

Title	Develop, implement, and evaluate solutions for well-defined electrical engineering problems		
Level	6	Credits	15

Purpose	People credited with this unit standard are able to develop, implement, and evaluate solutions for well-defined electrical engineering problems.
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Classification	Electrical Engineering > Electrotechnology
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Available grade	Achieved
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Guidance Information

- 1 The following legislation and requirements apply to this unit standard:
Health and Safety at Work Act 2015;
Resource Management Act 1991;
Electricity Act 1992;
Current New Zealand jurisdiction requirements and regulatory framework including but not limited to: compliance regimes covered by statute or local body by-law, design specifications, conditions of contract (including applicable registered standards and approved codes of practice), and public consultation procedures.
Client and/or company specifications and standards;
The ethical codes and standards relevant to professional bodies such as Engineering New Zealand, the Institute of Refrigeration, Heating and Air Conditioning Engineers of New Zealand Inc (IRHACE), or the Electricity Engineers' Association (EEA), relative to the discipline being practiced.

Any legislation or other requirement superseding any of the above will apply, pending review of this unit standard.

2 Definitions

Accepted procedures and methodologies are the procedures and methodologies required by the candidate's engineering sector and which meet applicable legal and code requirements, registered standards, organisational policies and procedures, and manufacturers' specifications.

Well-defined electrical engineering problems are problems that include some or all of the following:

- Several issues, but only a few that result in conflicting constraints.
- Can be solved using a systematic approach.
- Resolved with limited theory but extensive practical knowledge.
- Frequently encountered and so familiar to most practitioners in the practice area.
- Covered by standards and/or documented codes of practice.
- Limited range of stakeholders with differing needs.

- Consequences that are important locally but are not far-reaching.
- Discrete components of engineering systems.

3 Assessment

Assessment against this unit standard must be based on evidence from the practice area the candidate is engaged in. The practice area for the candidate may include but is not limited to: engineering consultancy, maintenance or asset management, design, manufacturing, installation, production engineering, technical sales and customer service, draughting services, construction, or contracting in any of the following engineering disciplines – civil, electrical, electronics, or mechanical.

Electrical engineering problems may also include telecommunications, data communications, electronic or electricity supply problems.

All outcomes and performance criteria in this standard must be demonstrated in accordance with accepted procedures and methodologies.

Evidence of two problems is required.

Outcomes and performance criteria

Outcome 1

Develop, implement, and evaluate solutions for well-defined electrical engineering problems.

Performance criteria

- 1.1 Problem requirements and constraints are identified.
- 1.2 Solutions are developed and tested.
- 1.3 Stakeholders are consulted.
- 1.4 Solution options are evaluated.
- 1.5 Solutions are selected that best match problem constraints and are then justified.
- 1.6 Solutions are planned and implemented to meet the problem requirements.
- 1.7 The outcomes of solutions are evaluated.

Planned review date	31 December 2025
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	17 November 2011	31 December 2018
Review	2	16 June 2016	31 December 2023
Review	3	24 June 2021	N/A

Consent and Moderation Requirements (CMR) reference

0234

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

Comments on this unit standard

Please contact The Skills Organisation reviewcomments@skills.org.nz if you wish to suggest changes to the content of this unit standard.