MODULE DESCRIPTOR

Module Title

Introduction to Networking

Reference	CM1110	Version	2
Created	June 2022	SCQF Level	SCQF 7
Approved	March 2021	SCQF Points	15
Amended	July 2022	ECTS Points	7.5

Aims of Module

To provide students with knowledge and understanding of data communications and computer networks, and the ability to set up data communications links and select optimal network configurations.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Select suitable equipment, and protocols for use in a small network.
2	Diagnose problems and propose solutions to basic problems in equipment selection and configurations in a network.
3	Analyse and design IP addressing schemes for a small network.
4	Configure a small network.
5	Troubleshoot a small network.

Indicative Module Content

Exploring the Network: Communicating in a Network-Centric World, the Network as a Platform, LANs, WANs Network Operating System: IOS Bootcamp, Getting Basics, Addressing Schemes. Network Layer: Network Layer Protocols, Routing, Routers, Configuring a Cisco Router. IP Addressing: IPv4 Network Addresses, IPv6 Network Addresses, Connectivity Verification. Subnetting IP Networks: Subnetting an IPv4 Network, Addressing Schemes, Design Considerations for IPv6. Network Access: Data Link Layer, Media Access Control, Physical Layer, Network Media. Ethernet: Ethernet Protocol, LAN Switches.

Module Delivery

This module is taught using a structured programme of lectures, lab sessions, web-based learning materials, web-based activities, practical exercises and student centred learning.

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Indicative Student Workload	Full Time	Part Time
Contact Hours	30	N/A
Non-Contact Hours	120	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
Actual Placement hours for professional, statutory or regulatory body		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Coursework	Weighting:	100%	Outcomes Assessed:	1, 2, 3, 4, 5
Description:	Coursework consisting of both practical and theoretical elements covering all module learning outcomes.				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

This module is assessed on a pass/unsuccessful basis. The Module Grade is based on performance in Component 1 (coursework) as detailed below.

Module Grade	Minimum Requirements to achieve Module Grade:
Pass	Pass in C1.
Fail	Fail, i.e. unsuccessful, in C1.
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	None.
Corequisites for module	None.
Precluded Modules	None.

ADDITIONAL NOTES

This module represents the equivalent of Course 1 of the four course CCNA (Cisco Certified Networking Associate) Routing and Switching Curriculum.

INDICATIVE BIBLIOGRAPHY

1	STALLINGS, W. Data and Computer Communications, 10th edition, 2015
2	KUROSE, J & ROSS, Computer Networking: A Top-Down Approach, Global Edition, Pearson; 7th edition, 2016
3	TANENBAUM, A & WETHERALL, D (2013) Computer Networks. 5th Ed. Pearson
4	BUELTA, J., 2019. Hands-on Docker for Microservices with Python : design, deploy, and operate a complex system with multiple microservices using docker and Kubernetes. Packt Publishing
5	KUNDAN, A. P., 2019. Intelligent automation with VMware: apply machine learning techniques to VMware virtualization and networking. Packt Publishing