



Module Specification

Computer Networks and Protocols

Version: 2026-27, v2.0, Approved

Contents

Module Specification	1
Part 1: Information	2
Part 2: Description	2
Part 3: Teaching and learning methods	4
Part 4: Assessment.....	4
Part 5: Contributes towards	6

Part 1: Information

Module title: Computer Networks and Protocols

Module code: UFCE4N-15-1

Level: Level 4

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: University Centre Weston

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: This module introduces the basic features of networks and their administration. Students will complete a range of practical networking tasks to reflect the requirements of a networking technician and compile accurate technical laboratory reports.

Features: Not applicable

Educational aims: This module will enable students to understand basic computer system organisation and network infrastructures.

The overall focus of this module is on the services and capabilities that network infrastructure solutions enable in an organisational context and prepare students for a role as network administrator.

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

This module will expose students to the fundamental building blocks of network architecture and the key protocols, security and performance considerations.

Basic network device configuration e.g. hubs, switches, gateways, firewalls/Unified Threat Management (UTM), Virtual Private Networks (VPN)

Client device configuration (Stationary and mobile devices)

Network service configuration eg Domain Name System (DNS), Dynamic Host Configuration Protocol (DHCP), Network Time Protocol (NTP), Network File System (NFS)/Samba file sharing

Typical architectures of computer networks and the Internet e.g. server/client, hub/spoke and peer to peer

Network types (LAN, WAN, MAN, WLAN)

Binary fundamentals & IP Addressing and Subnet addressing

Different transport layer protocols (TCP and UDP)

Key M2M communication protocols, e.g. HTTP, HTTPS, SMTP, IMAP, POP, FTP, SSH

Network Monitoring (e.g. Simple Network Management Protocol, SNMP) and some

of main factors that affect network performance e.g. bandwidth, propagation delay, transmission delay

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 in a Network Lab to develop the tools and techniques required to complete the assessment for this module.

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

MO1 Apply basic network configurations for network devices.

MO2 Plan, design, implement and test a network solution.

MO3 Identify and explain the fundamental building blocks of computer networking including key network protocols.

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: This module has one assessment, designed to assess student's theoretical knowledge and practical application of network infrastructure topologies.

The network infrastructure portfolio will consist of three, one-hour, in-class practical labs with a laboratory report for each in-class assessment.

One of the network labs will be completed in a small group and require students to configure multiple networked devices.

The practical in-class laboratory assessments and corresponding lab reports are design to allow students to demonstrate understanding of the fundamentals of network infrastructure and the theories and principles of network design through completing a series of practical tasks in a Network Lab with access to specialist equipment and network infrastructure.

Resit assessment will match the first sit and deliverable(s) will be scaled appropriately to group size and task complexity.

Assessment tasks:**Portfolio (First Sit)**

Description: Portfolio (three, one-hour, in-class practical labs with a laboratory report for each in-class assessment)

Weighting: 100 %

Final assessment: Yes

Group work: Yes

Learning outcomes tested: MO1, MO2, MO3

Portfolio (Resit)

Description: Portfolio (three, one-hour, in-class practical labs with a laboratory report for each in-class assessment)

Weighting: 100 %

Final assessment: Yes

Group work: Yes

Learning outcomes tested: MO1, MO2, MO3

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Cyber Security and Networking [UCW] FdSc 2026-27

Software Development [UCW] FdSc 2026-27

Digital and Technology Solutions (Cyber Security Analyst) {Apprenticeship-UCW}
[UCW] BSc (Hons) 2026-27

Digital and Technology Solutions (Data Analyst) {Apprenticeship-UCW} [UCW] BSc
(Hons) 2026-27

Digital and Technology Solutions (Network Engineer) {Apprenticeship-UCW} [UCW]
BSc (Hons) 2026-27

Digital and Technology Solutions (Software Engineer) {Apprenticeship-UCW} [UCW]
BSc (Hons) 2026-27

Digital and Technology Solutions (Cyber Security Analyst) {Apprenticeship-Glos Coll}
[GlosColl] BSc (Hons) 2026-27

Digital and Technology Solutions (Software Engineer) {Apprenticeship-GlosColl}
[GlosColl] BSc (Hons) 2026-27

Digital and Technology Solutions (Network Engineer) {Apprenticeship-GlosColl}
[GlosColl] BSc (Hons) 2026-27

Digital and Technology Solutions (Network Engineer) {Apprenticeship-GlosColl}
[GlosColl] BSc (Hons) 2026-27

Digital and Technology Solutions (Software Engineer) {Apprenticeship-GlosColl}
[GlosColl] BSc (Hons) 2026-27