 10. Demonstrate a critical understanding of specialised subject areas and technological developments within web frameworks
Practice: Applied Knowledge and Understanding	SCQF Level 10. Practise the use of web frameworks at a professional level in areas that may include a degree of novelty
Generic Cognitive skills	SCQF Level 10. Identify problems, analyse results, and interpret common error messages to solve problems in a logical manner.
Communication, ICT and Numeracy Skills	SCQF Level 10. This subject area is entirely computer based so ICT skills feature heavily in the practice of the subject area.
Autonomy, Accountability and Working with others	SCQF Level 10. Exercise autonomy and initiative to implement independently web frameworks at a professional level.

Pre-requisites:	Before undertaking this module, the student should have undertaken the following:	
	Module Code: COMP09006 COMP09023	**Module Title:** Web Site Development Web Server Technology
	Other:	
Co-requisites	**Module Code:**	**Module Title:**

* Indicates that module descriptor is not published.

Learning and Teaching

Problem based learning within a computer laboratory that encourages students to learn through the structured exploration of a problem.

Live demonstrations within a computer laboratory to enhance interest and understanding in students' development.

Fostering genuine discussion within a computer laboratory to increase students' interest in and understanding of course materials.

Students are encouraged to install and use the module software on home or laptop PCs to consolidate their laboratory experience and engender a spirit of independent study and confident experimentation.

Guests such as company directors of digital agencies and UWS graduate technical experts are invited. After their presentations and a Q&A session they are usually available to view student work and speak to individual students. The invited guests develop student awareness of web/mobile business perspectives, technologies, careers, desirable graduate attributes and professional standards of work. The guests are often employers of UWS graduates.

Time allocated for potential guest speakers is recorded as "Tutorial/Synchronous Support Activity" in the Learning Activities.

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	34
Tutorial/Synchronous Support Activity	2
Independent Study	152
	200 Hours Total

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

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

Lecture notes and lab sheets reside on a virtual learning environment in the form of static resources.

The practical or development learning environment will rely heavily on Linux Virtual machines using AWS

Academy.

Use of AWS makes the module largely location agnostic allowing independent student working accessing the same learning environment from home, on campus and elsewhere.

In the timetabled computer laboratories such as J block suitable for live demos, code walkthroughs, debugging workshops, talks by guests and lecture elements can be held.

Not an open plan or open access lab but use of AWS means computer networking lab E113a/b no longer required.

Software used within the module will normally be open source or free to use, so that students can use it out of the University without cost being a barrier.

(**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 & Applied Computing
Moderator	Graeme McRobbie
External Examiner	A Jindal
Accreditation Details	This module is accredited by BCS as part of a number of specified programmes.
Version Number	2.11

Assessment: (also refer to Assessment Outcomes Grids below)

Assessment consists of one coursework element:

•	The creation of an (PWA or mobile) using a specified JavaScript/TypeScript framework to showcase use of a client side web framework and comparing/contrasting current web, PWA & native technologies. A demonstration will be required to make sure the student has had the opportunity to showcase their achievements in terms of app functionality and avoids the marker overlooking functionality that is not signposted.

•	The development and documentation of the app which demonstrates the practical application of data CRUD and two or more HTML5/Native Application Programming Interfaces such as geolocation, camera and sms etc. This is worth 50% 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
Workbook/ Laboratory notebook/ Diary/ Training log/ Learning log	✔	✔	✔	50	0

Portfolio of practical work	✓	✓	✓	50	0
	Combined Total For All Components			100%	0 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

The University policies on equality and diversity will apply to this module: the content and assessment are based on the ability to communicate in English but are otherwise culture-neutral.

This module is almost entirely computer based and students should be proficient on a computer within a Windows environment. The teaching occurs within a laboratory on campus.

When a student discloses a disability an enabling support advisor will agree the appropriate adjustments to be made, consulting with the module coordinator if necessary.

Further guidance available from Student Services, enabling support advisors or the School Enabling Support Coordinator.
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)

Change Control:

What	When	Who
Updated layout, Module coordinator and Moderator.	15/02/2024	P Salva-Garcia
Module delivery Term updated to T1	15/02/2024	P Salva-Garcia