

Title	Demonstrate rapid application development software techniques in an engineering context		
Level	6	Credits	15

Purpose	<p>This unit standard covers the analysis, development, and evaluation of an engineering application using rapid application development techniques.</p> <p>People credited with this unit standard are able to:</p> <ul style="list-style-type: none"> – analyse an engineering application to facilitate the development of a software solution using rapid application development (RAD) techniques; – develop a software solution for an engineering application using RAD techniques; and – evaluate the performance of an RAD software solution to an engineering application.
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Classification	Electronic Engineering > Computer Engineering
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Available grade	Achieved
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Prerequisites	Unit 22718, <i>Demonstrate and apply intermediate knowledge of programming techniques for electrotechnology</i> , or demonstrate equivalent knowledge and skills.
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Guidance Information

- 1 This unit standard is intended for use in engineering courses at diploma level.
- 2 Reference
Health and Safety at Work Act 2015;
and all subsequent amendments and replacements.
- 3 Definitions
Engineering application – for the purpose of this unit standard means an application in a real time, embedded, computer engineering, or scientific context.
Industry practice – practice used and recommended by organisations involved in the electrotechnology industry.
- 4 All measurements are to be expressed in Système International (SI) units, and, where required, converted from Imperial units into SI units.

- 5 All activities must comply with: any policies, procedures, and requirements of the organisations involved; the standards of relevant professional bodies; and any relevant legislative and/or regulatory requirements.
- 6 Range
- a performance in relation to the outcomes of this unit standard must comply with the Health and Safety at Work Act 2015;
 - b laboratory and workshop safety practices are to be observed at all times.

Outcomes and performance criteria

Outcome 1

Analyse an engineering application to facilitate the development of a software solution using rapid application development (RAD) techniques.

Performance criteria

- 1.1 An engineering application is analysed to provide a structured interpretation of the application requirements in accordance with industry practice.
- Range interpretation includes – purpose, scope, functional decomposition, logical depiction.
- 1.2 Analysis is used to establish the software requirements in accordance with industry practice.
- Range requirements include – RAD component identification and selection, operating conditions, performance levels, interfacing, reporting.

Outcome 2

Develop a software solution for an engineering application using RAD techniques.

Performance criteria

- 2.1 A software solution is developed and demonstrates valid application of the RAD tools and components.
- Range application includes – software architecture, functional and interfacing protocols.
- 2.2 The software solution content makes effective and efficient use of the RAD tool capabilities in accordance with industry practice.
- 2.3 The software solution delivers the functions, operation, and performance required from the engineering application.

Outcome 3

Evaluate the performance of an RAD software solution to an engineering application.

Performance criteria

- 3.1 The engineering application is evaluated and the relative significance of each part is determined in accordance with industry practice.
- 3.2 The performance of an RAD software solution is technically appraised and an informed judgement on the software solution deficiencies is formed in accordance with industry practice.
- 3.3 The results are evaluated to identify areas for improvement in accordance with industry practice.

Range areas include – analysis, functional, operational and performance processes, outcomes.

This unit standard is expiring. Assessment against this standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 April 2000	31 December 2021
Review	2	18 December 2006	31 December 2021
Rollover and Revision	3	28 June 2018	31 December 2021
Review	4	28 January 2021	31 December 2021

Consent and Moderation Requirements (CMR) reference

0003

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