Module Descriptor

Title	Virtualisation and Cloud Computing		
Session	2025/26	**Status**	Published
Code	COMP09117	**SCQF Level**	9
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Computing, Engineering and Physical Sciences**		
Module Co-ordinator	Duncan Thomson		

Summary of Module

Virtualisation and cloud computing have changed the ways organisations use and plan their computing infrastructure. This module introduces some basic virtualisation concepts, including hypervisors and VMs, containers, and the virtualisation of storage and network services. It then looks at how these concepts can be used to deploy virtual computing, both locally and using cloud technologies.

This module is aligned with the UWS graduate attributes:

- Universal (Knowledge of Discipline, Critical Thinker, Confidence)
- Work-Ready (Problem solver, Teamworker, Effective communicator)
- Successful (Adaptability, Autonomy, Subject Specialist)

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) NCL	

[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

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 broad understanding of the characteristics of virtualisation, virtualised components and cloud computing
L2	Demonstrate an detailed knowledge of the components making up virtualised and cloud-deployed systems
L3	Use a range of tools to deploy and configure virtualised computing systems, both locally and in the cloud
L4	N/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 9** Understand and apply the concepts and terminology of virtualisation and cloud computing
Practice: Applied Knowledge and Understanding	**SCQF 9** Use a range of tools to manage virtualised computing systems
Generic Cognitive skills	**SCQF 9** Consult appropriate documentation when required
Communication, ICT and Numeracy Skills	**SCQF 9** Work effectively on the command line Document computing systems in a professional manner
Autonomy, Accountability and Working with Others	**SCQF 9** Know when to ask for support or advice when faced with technical problems

Prerequisites	**Module Code** COMP09024	**Module Title** Unix System Administration
	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.

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	36
Independent Study	152
Please select	
Please select	
Please select	
TOTAL	200

Indicative Resources
The following materials form essential underpinning for the module content and ultimately for the learning outcomes: - A computing laboratory with a hypervisor (for example VirtualBox with the VirtualBox Extension Pack, available under the Oracle PUEL) with permissions to create and run VMs and access them via RDP, and the ability to run (at least) Linux guests - Access from the university to a public cloud computing infrastructure (such as AWS) Please ensure the list is kept short and current. Essential resources should be included, broader resources should be kept for module handbooks / Aula VLE. Resources should be listed in Right Harvard referencing style or agreed professional body deviation and in alphabetical order.
(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	Steve Eager
External Examiner	R Khusainov
Accreditation Details	
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	1.01

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
A log book reflecting on parts of the laboratory work, worth 30 marks, and weighted at 30%; this will be due around one week after the lab sessions have been completed
Assessment 2
An implementation of two virtualised systems, one local and one cloud-hosted, each worth 20 marks, in total weighted at 40%; the timeline for these assessments will be approximately week 9 and week 13 respectively.
Assessment 3
An online multichoice class test, worth 30 marks, and weighted at 30%; this will normally be completed in week 15.
(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**
Logbook	☐	☒	☐	☐	☐	30	

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Practical Implementation	☐	☐	☒	☐	☐	40	6

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Online class test	☒	☐	☐	☐	☐	30	
Combined total for all components						100%	hours

Change Control

What	**When**	**Who**
Attendance and Engagement and Equality and Diversity Statements	21/01/25	R Moffat
Delivery campus corrected from LK to NCL; minor change to LO2	19/2/25	D Thomson