

**NEW ZEALAND INSTITUTES OF TECHNOLOGY AND POLYTECHNIC  
QUALIFICATIONS IN INFORMATION & COMMUNICATIONS TECHNOLOGY**

**PRESCRIPTION: NM600 LAN ADMINISTRATION**

AIM OF MODULE:	To provide students with knowledge of the features and issues associated with providing and maintaining local area networks.
CREDITS:	7
STUDENT LEARNING HOURS:	70
CONTENT REVISED:	2010
PRESCRIPTION EXPIRY DATE:	November 2013
NOTE:	It is suggested that this module be taught in conjunction with NM61n, which is the means for teaching the practical implementation of LANs.

**Level and Assessment Schedule**

TOPICS	Highest Skill Level				Suggested Assessment Percentage
	R	C	A	P	
1. Local Area Networks		*			50
2. LAN Administration		*			50
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## LEARNING OUTCOMES

The student will:

- C 1 Describe representative configurations of LANs, the facilities offered and the resources used to provide them.
- C 2 Describe LAN administration requirements

## CONTENT

### 1 Local Area Networks

- LAN features described will include:
  - topologies
  - media
  - protocols
  - multi-user applications; e.g. electronic mail
  - interconnection devices; e.g. gateways
  - resource sharing; e.g. files and printers
- LAN performance factors discussed will include:
  - Client PC hardware; e.g. CPU and RAM
  - Network Interface Card (NIC); e.g. priority and queuing at host and nodes
  - Media; e.g. bandwidth and transmission quality
  - Server; e.g. harddisk capacity and processing time
  - Protocol; e.g. message size and overheads

### 2 LAN Administration

- LAN security issues described will include:
  - Levels of security; e.g. unique username and password
  - Archiving; i.e. backups
  - Physical measures; e.g. securing hardware on site
  - Firewalls; e.g. proxy server
  - Recovery procedures; e.g. from a server crash
  - Viruses; e.g. detection, prevention, eradication
- LAN support issues described will include:
  - Vendor; e.g. guarantees
  - In-house; e.g. helpdesk

- Third party
- Diagnostic software

## **Resources**

### Recommended Reading:

- Local Area Networks (McGraw-Hill Forouzan Networking Series) by Behrouz A. Forouzan. ISBN-13: 978-0072336054 (Published by McGraw Hill Higher Education (January 17, 2002)