

**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:          | 2008  |
| PRESCRIPTION EXPIRY DATE: | Nov 2011  |
| 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                              |
|                        |                     |   |   |   | <hr/> 100 <hr/>                 |

## 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: 978-0071150804 (Published by McGraw Hill Higher Education (October 30, 2001)