Title	Produce and use a relational database to provide a solution for organisational use		
Level	3	Credits	5

Purpose	People credited with this unit standard are able to produce and use a relational database to provide a solution for organisational use. This unit standard has been developed primarily for assessment as an option within programmes leading to the New Zealand Certificate in Computing (Intermediate User) (Level 3) [Ref: 2592].

Classification	Computing > Generic Computing

Available grade	Achieved

Guidance Information

1   Recommended skills and knowledge:
    Unit 29777, *Use the main features and functions of a database application to create and test a database*, or demonstrate equivalent knowledge and skills.

2   Assessment, where applicable, will be conducted in and for the context of real or realistic organisations and/or settings, and be relevant to current and/or emerging practice.

3   A brief will be supplied to the learner, either as part of the learner's employment (in the case of workplace assessment) or in response to a set task, and unformatted data files may also be provided. It must set out the purpose and requirements of the organisation and clearly identify the outcomes required from the database and will include meeting appropriate legal, ethical and moral considerations, against which the success or otherwise of the database can be assessed.

    The brief will include at least – the target users, the specification which includes the table fields and required attributes, general layout requirements for input forms, queries and reports, and a testing plan. Information from the database created in this standard could be used in Unit 29785, *Use a word processing application to integrate images, spreadsheet and database data into documents*.

    Planning is not required to be assessed as part of this standard however it is good practice to develop a simple plan to outline the list of steps of how the requirements of the database will be realised, and a simple conceptual layout design prior to beginning creation of the database.

Database capabilities required for this standard need only allow for a two-table relational database, with single-user updates, typically installed on a PC as part of a productivity software package.

4   Definitions
Boolean refers to data that has one of two values – true or false, yes or no.
Good practice includes selecting and using the appropriate feature or function to enable correct use of formulas and formatting tools, such as alignment, labelling, calculation functions; and applying techniques and data integrity procedures and practices.
Organisation refers to the context the database is designed to operate in (e.g. businesses, clubs, not-for-profit organisations). It does not define or limit the situations in which assessment evidence may be gathered.
A *relational database* is a collection of data sets organised by tables, records (rows), and columns (attributes), which are structured to recognise relationships between the stored data categories.
A testing plan lists various scenarios that should be executed against the database, and includes the initial state (a given database), functions and features that need to be tested (buttons, links, navigation, displayed messages, error handling), data to be input, data integrity, and the expected outcome for each test.

5   Legislation relevant to this unit standard includes but is not limited to the:
Copyright Act 1994
Copyright (New Technologies) Amendment Act 2008
Health and Safety at Work Act 2015
Privacy Act 2020
and any subsequent amendments.
Current legislation and regulations can be accessed at http://legislation.govt.nz.

6   Reference
ACC5637 Guidelines for Using Computers - Preventing and managing discomfort, pain and injury. Accident Compensation Corporation - Department of Labour, 2010; available from WorkSafe New Zealand, at https://www.worksafe.govt.nz/topic-and-industry/work-related-health/ergonomics/safely-using-computers-at-work/.

Outcomes and performance criteria

Outcome 1

Produce and use a relational database to provide a solution for organisational use.

Range   a minimum of two tables is required for the relational database.

Performance criteria

1.1 Data fields are created and properties managed to produce the database required by a given brief.

Range includes – setting field properties (length, validation rules); data types and/or formats (such as Boolean, currency, integer, decimal, dates or times); primary keys;
relationships may include – one to one, one to many;
at least 4 fields in each table;
at least 4 different data types and/or formats across the database.

1.2 Input form is created with controls for entering data.

Range form wizards may be used;
controls may include – restricting data input via validation rules, field properties, and simple controls such as date picker, radio buttons, dropdown lists;
at least two controls are required.

1.3 Data is entered from a range of sources to accurately populate the database.

Range may include – importing data from a text file; keyboard entry; using an input form; linking external data to a database;
at least two sources.

1.4 The database is queried and the results are analysed against the requirements of the brief and corrected where needed.

Range queries include – use of wildcards for selection; relational operators including "=" and one other; multiple comparisons on the same fields; multiple comparisons on different fields; use of "AND", "OR" logical operators; modify, update or delete; data from more than one table.

1.5 A report for the populated database is created and checked, to ensure it meets the requirements of the brief, when displayed in hard or soft copy.

Range may include – report wizards; exporting selected data to an external file;
report includes – sorting, column headings, groupings, sub-totals, non-default formatting, data from more than one table.

1.6 The finished database is tested according to the testing plan and confirmed as being fit for purpose in terms of providing a solution to the problem as specified in the brief.

Replacement information	This unit standard replaced unit standard 2787.

Planned review date	31 December 2026

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 January 2017	31 December 2024
Review	2	28 April 2022	N/A

Consent and Moderation Requirements (CMR) reference	0099

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Comments on this unit standard

Please contact Toi Mai Workforce Development Council qualifications@toimai.nz if you wish to suggest changes to the content of this unit standard.