

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

PRESCRIPTION: DB500 DATABASE MANAGEMENT SYSTEMS (DBMS)

AIM OF MODULE:	To introduce students to data models used by DBMSs, the issues related to the use of DBMSs and to provide them with the ability to perform common database functions.
CREDITS:	7
STUDENT LEARNING HOURS:	70
CONTENT REVISED:	2000
PRESCRIPTION EXPIRY DATE:	November 2013

Level and Assessment Schedule

TOPICS	Highest Skill Level				Suggested Assessment Percentage
	R	C	A	P	
1. DBMS Structures	*				5
2. DBMS Issues		*			30
3. Database Design and Implementation			*		65
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LEARNING OUTCOMES

The student will:

- | | | |
|---|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| R | 1 | Outline the key features of at least three major categories of commercial database management systems. |
| C | 2 | Describe the advantages of using a database environment for the management of data rather than conventional file structures and outline the main activities and factors affecting performance when a DBMS is involved. |
| A | 3 | Design, implement and query a database which appropriately represents a given business situation. |

CONTENT

This module has relational database structures as its main focus for exercises in design.

1 DBMS STRUCTURES

- Examples are relational, hierarchical, network, object oriented.

2 DBMS ISSUES

- Advantages include: data independence, data integrity, distributed database, centralised database, handling of security, recovery processes.
- Activities include: management of data such as audit, backup & archiving, maintenance and support, definition of schema/sub-schema, insertion, amendment, deletion and retrieval of data.

3 DATABASE DESIGN AND IMPLEMENTATION

- Design an appropriate database structure for a given business situation using methods such as entity relationship diagrams, schema depiction and normalisation to 3rd normal form.
- Implement an appropriately designed database structure using a commercial database management system such as Access, Interbase, Informix, Oracle, SQL Server.
- Perform functions such as data entry, queries and reports including linking from two or more tables.