

## 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:
<b>A</b>	The student needs to achieve an A in C1
<b>B</b>	The student needs to achieve a B in C1
<b>C</b>	The student needs to achieve a C in C1
<b>D</b>	The student needs to achieve a D in C1
<b>E</b>	The student needs to achieve an E in C1
<b>F</b>	The student needs to achieve an F in C1
<b>NS</b>	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