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MODULE DESCRIPTOR

Module Title

Introduction to Networking

Reference	CM1110	Version	1
Created	September 2020	SCQF Level	SCQF 7
Approved	March 2021	SCQF Points	15
Amended		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.

Module Ref:	CM1110 v1

Indicative Student Workload	Full Time	Part Time
Contact Hours	36	N/A
Non-Contact Hours	114	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:	Practical Exam	Weighting:	50%	Outcomes Assessed:	4, 5
Description:	Component 1 - Practical Exam worth 50% of the total module assessment.				

Component 2

Type:	Coursework	Weighting:	50%	Outcomes Assessed:	1, 2, 3
Description:	Component 2 - Coursework worth 50% of the total module assessment.				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

The calculation of the overall grade for this module is based on 50% weighting of C1 and 50% weighting of C2. An overall minimum grade D is required to pass the module.

		Practical Exam:						
		A	**B**	**C**	**D**	**E**	**F**	**NS**
Coursework:	**A**	A	A	B	B	C	E	
	B	A	B	B	C	C	E	
	C	B	B	C	C	D	E	
	D	B	C	C	D	D	E	
	E	C	C	D	D	E	E	
	F	E	E	E	E	E	F	
	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