

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

PRESCRIPTION: DA600 DATA ANALYSIS

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|---------------------------|--|
| AIM OF MODULE: | To enable students to build a data model and become familiar with the normalisation process. |
| 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. Data Modelling | | | * | | 30 |
| 2. Relational Data Analysis | | | * | | 50 |
| 3. Consolidate Entities | | | * | | 20 |
| | | | | | <hr/> |
| | | | | | 100 |
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LEARNING OUTCOMES

The student will:

- A 1 Design a data model for a simple organisation.
- A 2 Perform Relational Data Analysis resulting in data being expressed in third normal form.
- A 3 Consolidate entities in the data model, removing redundancies.

CONTENT

1 DATA MODELLING

- Draw a Data Model including:
 - Relationships between entity types
 - Types of relationships in terms of cardinality, optionality, exclusivity and involution
 - Attributes of entity types
- Explain the design of unique identifiers
 - Including candidate keys, primary keys, composite keys, foreign keys.

2 RELATIONAL DATA ANALYSIS

- Expressing information in unnormalised logical form and identifying keys.
- Converting the unnormalised data to first, second and third normal form, testing resulting relations at each stage.
- Define further normal forms.

3 CONSOLIDATE ENTITIES

- Comparison of 3NF relations against the data model; removal of redundant entity types and relationships, resulting in a Normalised Data Model.

NOTE

- Some authors refer to a data model as an entity relationship diagram and/or entity model.