Module Descriptor

Title	Server Side Systems		
Session	2025/26	**Status**	Published
Code	COMP10015	**SCQF Level**	10
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Computing, Engineering and Physical Sciences**		
Module Co-ordinator	Pablo Salva-Garcia		

Summary of Module

The module is built around the stages of practical work identified below.

Apache web server configuration. Discussion of Object-Oriented PHP followed by development and deployment of secure database driven web applications with a PHP MVC (Model-View-Controller) framework.

These are specific examples of the fundamental server systems used almost all large (any many small scale) web applications for commercial, non-profit, educational, or governmental organisations. In the process of working with these specific systems students gain fundamental understanding of the techniques that underpin high profile social networking, ecommerce, news, and auction web sites regardless of the technologies these sites use.

The practical work of the module takes place in timetabled computer laboratories. Formal lectures are used prior to the practical work to introduce the specific systems or technologies in the context of fundamental concepts and competing or alternative technologies.

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. These are often employers of UWS graduates. This module will work to develop a number of the key 'I am UWS' Graduate Attributes to make those who complete this module:

Universal: 1) Critical Thinker, 2) Ethically minded. 3) Research-minded.

Work Ready: 1) Problem-Solver, 2) Effective Communicator, 3) Ambitious.

Successful: 1) Autonomous 2) Resilient, 3) Driven.

Module Delivery Method	On-Campus[1] ☐	Hybrid[2] ☒	Online[3] ☐	Work -Based Learning[4] ☐
Campuses for Module Delivery	☐ Ayr ☐ Dumfries	☐ Lanarkshire ☐ London ☒ Paisley	☐ Online / Distance Learning ☐ Other (specify)	

Terms for Module Delivery	Term 1	☒	Term 2	☐	Term 3	☐
Long-thin Delivery over more than one Term	Term 1 – Term 2	☐	Term 2 – Term 3	☐	Term 3 – Term 1	☐

Learning Outcomes	
L1	Demonstrate a comprehensive understanding of server-side web technologies, including remote cloud-based web server configuration, database integration, and dynamic content generation, to support the development of secure and scalable web applications.
L2	Analyse the functional and technical requirements of a web application with dynamic content, applying knowledge and understanding of system configuration, web server management, CRUD (Create, Read, Update, Delete) operations, and MVC architecture to design and implement an effective solution.
L3	Evaluate and apply secure coding practices, authentication/authorization mechanisms, and data validation strategies within an MVC-based framework, ensuring the development and deployment of robust, maintainable, and security-compliant web applications that efficiently manage and manipulate stored data
L4	aN/A
L5	N/A

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 10** Demonstrate a critical understanding of the principal concepts and selected specific technologies of user, data and database driven web sites with server-system technology stacks.

[1] Where contact hours are synchronous/ live and take place fully on campus. Campus-based learning is focused on providing an interactive learning experience supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus contact hours will be clearly articulated to students.

[2] The module includes a combination of synchronous/ live on-campus and online learning events. These will be supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus and online contact hours will be clearly articulated to students.

[3] Where all learning is solely delivered by web-based or internet-based technologies and the participants can engage in all learning activities through these means. All required contact hours will be clearly articulated to students.

[4] Learning activities where the main location for the learning experience is in the workplace. All required contact hours, whether online or on campus, will be clearly articulated to students

Practice: Applied Knowledge and Understanding	**SCQF 10** Execute a defined project of development identifying the requirements and completing an implementation using the specific technologies covered by the module.
Generic Cognitive skills	**SCQF 10** Demonstrate some creativity and originality to produce professional level deliverables.
Communication, ICT and Numeracy Skills	**SCQF 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 10** Exercise autonomy and initiative when working with a range of server-side systems.

Prerequisites	**Module Code** COMP09023	**Module Title** Web Server Technology
	Other	
Co-requisites	**Module Code**	**Module Title**

Learning and Teaching
In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours. This module is a based around series of practical labs complemented by lectures. The purpose of the lectures is to discuss the selected detailed topics within a context of wider technological, commercial, legal, and other issues. In the practical labs, students install and configure a cloud-based web server, integrating scripting and database services to create a functional development environment. They then develop server-side scripting skills, gaining hands-on experience with the technologies and techniques used in content-rich, community-driven, and commercial web applications. Throughout these sessions, staff play a supportive role, using their technical expertise to provide guidance, assistance, and clarification, ensuring students learn in a dynamic and responsive environment. 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 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** (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
Please select	
Please select	
TOTAL	200

Indicative Resources

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

Lecture notes and lab sheets are available on the Virtual Learning Environment (VLE) as static resources, while more advanced and interactive elements, such as working demonstrations, require access to a Linux Apache web server, PHP, MySQL, and other relevant technologies, hosted within the module's learning resources.

During timetabled computer lab sessions, each student must have access to an allocated, networked computer with administrative rights, allowing them to configure and install software to build their work incrementally each week without interfering with other students' progress.

Additionally, SSH access is required for students to connect to cloud-based environments. For the same purpose, Wi-Fi access must support SSH connections to allow students to work with their web servers and remote development environments.

Stauffer, M. (2023) Laravel: Up & Running: A Framework for Building Modern PHP Apps. 3rd edn. Sebastopol, CA: O'Reilly Media

Laracasts (n.d.) Laracasts – The Best Laravel and PHP Screencasts. Available at: https://laracasts.com/

(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)

Attendance and Engagement Requirements

In line with the Student Attendance and Engagement Procedure, Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time.

For the purposes of this module, academic engagement equates to the following:

The School of Computing, Engineering and Physical Sciences considers attendance and engagement to mean a commitment to attending, and engaging in, timetabled sessions. You will scan your attendance via the scanners each time you are on-campus and you will login to

the VLE several times per week. Where you are unable to attend a timetabled learning session due to illness or other circumstance, you should notify the Programme Leader that you cannot attend. Across the School an 80% attendance threshold is set. If you fall below this, you will be referred to the Student Success Team to see how we can best support your studies.

Equality and Diversity
The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code. Aligned with the University's commitment to equality and diversity, this module supports equality of opportunity for students from all backgrounds and learning needs. Using the VLE, material will be presented electronically in formats that allow flexible access and manipulation of content. This module complies with University regulations and guidance on inclusive learning and teaching practice. This module has lab-based teaching and as such you are advised to speak to the Module Co-ordinator to ensure that specialist assistive equipment, support provision and adjustment to assessment practice can be put in place, in accordance with the University's policies and regulations.
(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	**Computing**
Overall Assessment Results	☐ **Pass / Fail** ☒ **Graded**
Module Eligible for Compensation	☐ **Yes** ☒ **No** **If this module is eligible for compensation, there may be cases where compensation is not permitted due to programme accreditation requirements. Please check the associated programme specification for details.**
School Assessment Board	Business & Applied Computing
Moderator	Graeme McRobbie
External Examiner	R Kusainov
Accreditation Details	This module is accredited by BCS as part of a number of specified programmes.
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	2.12

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Practical Web Server assessment with a written component (40%)
Assessment 2
Practical Website assessnent with both written and presentation component (60%)
Assessment 3

(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 Module Handbook.)

Component 1							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Portfolio of practical work	☒	☒	☐	☐	☐	40	0

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Portfolio + Presentation of practical work	☐	☒	☒	☐	☐	60	

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
	☐	☐	☐	☐	☐		
Combined total for all components						100%	0 hours

Change Control

What	**When**	**Who**
Attendance and Engagement Procedure and Equality and Diversity	20/1/25	F.Valentine
Added LO3, revised student learning hours.	19/02/25	P. Salva-Garcia