



Module Specification

Cloud Computing Platforms

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Part 1: Information

Module title: Cloud Computing Platforms

Module code: UFCFEN-15-3

Level: Level 6

For implementation from: 2026-27

UWE credit rating: 15

ECTS credit rating: 7.5

College: College of Arts, Technology and Environment

School: CATE School of Computing and Creative Technologies

Partner institutions: None

Field: Computer Science and Creative Technologies

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Virtualisation and cloud computing are becoming ubiquitous in computing: This module aims to equip students with the technical knowledge and experience to be able to effectively plan, implement and justify appropriate virtualisation and/or cloud computing platforms, as well as being able to articulate where these platforms may, or may not be the most effective solution.

Features: Not applicable

Educational aims: This module aims to equip students to and develop and manage both hyperconverged and cloud computing platforms and compare their underlying technologies and merits of both.

Students will benchmark solutions and explore the business merits and security considerations for adopting on-premise, virtualised vs cloud solutions and justification for hybrid application.

Outline syllabus: Topics may include, but are not limited to:

Understand and explore key virtualisation technologies (e.g. terminal, Virtual Device Interface (VDI), zero/thin/thick clients, hypervisors, containers, virtualisation, paravirtualisation)

Key benefits and limitations of virtualisation (e.g. cost, high availability, scalability, efficiency)

Virtualisation technologies, e.g. Type 1/Type 2 Hypervisors, Paravirtualisation, containerisation/isolation and emulation

Design, setup/configure an enterprise virtualisation platform to meet a provided specification

Create and manage virtual networks (e.g. switches, routing, redundancy planning, performance factors)

Explore industry leading cloud computing platforms and their competitive similarities and differentiation

Setup and manage a cloud-based service on a mainstream cloud hosting platform (see examples above)

Cloud Service Models

Identify scenarios that not optimal for cloud or virtulised environments and the shortfalls or where hybrid solutions may be optimal

Identify and be able to interpret the data security implication of introducing and/or operating virtualisation/cloud within an organisation

Part 3: Teaching and learning methods

Teaching and learning methods: This module will be delivered through introductory lectures covering the fundamentals and technical underpinning of the module before progressing onto practical delivery through a series of lessons, workshops and practical tasks. Students will need access to both a cloud solution and Type 1 Virtualisation environments which could be hosted on campus or via a cloud provider.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Compare and evaluate the benefits and limitations of key virtualisation methodologies in specific use cases.

MO2 Design, implement and configure a secure enterprise virtualisation platform and cloud solution to meet a given scenario.

MO3 Discuss the implication to an organisation in maintaining effective cyber security and compliance within virtual network environments.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/index.html) via the following link <https://uwe.rl.talis.com/index.html>

Part 4: Assessment

Assessment strategy: The final assessment is a Practical Portfolio that will include a significant practical element and technical documentation that includes the following:

Design/recommend a solution to a given case study using examples of enterprise ready cloud and/or virtualisation technologies

Planning and design of a cloud hosting and/or virtualisation platform

Implementation of a virtualisation and/or cloud solution to support a business scenario

Benchmarking and evaluating and virtualisation technologies and making recommendations for improvements where appropriate

Opportunities for formative assessment exist for the assessment strategy used. Verbal feedback is given and all apprentices will engage with personalised tutorials setting SMART targets as part of the programme design.

The resit opportunity should follow the same format as the first take. Due to complexity of the practical component a rework of the lab work is recommended.

Assessment tasks:

Portfolio (First Sit)

Description: Design, build and configure a cloud computing/virtualisation solution to a given enterprise scenario

Weighting: 100 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Portfolio (Resit)

Description: Design, build and configure a cloud computing/virtualisation solution to a given enterprise scenario

Weighting: 100 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Digital and Technology Solutions (Cyber Security Analyst) {Apprenticeship-UCW}
[UCW] - Withdrawn BSc (Hons) 2023-24

Digital and Technology Solutions (Data Analyst) {Apprenticeship-UCW} [UCW] -
Withdrawn BSc (Hons) 2023-24

Digital and Technology Solutions (Network Engineer) {Apprenticeship-GlosColl
[GlosColl] BSc (Hons) 2024-25

Digital and Technology Solutions (Network Engineer) {Apprenticeship-UCW} [UCW]
BSc (Hons) 2024-25

Digital and Technology Solutions (Data Analyst) {Apprenticeship-UCW} [UCW] BSc
(Hons) 2024-25

Digital and Technology Solutions (Software Engineer) {Apprenticeship-UCW} [UCW]
BSc (Hons) 2024-25

Digital and Technology Solutions (Cyber Security Analyst) {Apprenticeship-UCW}
[UCW] BSc (Hons) 2024-25

Digital and Technology Solutions (Software Engineer) {Apprenticeship-GlosColl}
[GlosColl] BSc (Hons) 2024-25