

MODULE DESCRIPTOR

Module Title

Computing Enterprise Network Design

Reference	CM4117	Version	2
Created	June 2022	SCQF Level	SCQF 10
Approved	August 2017	SCQF Points	30
Amended	July 2022	ECTS Points	15

Aims of Module

To provide the student with the ability to critically appraise the requirements analysis, design and implementation of computer networks in the industrial and commercial environment.

Learning Outcomes for Module

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

- 1 Identify and discuss the issues involved in developing a requirements analysis document for industry based computer networks.
- 2 Appraise the methodologies used when designing a network in commercial environments.
- 3 Recognise and analyse architectural patterns in network design.
- 4 Critically evaluate the various designs currently implemented in enterprise networks.
- 5 Discuss the commercial and economic issues associated to enterprise network design.

Indicative Module Content

Network design, implementation and maintenance. Practicalities of designing, implementing and maintaining a network in a commercial environment. Enterprise WAN, Data Centre, Storage and Virtual Private networks. Implementation and design of modern communication systems. Case studies.

Module Delivery

Key concepts are introduced and illustrated through lectures. The understanding of students is tested and further enhanced through interactive labs. In the laboratories the students will progress through a sequence of exercises to develop sufficient knowledge of the subject.

Indicative Student Workload

	Full Time	Part Time
Contact Hours	50	N/A
Non-Contact Hours	250	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	300	N/A
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

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.				

MODULE PERFORMANCE DESCRIPTOR**Explanatory Text**

The calculation of the overall grade for this module is based on 100% weighting of C1. An overall minimum grade D is required to pass the module.

Module Grade	Minimum Requirements to achieve Module Grade:
A	The student needs to achieve an A in C1
B	The student needs to achieve a B in C1
C	The student needs to achieve a C in C1
D	The student needs to achieve a D in C1
E	The student needs to achieve an E in C1
F	The student needs to achieve an F in C1
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	CM3101 Computing Network Management, or equivalent
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

- 1 Hummel, S (2015) Cisco Design Fundamentals: Multilayered Design Approach For Network Engineers. CreateSpace Independent Publishing Platform
- 2 Hummel, S (2013) Network Design Fundamentals. CreateSpace Independent Publishing Platform
- 3 Bruno, A & Jordan, S (2016) CCDA 200?310 Official Cert Guide. 5th Ed. Cisco Press
- 4 Oppenheimer, P (2010) Top?Down Network Design. 3rd Ed. Cisco Press
- 5 Kurose, J & Ross, K (2012) Computer Networking: A Top?Down Approach. 6th Ed. Pearson Education
- 6 Thomatis, M (2015) Network Design Cookbook: Architecting Cisco Networks. lulu.com
- 7 Tanenbaum, A & Wetherall, D (2013) Computer Networks. 5th Ed. Pearson
- 8 Stallings, W (2013) Data and Computer Communications. 10th Ed. Pearson Education